

# UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 78



Washington, D. C.

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## SEEDS AND PLANTS IMPORTED BY THE OFFICE OF FOREIGN PLANT INTRODUCTION, BUREAU OF PLANT INDUSTRY, DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1924 (S. P. I. NOS. 58455 TO 58930)

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### INTRODUCTORY STATEMENT

IT IS ALWAYS a difficult matter to select from the large quantity of plant material listed in one of these inventories the introductions which claim special attention. A glance at the general character of the material introduced and the sources from which it has been obtained, however, may assist experimenters to form a clearer idea of the department's plant-introduction activities than will be obtained from a perusal of the vast amount of detailed information which must necessarily accompany a record of this sort.

The plants listed in this, the seventy-eighth Inventory of Seeds and Plants Imported, have been obtained through the two usual channels of plant introduction—the agricultural explorers of the bureau and correspondents abroad.

Few agricultural explorations of recent years have penetrated into such remote regions and have brought to light more promising material than that headed by H. V. Harlan, of the Office of Cereal Investigations, Bureau of Plant Industry. In the present inventory are listed a number of his Abyssinian introductions, obtained at the commencement of his stay in that country. Though Doctor Harlan's principal object was to collect rare types of barley for use in breeding work, his shipments include many other crop plants, such as teff (*Eragrostis abyssinica*, No. 58736), sorghum, wheat, cotton, beans, peas, and flax.

Joseph F. Rock, whose explorations in Yunnan, China, were commenced under the auspices of this office, but later transferred to the National Geographic Society, has continued to send in promising ornamental trees, shrubs, and herbaceous perennials from a region where climatic conditions much resemble those of the northern Pacific coast region of the United States. Among Mr. Rock's introductions which are listed in the present inventory are species of *Abies*, *Picea*, *Tsuga*, and other coniferous trees; rhododendrons, cotoneasters, and other ornamental shrubs; and such herbaceous plants as *Primula* and *Lilium*. Concerning one of the hemlocks (*Tsuga* sp., No. 58510) which he found on the Likiang Snow Range, northern Yunnan, at 10,000 feet altitude, he writes that the tree becomes 80 feet or more high, with a trunk 5 feet in diameter, and he considers it to be the finest of all the species of *Tsuga*.

The department's correspondents abroad, with their customary generosity, have contributed many promising lots of material. R. C. Ching, a young Chinese botanist, who accompanied a recent scientific expedition into Kansu Province, northwestern China, has sent a large collection of rare plants from that

region (Nos. 58518 to 58548). These include wild species of *Pyrus*, *Malus*, and *Prunus*, possibly valuable as stock plants on which to graft some of the cultivated varieties; also cotoneasters, species of *Elaeagnus*, *Berberis*, *Euonymus*, and other ornamental shrubs; and local strains of wheat and barley.

Vicary Gibbs, whose fame as an amateur exhibitor of rare plants is well known throughout the British Isles, has sent from his Aldenham House Gardens 21 species of ornamental shrubs (Nos. 58603 to 58623), many of them sufficiently hardy, in all probability, to permit their cultivation over wide areas in the United States. From the Royal Botanic Gardens, Kew, has come a collection of wild relatives of the onion, for the use of department plant breeders (*Allium* spp., Nos. 58868 to 58886); a similar collection (*Allium* spp., Nos. 58675 to 58691) was presented by the director of the botanic garden at Nancy, France. Prof. D. Bois, of Paris, has forwarded a large collection of leguminous plants and grasses, also for the use of department specialists (Nos. 58692 to 58718). G. H. Cave, curator of the Lloyd Botanic Garden at Darjiling, India, has again contributed seeds of numerous ornamental trees and shrubs of the Himalayan region (Nos. 58901 to 58930).

The Barouni olive (*Olea europaea*) has been reintroduced as No. 58661. Because of its large size and excellent quality for ripe pickling, this variety is meeting with favor among the olive growers of California. It deserves further consideration by commercial growers and also by plant breeders.

The ravages of chestnut blight in the eastern and southern United States and the need of finding a resistant species to replace the rapidly disappearing American chestnut have led to the introduction of numerous strains of the Chinese hairy chestnut, *Castanea mollissima* (Nos. 58602, 58659, 58719 to 58724).

Several new varieties of fig (*Ficus carica*, Nos. 58663 to 58668) have been introduced to enlarge the collection in California, where much attention has been given in past years to procuring the world's best varieties. In connection with the department's plan to test species and varieties of rubber-yielding plants for the purpose of ascertaining if any are suited for commercial cultivation in the southernmost parts of this country and in the American Tropics, *Ecdysanthera utilis* (No. 58496) has been obtained through the courtesy of the director of forestry of the island of Taiwan, and several species of *Landolphia* (*L. ovariensis*, No. 58517, *L. droogmansiana*, No. 58591, and *L. kirki delagoensis*, No. 58899) have been obtained from Africa, the first two contributed by Frère Gillet, of Kisantu, Belgian Congo, and the last named from I. B. Pole Evans, chief of the division of botany at Pretoria, Transvaal. From New South Wales has been sent the so-called wild plum (*Sideroxylon australe*, No. 58478), which bears fruits containing rich, milky juice which may be a possible source of rubber.

Several valuable strains of wheat have been obtained for the use of American plant breeders, notably Doctor Akerman's varieties from Svalof, Sweden (*Triticum aestivum*, Nos. 58564 to 58567) and Professor Stapledon's collection (*T. aestivum*, Nos. 58559 to 58563) from Aberystwyth, Wales.

*Crotalaria anagyroides* (No. 58466), sent from the general experiment station at Buitenzorg, Java, should be tried in Florida and other Southern States for green manure. Its leafiness makes it especially desirable, and it is probably harder than some of the other *Crotalarias*.

*Paspalum notatum* (No. 58644), a Brazilian forage grass, has been previously introduced under Nos. 37996, 51121, 51262, and 54904. It is proving valuable for pasturage in the South and, on account of its hardiness and sod-forming qualities, should receive increased attention.

The department's efforts to increase the cultivation of the true yams (*Dioscorea* spp.) in the Gulf States are yielding good results. In order to have the best varieties available, numerous introductions have been made in the past. Two varieties (*D. cayenensis*, No. 58625, and *D. rotundata*, No. 58626) from Porto Rico have been reintroduced and are listed in this inventory.

Citrus growers in Florida and California will be glad to try Sir Percy Fitzpatrick's new grapefruit, the Cecily (*Citrus grandis*, No. 58457), a practically seedless variety which originated in South Africa as a sport from Walters, the well-known American variety. A tree of *C. ichangensis*, established at New Orleans from an early introduction, is serving as a source of propagating material for the use of plant breeders who are attempting to develop harder varieties of citrus fruits, since this is considered one of the hardest species of Citrus known. Seeds from this tree have now been obtained (No. 58480) for further use by citrus breeders.

A Mexican relative of the iris (*Tigridia pavonia*, No. 58573) presented by Mrs. Zelia Nuttall, of Coyoacan, should appeal to those who care for delicate flowers; although the latter are somewhat short lived, in mass planting the effect of successive flowering is very striking.

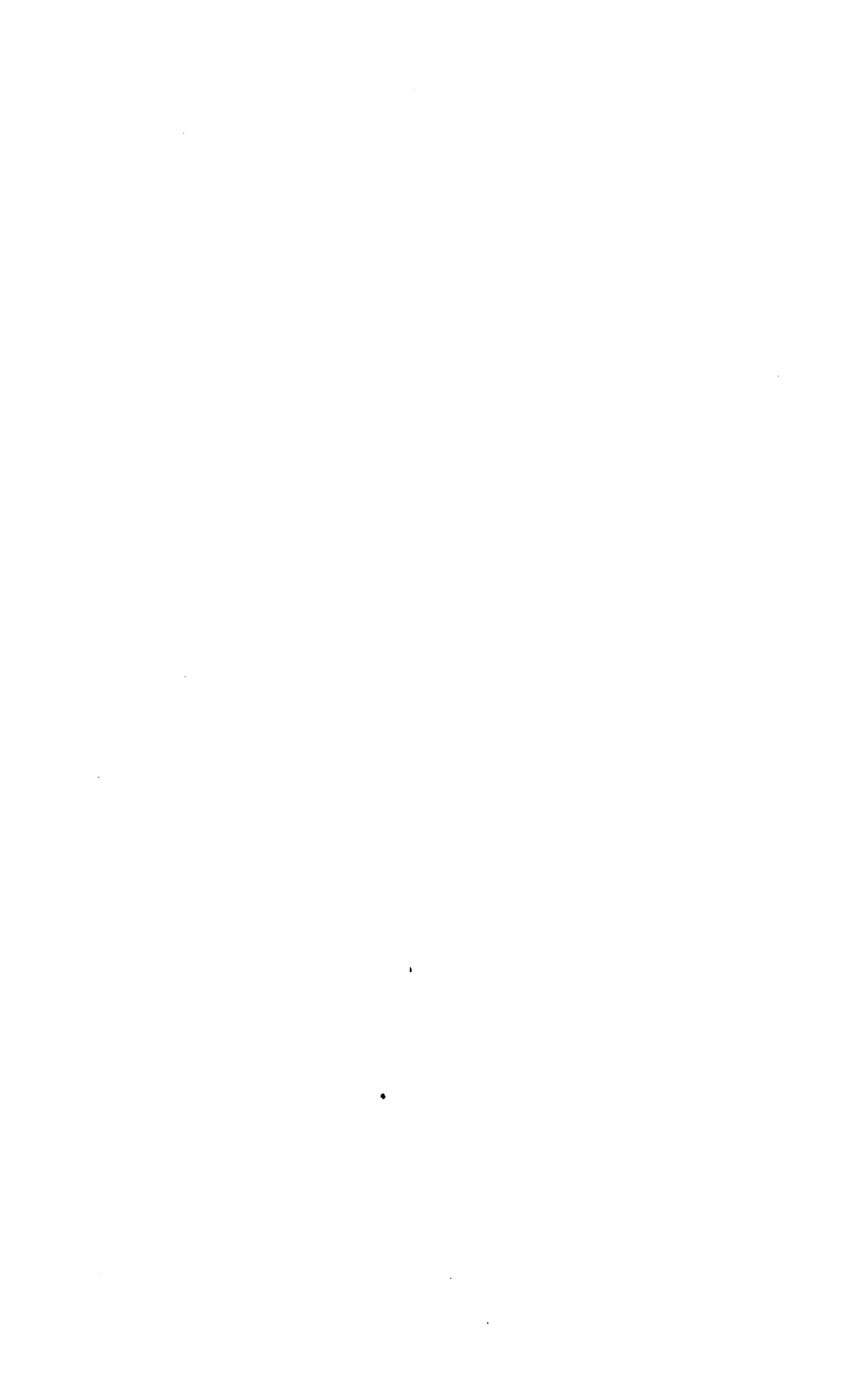
Special attention should be directed to *Populus maximowiczii* (No. 58483), a hardy and stately tree from Manchuria, which is proving of great value in the colder and drier areas of the United States where poplars are particularly desirable. The distinctive rugose character of its foliage, which appears more than a week before that of other trees, makes it unique among poplars. Budwood has been presented by A. D. Woeikoff, director of the experiment farm at Echo, Manchuria.

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., February 19, 1926.



## INVENTORY <sup>1</sup>

### 58455. JUGLANS REGIA L. Juglandaceæ. Walnut.

From Spain. Seeds presented by Howard Spence, The Red House, Ainsdale, Southport, England. Received January 18, 1924.

These walnuts are from Huelva, Spain, and are supposed to represent the best quality of that region. (Spence.)

### 58456. MANGIFERA INDICA L. Anacardiaceæ. Mango.

From Nueva Gerona, Isle of Pines, West Indies. Budwood presented by W. H. Snider. Received February 14, 1924.

*Bacas.* The fruits of this variety weigh about a pound, and the skin is dark, with a lighter cheek, tough and free from blemishes. The flesh is firm, free from fiber, and of rich, pleasing flavor. The seed is of medium size and flat. The tree is not an unusually heavy bearer. (Snider.)

Introduced for trial in the warmest parts of the United States.

### 58457. CITRUS GRANDIS (L.) Osbeck. Rutaceæ.

From Amanzi, Uitenhage, Cape of Good Hope. Plants presented by Alan Fitzpatrick, Amanzi, at the request of Sir Percy Fitzpatrick, London, England. Received February 12, 1924.

*Cecily.* This variety originated at Amanzi, as a sport or mutation from the Walters grapefruit. The latter originated in Florida, where it was formerly one of the principal commercial sorts.

Sir Percy in his letter of December 20, 1923, describes this mutant as differing from its parent in being "practically devoid of seeds." If it retains this characteristic in the United States, it will be of much interest to test it alongside our own seedless variety, the Marsh. The transplantation of the Walters grapefruit to South Africa, the development there of a form superior in being nearly seedless, and its return to the United States in this improved condition forms an interesting tale. In

regard to a name for this mutant, Sir Percy writes: "Among ourselves we call it 'Cecily,' after my daughter who had the good fortune to discover it."

### 58458. TRIFOLIUM PRATENSE L. Fabaceæ. Red clover.

From Lausanne, Switzerland. Seeds purchased from G. Martinet, chef, Etablissement Fédéral d'Essais et de Contrôle de Semences. Received March 12, 1924.

(No. 1171. A good Mont-Calme selection, derived from a perpetual Berne clover from Ruti (Mattenklee). (Martinet.)

### 58459 and 58460.

From Port of Spain, Trinidad, British West Indies. Seeds presented by W. G. Freeman, director of agriculture. Received January 28, 1924.

### 58459. BARRINGTONIA ASIATICA (L.) Kurz. Lecythidaceæ.

A large, handsome East Indian tree with thick, leathery, shining bright-green leaves and very conspicuous flowers with four white petals and numerous crimson-tipped stamens, resembling a brush. The fruit is large and is the shape of a 4-sided pyramid; it is smooth on the outside and contains one seed. The tree forms extensive forests along the shores of some of the Pacific islands. In the Moluccas an illuminating oil is extracted from the seeds, and the dry fruits are gathered by the natives and used as floats for their fish nets. (Adapted from Rock, *The Ornamental Trees of Hawaii*, p. 663.)

For previous introduction, see S. P. I. No. 54963.

### 58460. COLVILLEA RACEMOSA Boj. Cæsalpiniaceæ.

A leguminous tree 40 or 50 feet high, native to Mauritius and Madagascar, with the general aspect of *Poinciana regia* but with a thicker trunk, reddish gray bark, and more ample foliage. In early spring it bears large, erect racemes of bright-scarlet flowers which make the tree a very showy ornamental.

<sup>1</sup> 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 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.

**58461. AMARANTHUS GANGETICUS L.**  
Amaranthaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 13, 1924.

With its multicolored tops, ranging from pale yellow to dark red in various shades, this variety, known here as *haum*, is one of the most gorgeous ornamental plants I have ever seen. It is rare in Manila, but it is common in Cebu, where the tender leaves are eaten like spinach. It ought to do well in Florida and possibly in southern California. (Wester.)

For previous introduction, see S. P. I. No. 53896.

**58462. RHUS CORIARIA L.** Anacardiaceæ.

From Palermo, Italy. Seeds presented through Edward I. Nathan, American consul. Received March 22, 1923. Numbered January, 1924.

Immense groves of this species are cultivated in Sicily for the purpose of extracting tannin from the leaves. The product is light and free from discolorations and therefore commands a high price in the world's markets. Large quantities of sumac extract are imported annually into the United States, since it is difficult to obtain from American sumacs extracts which are as clear and as light colored as the Sicilian product. The establishment of commercial plantings of *Rhus coriaria* in this country seems worthy of serious consideration.

**58463. BERBERIS REPLICATA W. W. Smith.** Berberidaceæ. **Barberry.**

From Wisley, Ripley, Surrey, England. Plants presented by Fred J. Chittenden, director, Royal Horticultural Society Gardens. Received February 16, 1924.

An evergreen barberry originally collected by George Forrest in thickets on the Shwell-Salwin Divide, southwestern China, at an altitude of 11,000 feet. The rather small leaves have recurved margins and are gray beneath. It is an early and profusely flowering species, bearing its blossoms all along the branches in a very attractive fashion, and the deep-crimson berries make it handsome in the fruiting stage. It appears to be quite hardy in England. (Adapted from *The Garden*, vol. 87, p. 186.)

**58464. MALUS SYLVESTRIS Mill.** (*Pyrus malus* L.). Malaceæ. **Apple.**

From Simla Hills, Punjab, India. Scions presented by S. E. Stokes. Received February 16, 1924.

A russet apple of good size and excellent flavor, greatly appreciated in Simla by the English. The tree, which is a strong grower and heavy cropper, ripens its fruit in October, and we have often been able to keep it until April or May. While in storage the fruit turns to a golden yellow. At the altitude of 7,000 feet in Kotgarh, where this tree grows, many other temperate crops are also grown, such as potatoes, corn, and barley, and such fruits as cherries, plums, and apricots. (Stokes.)

**58465. DIOSPYROS DECANDRA Lour.**  
Diospyraceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received February 13, 1924.

A wild persimmon from Cochin China, whose yellow, edible, sweet fruits, about an inch in diameter, are sold in the native markets of the small towns. The tree is large, with spreading branches, and produces excellent heavy timber, which is white marked with black veins; the heartwood is sometimes black.

**58466. CROTALARIA ANAGYROIDES H. B. K.** Fabaceæ.

From Buitenzorg, Java. Seeds presented by Dr. P. J. S. Cramer, director, general experiment station, Department of Agriculture, at the request of Charles L. Hoover, American consul, Batavia, Java. Received February 14, 1924.

The crotalarias are tropical leguminous plants, of value for cover crops and green manure, for which purposes they are used in the same manner as cowpeas and velvet beans. Doctor Cramer, in his letter of transmittal, writes that *Crotalaria anagyroides* has proved more desirable than other species in Java, mainly because it produces a larger amount of foliage and the plants remain erect. He says: "It is especially satisfactory at high altitudes and is in such great demand for the tea plantations in the higher mountains that we have to limit our seed distributions to small quantities."

Though cultivated in Java, this species is not native to that part of the world. It is widely distributed in tropical America, where it occurs, according to Grisebach (*Flora of the West Indies*), from Mexico to Peru, and in the West Indies. The same authority states that it is somewhat shrubby in character, with erect puberulous stems and leaves composed of three ovate-lanceolate leaflets.

**58467. SPATHODEA NILOTICA Seem.**  
Bignoniaceæ.

From Entebbe, Uganda. Seeds presented by the chief forestry officer, forestry department. Received February 14, 1924.

*Spathodea campanulata* is proving to be an ornamental tree of unusual value for southern Florida. For this reason the arrival of another member of this genus is a matter of considerable interest. *S. nilotica*, which is native in the upper Nile Valley and the Belgian Congo, is a bushy tree reaching about 20 feet in height. The leaves, which are opposite and composed of 9 to 15 leathery leaflets, are covered beneath with dense, short hairs. The scarlet flowers, produced in short, compact terminal clusters, are said to resemble closely those of *S. campanulata*, which means that they are strikingly beautiful. The behavior of this tree in southern Florida will be watched with interest.

For previous introduction, see S. P. I. No. 47502.

**58468 to 58470.**

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 18, 1924. Notes by Mr. Rock.

**58468. ABIES FORRESTII Craib.** Pinaceæ. **Fir.**

(No. 10673. December, 1923.) A handsome tree 70 to 80 feet in height with a trunk 2 feet or more in diameter, common on moist mountain meadows and steep limestone slopes of the Likiang Snow Range at altitudes ranging from 10,000 to 13,500 feet. The needles are white beneath, and the cones are purplish blue to black.

**58469. ABIES sp.** Pinaceæ. **Fir.**

(No. 10887. December, 1923.) A tree 60 to 80 feet high with a trunk 2 to 3 feet in diameter, found along meadows below Ladsakodjo, on the eastern slopes of the Likiang Snow Range, at an altitude of about 13,000 feet. The needles are silvery beneath, the large, ovoid cones are bluish black, and the scales have a central pointed spur which is absent in *Abies forrestii*.

**58470. PICEA sp.** Pinaceæ. **Spruce.**

(No. 10888. December, 1923.) A tree 60 to 80 feet with long drooping branches, found back of Nguluke, growing wild around the village temple, at an altitude of 9,600 feet in the Likiang Snow Range. The needles are short, the cones are larger, and the scales broader than No. 10890 [S. P. I. No. 58498].

**58471. SOLANUM DEMISSUM × TUBEROSUM.** Solanaceæ.

From Wolverhampton, England. Tubers presented by F. W. Keay, Wolverhampton, through William Stuart, Bureau of Plant Industry. Received February 2, 1924.

A cross between *Solanum demissum* and the Paterson's Victoria variety of the potato.

For use in potato-breeding experiments.

**58472. TRIFOLIUM PRATENSE L.** Fabaceæ. **Red clover.**

From Valence, Rhone, France. Seeds purchased from Tézier Frères. Received March 12, 1924.

Locally grown clover from Nîmes, Gard. Introduced for testing by clover specialists.

**58473. VIBURNUM HANCEANUM Maxim.** Caprifoliaceæ.

From Ottawa, Canada. Seeds presented by J. Adams, botanist, Central Experimental Farm, Department of Agriculture. Received February 18, 1924.

A hardy, bushy, deciduous shrub from southeastern China, where it becomes 6 to 10 feet in height. The branches are mostly horizontal, and the roundish, slightly toothed, sharp-pointed leaves are dull dark green above and pale grayish beneath. The inflorescence consists of a flat umbel 2 to 4 inches across; the center is filled with small, perfect, inconspicuous flowers, surrounded by a few large white imperfect flowers about an inch wide. The roundish egg-shaped fruits are at first coral red and finally blue-black.

Introduced for horticulturists engaged in small-fruit breeding.

**58474. AMYGDALUS COMMUNIS × PERSICA.** Amygdalaceæ.  
**Peach-almond hybrid.**

From Benenden, Kent, England. Budwood presented by Collingwood Ingram. Received February 20, 1924.

This "peach-almond" hybrid is very vigorous. The original scion came from Quinta de Seixo in the upper Douro District, Portugal. The fruit appears to be intermediate in characters between the peach and the almond. (*Ingram.*)

**58475. TRIFOLIUM PRATENSE L.** Fabaceæ. **Red clover.**

From Wellington, New Zealand. Seeds presented by A. L. Cockayne, director of the fields division, Department of Agriculture. Received February 20, 1924.

"*Runciman's* red clover. This has been thoroughly tested and may be regarded as the only true perennial strain of red clover in New Zealand." (*New Zealand Journal of Agriculture, vol. 22, p. 299.*)

Introduced for testing by clover specialists.

**58476 and 58477. TRIFOLIUM PRATENSE L.** Fabaceæ. **Red clover.**

From Copenhagen, Denmark. Seeds purchased from L. R. M. Larsen, Danish Royal Agricultural Society. Received February 23, 1924.

Both of these are Danish strains which in this country have given considerably greater yields than foreign seeds. (*Larsen.*)

Introduced for agronomists engaged in clover breeding.

58476. *Tystofte No. 40*, an early strain.

58477. *Hersnap*, a late strain.

**58478. SIDEROXYLON AUSTRALE (R. Br.) Benth. and Hook.** Sapotaceæ.

From Sydney, New South Wales. Seeds presented by J. H. Maiden, director, botanic gardens. Received February 12, 1924.

A tree, sometimes becoming of considerable size, from southeastern Australia, where it is called "wild plum" or "black apple" because of the fruit. The latter is the size of a small apple; the rich, milky juice resembles cream in taste, but the flesh is coarse and insipid. The pale-yellow wood is close grained, handsomely veined, and suitable for cabinetwork, although it requires careful seasoning. This species is now introduced for testing the sap as a possible source of rubber.

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

**58479. COLOCASIA ESCULENTA (L.) Schott.** Araceæ. **Taro.**

From Canton, China. Tubers presented by F. A. McClure, Canton Christian College. Received May 22, 1922. Numbered January, 1924.

*Pan Long Oo.* Introduced for cultural and comparison tests.

**58480. CITRUS ICHANGENSIS Swingle.** Rutaceæ.

From New Orleans, La. Seeds presented by E. Foster. Received February 19, 1924.

These seeds are from a tree sent to New Orleans from the Arnold Arboretum, Jamaica Plain, Mass. The trees at the arboretum were raised from seeds collected in China several years ago from trees which appeared to show unusual frost resistance. The general character of the fruit is much like the bitter Seville orange used in the manufacture of Scotch marmalade, being very rough, with a thick, reddish skin. It is not very juicy, and the seeds are large. The species, because of its unusual hardness, will be useful for breeding purposes. (*Foster.*)

A spiny shrub or small tree, 5 to 15 feet high, native to central and southwestern China. It differs from other members of the genus chiefly in its very large, thick seeds and its slender leaves, which are four to six times longer than broad. It is also one of the hardest species of Citrus known.

**58481. AILANTHUS VILMORINIANA Dode.** Simaroubaceæ.

From Paris, France. Plant purchased from Vilmorin-Andrieux & Co. Received February 26, 1924.

Although this species is closely related to the tree of heaven (*A. altissima*), well known in many parts of the United States, it is distinguished by the numerous soft spines on the young branchlets and by the very downy leaflets. The main leaf-stalk is often rich red and occasionally spiny like the leaflets. The inflorescence is sometimes a foot or more across, and the samara, or key, is 2 inches long. The tree is native to Szechwan, western China.

**58482. RUMEX ABYSSINICUS Jacq.** Polygonaceæ.

From Java. Seeds presented by W. A. Orton, Bureau of Plant Industry. Received February 23, 1924.

As a source of greens during the hot summer months, the Abyssinian Rumex appears to have merit. Seeds may be sown in the greenhouse or hotbed in early spring and the plants set out as soon as the soil can be worked. The plants grow 7 or 8 feet in height and continue to yield greens until cut down by frost in late autumn. The leaves are cooked and served in the same manner as spinach, but care must be taken to change the water, in cooking, to eliminate excessive acidity.

For previous introduction, see S. P. I. No. 56486.

## 58483 to 58487.

From Echo, Kirin Province, Manchuria. Budwood presented by A. D. Woëkoff, director, experimental farm. Received March 3, 1924.

58483. *POPULUS MAXIMOWICZII* A. Henry. Salicaceæ. **Poplar.**

A handsome, stately, Manchurian poplar, which is said to reach enormous size in its native country. According to John Dunbar, assistant superintendent, department of parks, Rochester, N. Y., it thrives on dry gravelly soil, where Norway spruce and white ash fail to survive, and is one of the few large deciduous exotic trees which can be recommended for general planting in the Northern States. It is a rapid grower, increasing in height 3 to 5 feet a year for the first eight years, and has rugose leaves resembling those of *Rosa rugosa*. The foliage appears about 10 days before that of other trees, and in Manchuria it remains green throughout the summer.

For previous introduction, see S. P. I. No. 51877.

58484. *POPULUS SUAVEOLENS PRZEWALSKII* (Maxim.) C. Schneid. Salicaceæ. **Poplar.**

This is a rather common tree in the towns and villages throughout northern China; it is easily distinguished by its close, compact habit. (*Woëkoff*.)

For hot, dry climates this poplar is said to be especially valuable; although it is comparatively slow growing, eventually it becomes a large tree and it also has distinct merit as an ornamental. The rather small, oval leaves are prominently whitened beneath.

58485 to 58487. *SALIX* spp. Salicaceæ. **Willow.**

58485. *SALIX RORIDA* Lacksch.

This is a giant among willows. In the river valleys of Manchuria it reaches a height of 150 feet, with an enormous circumference. (*Woëkoff*.)

58486. *SALIX* sp.

A hybrid of *Salix rorida*. (*Woëkoff*.)

58487. *SALIX* sp.

A small willow up to 30 feet in height, growing on rocky slopes. (*Woëkoff*.)

## 58488 to 58495.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received February 1, 1924.

58488. *CORYLUS FEROX* Wall. Betulaceæ. **Hazel.**

A wild hazel from Sikkim, India, whose small nuts, closely resembling the common hazelnut in taste, are much prized by the natives. The tree, 20 feet in height, grows at altitudes of 8,000 to 10,000 feet. The wood is pinkish white, even grained, and moderately hard.

For previous introduction, see S. P. I. No. 49626.

58489. *FRAGARIA DALTONIANA* J. Gay. Rosaceæ. **Himalayan strawberry.**

A wild relative of the cultivated strawberries which comes from alpine pastures of the Sikkim Himalayas at altitudes of 10,000 to 15,000 feet. It is a stoloniferous perennial with solitary white flowers and bright-scarlet, insipid fruits an inch long and half as broad.

Introduced for testing by strawberry specialists.

For previous introduction, see S. P. I. No. 52679.

58490. *LILIUM THOMSONIANUM* (D. Don.) Lindl. (*L. roseum* Wall.). Liliaceæ. **Lily.**

A lily of unusual appearance, suggesting in habit *Fritillaria*, *Ornithogalum*, and *Hosta*. The erect stem is a foot and a half high, and the nar-

## 58488 to 58495—Continued.

row, grasslike leaves are mostly crowded at the base of the stem. The pale mauve or rosy bell-shaped drooping flowers, with deep-purple anthers, are an inch and a half long and are in a terminal raceme containing 8 or 10 flowers. The species is native to mild-wintered regions of the Himalayas from western China to northern India.

58491. *MALUS SIKKIMENSIS* (Hook. f.) Koehne (*Pyrus sikkimensis* Hook. f.). Malaceæ.

The Sikkim crab is a small tree, rather bushy in habit, which grows wild in the interior of Sikkim, India, at altitudes up to 10,000 feet. The narrowly oval leaves are very woolly beneath, and the white flowers, rosy in the bud, are about an inch across and are borne very freely in 4 to 8 flowered clusters. The pear-shaped fruits are dark red with paler dots and are about half an inch wide. This species is distinguished from the Siberian crab (*Malus baccata*) by its low, spreading habit, excessive development of spurs on the stems, the more woolly leaves, and the smaller fruits.

For previous introduction, see S. P. I. No. 52684.

58492. *PANAX PSEUDOGINSENG* Wall. (*Aralia pseudoginseng* Benth.). Araliaceæ.

An herbaceous perennial from the subtropical mountainous regions of Nepal. The tuberlike rootstock is mucilaginous and slightly aromatic, and the erect, purplish stem bears three or four palmate radical leaves and a number of roughly hairy upper leaves. The small, white flowers, in umbellate heads, are followed by globose berries which are half black, half red, or entirely red. The above note is taken from *Wallich, Plantæ Asiaticæ Rariores*, vol. 2, p. 50.

For previous introduction, see S. P. I. No. 49644.

58493. *PRUNUS RUFA* Hook. f. Amygdalaceæ.

A Himalayan wild cherry tree 15 to 20 feet high, with small pink flowers and red, ellipsoid, fleshy fruits.

Introduced for pomologists engaged in the breeding of stone fruits.

58494. *RIBES GRIFFITHII* Hook. f. and Thoms. Grossulariaceæ.

A wild currant from the subtropical Himalayas, where it grows at altitudes of 10,000 to 13,000 feet, forming an erect shrub about 8 feet in height. The leaves are broadly heart-shaped and 5-lobed, and the red, sour berries are in long, pendent clusters about 9 inches in length.

Introduced for pomologists engaged in small-fruit breeding.

For previous introduction, see S. P. I. No. 49651.

58495. *RUBUS CALYGINUS* Wall. Rosaceæ.

A wild raspberry from the temperate slopes of the Himalayas and of the Khasi Hills, India, where it grows as a creeping herbaceous perennial with kidney-shaped leaves and small scarlet fruits containing normally but a few drupelets.

Introduced for pomologists engaged in small-fruit breeding.

For previous introduction, see S. P. I. No. 41675.

58496. *ÉCDYSANTHERA UTILIS* Hay. and Kaw. Apocynaceæ.

From Taihoku, Taiwan, Japan. Seeds presented by R. Kanehira, director, experimental station of forestry. Received March 19, 1924.

This plant, a climbing shrub of northern Taiwan, does not appear to be very well known outside of its native habitat. If its value may be judged by the results of an analysis made at the Imperial Institute, London, of a sample of rubber from that region, it would appear to be a promising acqui-



tion. Not only on account of its economic value is this true but also because the climatic conditions of Taiwan more closely resemble those of southern Florida than do those of the native countries of many other of the better known rubber plants now being assembled for experimental purposes at the Chapman Field Plant Introduction Garden in southern Florida.

Analyses of sample from Taiwan (per cent): Moisture, 1.3; caoutchouc, 85.3; resin, 5.0; proteid, 2.1; insoluble matter, 6.3. (*Alfred Keys, Bureau of Plant Industry.*)

**58497. COFFEA LIBERICA Bull. Rubiaceæ.**

From Manila, Philippine Islands. Seeds presented by Adn. Hernandez, director, bureau of agriculture. Received March 19, 1924.

Introduced for horticulturists engaged in coffee-growing experiments.

For previous introduction, see S. P. I. No. 53460.

**58498 to 58511.**

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 27, 1924. Notes by Mr. Rock.

**58498. PICEA sp. Pinaceæ. Spruce.**

(No. 10890. Mahaangputze. December, 1923.) A handsome tree 50 to 70 feet, sometimes taller, found in rich, black soil in moist meadowlands on the eastern and western slopes of the Likiang Snow Range, at an altitude of 12,000 feet. This species is less graceful and not so slender as *Picea likiangensis*; it has brown, ovoid cones.

**58499. ABIES sp. Pinaceæ. Fir.**

(No. 10886. December, 1923.) A fine tree 60 feet or more in height, with a trunk 2 or 3 feet in diameter, which grows along stream beds on the eastern slopes of the Likiang Snow Range at an altitude of about 11,000 feet. The needles are not silvery beneath, and the greenish white cones are erect.

**58500. KETELEERIA sp. Pinaceæ.**

(No. 10892. Sungkwe. December, 1923.) A pale-green tree 30 to 40 feet high, with stiff branches and large needles. The straw-colored cones are 10 to 20 centimeters (4 to 8 inches) long. This species grows in dry regions south of Likiang at about 10,000 feet altitude.

**58501. PICEA LIKIANGENSIS (Franch.) E. Pritz. Pinaceæ. Spruce.**

(No. 10889. Zinako. December, 1923.) A tree 60 to 80 feet tall, with long, slender, drooping, very graceful branches and brown oblong cones, found in moist meadowland on the western slopes of the Likiang Snow Range at 12,000 feet altitude. Above this altitude it is replaced by *Abies*, while *Tsuga* occurs lower down.

**58502. PICEA sp. Pinaceæ. Spruce.**

(No. 10888. December, 1923.) A tree 60 to 80 feet tall, with long, drooping branches, found back of Nguluke, growing wild around the village temple, at an altitude of 9,600 feet, Likiang Snow Range. The needles are short, the cones are larger, and the scales broader than No. 10890 [S. P. I. No. 53498].

For previous introduction, see S. P. I. No. 58470.

**58503. PRIMULA sp. Primulaceæ. Primrose.**

(Mount Kenichunpu. October, 1923.) An herbaceous plant about 1 foot high, from alpine meadows of the Salwin-Irrawaddy Divide, Tibetan border, at about 13,000 feet altitude. The leaves are elliptical and the flowers small and yellow.

**58498 to 58511—Continued.**

**58504. PYRUS sp. Malaceæ. Pear.**

(Nos. 8946 and 11347. Litiping. November, 1923.) A very handsome tree 15 feet high, from alpine meadows, at an altitude of 12,000 feet. It has small, elliptic-oval, acute, crenate, pubescent leaves, large umbels of white flowers, and red fruits the size of a pea.

**58505 to 58509. RHODODENDRON spp. Ericaceæ.**

**58505. RHODODENDRON OLEIFOLIUM Franch.**

(No. 11219. Chanyutang. October, 1923.) A pink-flowered, shrubby species 1 or 2 feet high, which grows in the Salwin Valley at about 7,000 feet altitude. The narrowly elliptical, glaucous leaves are punctate beneath.

**58506. RHODODENDRON sp.**

(No. 11228. Mount Kenichunpu. October, 1923.) A red-flowered, shrubby species over 2 feet high, from the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 13,000 feet. The elliptical, dark pigeon-gray leaves are punctate beneath.

**58507. RHODODENDRON sp.**

(No. 11229. Mount Kenichunpu. October, 1923.) A very curious creeping plant which grows on rocky slopes, Salwin-Irrawaddy Divide, at about 11,000 feet altitude. The leaves are very small, glossy, and dark green, and the flowers are white with a pinkish tinge.

**58508. RHODODENDRON SINO-GRANDE Balf. f. and Smith.**

(No. 11239. Mount Kenichunpu. October, 1923.) A tree, 25 to 30 feet in height, found in a fir forest on the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 13,000 feet. The obovate-oblong leaves, silvery beneath, are 1 or 2 feet long, and the very large, cream-colored flowers are in huge corymbs.

**58509. RHODODENDRON sp.**

(No. 11241. Sila Pass. October and November, 1923.) A shrub about 2 feet high, found among rocks on the Salwin-Mekong Divide at an altitude of 13,000 feet. The oval, glabrous leaves are glaucous beneath, and the flowers are reddish pink.

**58510. TSUGA sp. Pinaceæ. Hemlock.**

(No. 10891. December, 1923.) A tree 80 feet or more in height, with a trunk about 5 feet in diameter and spreading branches, which grows at an altitude of 10,000 feet on the eastern slopes of the Likiang Snow Range, in dense forests where there is heavy rainfall. The needles are dark green, and the rather large ovoid cones are pale brown. I consider this the finest of all *Tsugas*.

**58511. GAULTHERIA sp. Ericaceæ.**

(No. 11230. Mount Kenichunpu. October, 1923.) A shrub 2 feet high which grows on the Salwin-Irrawaddy Divide, Tibetan border, at an altitude of 11,000 feet. It has elliptical, serrate leaves and globose, rich-blue berries.

**58512. PYRUS sp. Malaceæ. Pear.**

From Simla Hills, Punjab, India. Seeds presented by S. E. Stokes. Received February 26, 1924.

This Himalayan wild pear is called "shegal" or "kanth" by the natives. The fruit is bronze colored, perfectly round, and the size of a large cherry. The tree grows extensively in the mountains at altitudes of 4,000 to 8,000 feet. (*Stokes.*)

Introduced for testing as a stock for our cultivated apples and pears.

**58513. TELOPEA SPECIOSISSIMA (J. E. Smith) R. Br. Proteaceae. Waratah.**

From Victoria, Australia. Seeds presented by William Laidlaw, acting director, Melbourne Botanic Gardens. Received February 28, 1924.

A very striking, evergreen Australian shrub, about 8 feet high, with irregularly toothed, dark-green leaves 6 inches long, and deep crimson, tubular flowers about an inch long, borne in a dense, globular head surrounded by blood-red bracts 2 or 3 inches in length. The waratah, as this shrub is known in its native land, has come to be recognized as the State flower of New South Wales.

**58514 to 58516. TRIFOLIUM PRATENSE L. Fabaceae. Red clover.**

From Bucharest, Rumania. Seeds presented by Dr. D. Andronesco, directia formelor, Ministerul Agriculturii, through Ely E. Palmer, American consul. Received February 28, 1924. Notes by Doctor Andronesco.

Introduced for testing by clover specialists.

These seeds came from the Government farms in Transylvania, the best clover region in the country.

58514. From Sercaia, District of Fagaras.

58515. From Comana, District of Fagaras.

58516. From Boiu, District of Tarnava Mica.

**58517. LANDOLPHIA OWARIENSIS Beauv. Apocynaceae.**

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received February 28, 1924.

An enormous tropical creeper, found throughout the Belgian Congo, which attains a length of over 300 feet and a stem diameter of about 15 inches. The wedge-shaped elliptic leaves are 2 to 4 inches long. While the rubber-producing latex obtained from this species is often of good quality, frequently individual specimens yield latex which is practically useless. (Adapted from *Wildeman and Gentil, Lianes Caoutchoutifères du Congo.*)

Introduced for testing as a source of rubber.

**58518 to 58548.**

From Kansu, China. Seeds presented by R. C. Ching. Received February 16, 1924.

These seeds were collected on a botanical expedition into Kansu, northwestern China. (*Ching.*)

58518. ACER sp. Aceraceae. **Maple.**

No. 1009.

58519 to 58522. BERBERIS spp. Berberidaceae. **Barberry.**

58519. BERBERIS sp.

No. 86.

58520. BERBERIS sp.

No. 961.

58521. BERBERIS sp.

No. 1029.

58522. BERBERIS sp.

58523. CORYLUS sp. Betulaceae. **Hazel.**

No. 1023.

58524. COTONEASTER sp. Malaceae.

No. 52.

58525. COTONEASTER sp. Malaceae.

No. 1004.

58526. CRATAEGUS sp. Malaceae.

No. 1017.

**58518 to 58548—Continued.**

58527. DAPHNE sp. Thymeliaceae.

No. 794.

58528. ELAËAGNUS sp. Elaeagnaceae.

No. 179.

58529. EUONYMUS sp. Celastraceae.

No. 1039.

58530. HORDEUM VULGARE COELESTE L. Poaceae. **Naked barley.**

The Tibetan barley is very hardy and is usually grown at an altitude of more than 10,000 feet, where other cereal crops do not thrive. It is sown in early April and harvested at the end of September, and is the staple cereal crop of the inhabitants of the Kansu-Tibet border. (*Ching.*)

58531. IRIS sp. Iridaceae. **Iris.**

No. 993.

58532. JUNIPERUS sp. Pinaceae. **Juniper.**

No. 993.

58533. LONICERA sp. Caprifoliaceae. **Honeysuckle.**

No. 996.

58534 to 58536. MALUS spp. Malaceae. **Apple.**

58534. MALUS sp.

No. 997.

58535. MALUS sp.

No. 1007.

58536. MALUS sp.

No. 1038.

58537. MECONOPSIS sp. Papaveraceae.

No. 818.

58538. PINUS ARMANDI Franch. Pinaceae. **Pine.**

No. 1039.

For previous introduction, see S. P. I. No. 58367.

58539. PRINSEPIA sp. Amygdalaceae.

No. 1033.

58540. PRUNUS sp. Amygdalaceae. **Plum.**

No. 832.

58541. PRUNUS sp. Amygdalaceae. **Cherry.**

No. 1002.

58542. PYRUS sp. Malaceae. **Pear.**

No. 966.

58543. ROSA sp. Rosaceae. **Rose.**

No. 1018.

58544. SAMBUCUS sp. Caprifoliaceae. **Elder.**

No. 967.

58545. SORBARIA sp. Rosaceae.

No. 504.

58546. SORBUS sp. Malaceae.

No. 751.

58547. SORBUS sp. Malaceae.

No. 920.

58548. TRITICUM TURGIDUM L. Poaceae. **Poulard wheat.**

The Sinkiang wheat has just been introduced into western Kansu, and its yield has been much greater, I was told, than the native varieties. The head is somewhat triangular, being broad at the base. This variety is now growing in a very limited area at an altitude of about 7,000 feet and is sown either in the spring or fall. (*Ching.*)

**58549 to 58551. ORNITHOGALUM spp.**  
Liliaceæ.

From Chilterns, Wynberg, Union of South Africa. Bulbs presented by J. B. Taylor. Received March 1, 1924. Notes by Mr. Taylor.

These bulbs, found in Caledon District, Cape Province, bear very beautiful flowers which keep fresh a long time. They do best in sandy soil.

**58549. ORNITHOGALUM sp.**

Bright-yellow flowers.

**58550. ORNITHOGALUM sp.**

A rare variety with deep-orange flowers.

**58551. ORNITHOGALUM sp.**

A very rare variety with pale-yellow flowers.

**58552. EREMOCITRUS GLAUCA (Lindl.) Swingle.**  
(*Atalantia glauca* Benth.).  
Rutaceæ.**Australian desert kumquat.**

From Dundas, New South Wales. Seeds presented by Herbert J. Rumsey. Received February 29, 1924.

"This is one of the most interesting of all citrus fruits and one which, curiously enough, has never yet received adequate attention from botanists or horticulturists. It was first mentioned by Leichhardt, the German explorer, to whom we owe much of our knowledge concerning the interior of the deserts of northeastern Australia. It is a shrub or small tree from 12 to 15 feet high, with a trunk 2 to 6 inches in diameter. It has small but thick, leathery leaves of gray-green color, and one is struck by the scantiness of the foliage. The flowers are small and the fruits about half an inch in diameter. An agreeable beverage is made from the acid juice, and a fair preserve may be made out of the fruit. The peel has the sweetish flavor of the kumquat. It is known in Australia as the native lemon. The plant was described botanically in a footnote to Thomas Livingston Mitchell's 'Journal of an Expedition into the Interior of Tropical Australia in Search of a Route from Sydney to the Gulf of Carpentaria.' This plant was discovered on October 17, 1846, not far from Lieutenant Colonel Mitchell's camp, near the juncture of the Maranoa and Merivale Rivers, in the southern limit of Queensland, latitude 26° S. Decidedly cold weather was encountered near this point, in some cases the ice being so thick that it had to be broken in the morning before the horses could drink. It seems probable from this that the plant grows in a region where the temperature occasionally falls to 10° F. and in rare cases nearly to zero. It is the hardiest of all evergreen citrus fruits and is very promising for use in breeding new and hardy types." (*W. T. Swingle.*)

For previous introduction, see S. P. I. No. 56700.

**58553. LILIUM DAURICUM Ker.** Lilia-  
cææ. Lily.

From Harbin, Manchuria. Seeds presented by B. W. Skvortzow. Received March 12, 1924.

Collected in Mavershan District, Kirin, Manchuria, in 1923. (*Skvortzow.*)

A plant about 3 feet in height, with a smooth or slightly furrowed stem which is green or tinged with brown or purple. The 20 to 50 horizontal leaves are 3 to 5 inches long, and the flowers, one to five in a cluster and 3 to 5 inches across, are orange-red, slightly spotted with purplish black, and tinged with yellow in the center; the anthers are red.

**58554. MOMORDICA COCHINCHINENSIS (Lour.) Spreng.** Cucurbitaceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 13, 1924.

This is a very vigorous native Philippine vine with large, round, handsome, greenish yellow fruits which should make it popular as an ornamental vine in southern Florida, Porto Rico, and Panama. The immature fruits are boiled and eaten with meat by the natives, and the tender leaves also are boiled and eaten. The large seeds appear to be very rich in oil which, so far as I know, has never been investigated. (*Wester.*)

For previous introduction, see S. P. I. No. 52497.

**58555 to 58558. TRITICUM AESTIVUM L.**  
(*T. vulgare* Vill.). Poaceæ.  
**Common wheat.**

From Paris, France. Seeds sent by A. Meunissier, Vilmorin-Andrieux & Co., Paris, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of European wheats introduced for cerealists engaged in the study of stem rusts.

**58555.** (C. I. No. 7326.) *Carlotta Strampelli.*

**58556.** (C. I. No. 7327.) *Chiddam Blanc de Mars.*

**58557.** "(C. I. No. 7328.) *Hybride de la Paix* is one of the introductions of Vilmorin-Andrieux & Co. It is a winter wheat which tests near Paris have shown to be of good yield." (*C. E. Leighty, Bureau of Plant Industry.*)

**58558.** (C. I. No. 7329.)

*Hybride hâtif inversable* was obtained in 1898 at Verrières by Vilmorin-Andrieux & Co. by crossing Gros bleu and Chiddam d'automne à épi blanc. It can be seeded in the fall and in February and is resistant to cold and to rust. It is widely grown in France and to some extent in England and other countries. It is also known as Dreadnought, Steadfast, Monoplan, and Admiral Beatty. (*Jacques de Vilmorin, Quelques blés d'automne, Journal d'Agriculture Pratique, August 28, 1919.*)

**58559 to 58563. TRITICUM AESTIVUM L.**  
(*T. vulgare* Vill.). Poaceæ.  
**Common wheat.**

From Aberystwyth, Wales. Seeds sent by R. G. Stapledon, department of plant breeding, University College of Wales, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of locally developed European wheat varieties secured for testing by cereal breeders.

**58559.** (C. I. No. 7334.) *Burgoyne Fife.*

**58560.** (C. I. No. 7335.) *Svalof.*

**58561.** (C. I. No. 7336.) *Cooks Wonder.*

**58562.** (C. I. No. 7337.) *April Bearded.*

**58563.** (C. I. No. 7338.) *Red Mareel.*

**58564 to 58567. TRITICUM AESTIVUM L.**  
(*T. vulgare* Vill.). Poaceæ.  
**Common wheat.**

From Svalof, Sweden. Seeds sent by Dr. Akerman, Svalof, at the request of E. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of locally developed Swedish wheat varieties secured for cereal breeders.

**58564.** (C. I. No. 7330.) *Pansar II*

**58565.** (C. I. No. 7331.) *Riddar.*

**58566.** (C. I. No. 7332.) *Host 0806.*

**58567.** (C. I. No. 7333.) *Thule II.*

**58568. MUSA sp. Musaceæ.**

From Manila, Philippine Islands. Seeds presented by Adm. Hernandez, director, Bureau of Agriculture. Received November 22, 1923. Numbered January, 1924.

Introduced in response to a request for edible bananas producing viable seeds.

**58569. TETRASTIGMA HARMANDI Planch. Vitaceæ.**

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 21, 1924.

*Ayó.* An attractive, perennial evergreen vine of vigorous growth, with palmately 5-foliolate, shining dark-green leaves. The fruits are produced in small bunches like grapes and are of about the same size as a small Concord grape and of a dull-brown color. The flesh is semitranslucent, subacid, juicy, and of fair flavor. It is eaten by the Filipinos and could doubtless be used for making jelly and preserves. The plant makes a splendid climbing ornamental and is commonly so used in Manila. (See Plate XXIX, Philippine Agricultural Review, vol. XIV, No. 3, 1921.) (Wester.)

**58570. HIBISCUS SABDARIFFA L. Malvaceæ. Roselle.**

From Kingston, Jamaica. Seeds presented by W. S. Goodman, acting superintendent, Hope Gardens. Received March 20, 1924.

The roselle or, as it is sometimes called, Jamaica sorrel is widely cultivated in the Tropics of both hemispheres for the sake of the fleshy red calyces, which, when cooked, make an excellent jelly or sauce with a flavor resembling that of the cranberry. The juice pressed from the calyces makes a pleasant acid beverage. The plant is a vigorous annual 3 to 7 feet high and grows best in hot, dry climates.

For previous introduction, see S. P. I. No. 51268.

**58571. PHLEUM PRATENSE L. Poaceæ. Timothy.**

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received March 20, 1924.

Locally grown seeds introduced for timothy-breeding tests.

**58572. EHRHARTA ERECTA Lam. (E. panicca Smith.). Poaceæ.**

From South Yarra, Victoria. Seeds presented by William Laidlaw, government botanist, National Herbarium of Victoria. Received January 5, 1924.

*Panic Veldt grass.* This was first introduced into Victoria in 1910 from South Africa, where it is native. It is a biennial or short-lived perennial and appears to be naturally adapted to regions having mild winters, where it springs up after the autumn rains and grows through the winter, maturing in early summer. It is not particular as to soil and seems to do best in partial shade, growing in places too dark for most grasses. It produces an abundance of foliage. (Laidlaw.)

**58573. TIGRIDIA PAVONIA (L. f.) Ker. Iridaceæ.**

From Casa Alvarado, Coyoacan, Mexico. Seeds presented by Mrs. Zelia Nuttall. Received January 5, 1924.

Although this species, like the dahlia, is looked upon as a food plant in some quarters, it will in all probability be more often employed as an ornamental in the United States. Its beautiful, delicate flowers with their unique and peculiar markings, make it an object of great interest in the garden, especially since it is so seldom seen in this country. Although the flowers last but a short while, there

is a succession in a mass planting of them which prolongs the display of yellow, orange, scarlet, and various combinations of reds as satisfactorily as many more durable species.

The tiger flower is adapted to the same situation in the garden as the gladiolus, is similarly handled, and is as easily grown. The species deserves much more extensive culture than it is receiving. It can be treated like the gladiolus in cold climates, but it thrives best when planting or transplanting of the stocks takes place in the fall; in other words, where there is no danger of the corms being injured by low winter temperatures. (David Griffiths, Bureau of Plant Industry.)

**58574. KOKIA DRYNARIOIDES (Secm.) Lewton. Malvaceæ.**

From Honolulu, Hawaii. Fruits presented by C. S. Judd, superintendent of forestry. Received January 4, 1924.

So far as I know, there is now only one tree of this species in existence. It is growing at Kauluawai and was raised from seeds obtained from the last wild tree at Mahana, now dead, discovered and described by J. F. Rock. (Judd.)

An ornamental tree with long-stemmed, heart-shaped leaves and red, silky flowers, native to the Hawaiian Islands, but now become practically extinct because of the ravages of cattle, sheep, and goats, which eat the leaves and bark. (Adapted from Rock, *Indigenous Trees of the Hawaiian Islands*, p. 307.)

For previous introduction, see S. P. I. No. 50624.

**58575 to 58581. TRITICUM AESTIVUM L. (T. vulgare Vill.). Poaceæ. Common wheat.**

From Bologna, Italy. Seeds sent by Dr. Pellegrini, University of Bologna, at the request of B. C. Stakman, University Farm, St. Paul, Minn. Received January 4, 1924.

A collection of Italian wheat strains which are said to be resistant to all rusts in Italy, according to C. E. Leighty, of the Bureau of Plant Industry. These have been obtained for the use of cereal breeders.

58575. (C. I. No. 7359.) Beardless, red, smooth.

58576. (C. I. No. 7340.) Beardless, red, rough.

58577. (C. I. No. 7341.) Beardless, white, smooth.

58578. (C. I. No. 7342.) Beardless, white, rough.

58579. (C. I. No. 7343.) Bearded, red, rough.

58580. (C. I. No. 7344.) Bearded, white, smooth

58581. (C. I. No. 7345.) Bearded, red, smooth.

**58582. PACHIRA INSIGNIS (Swartz) Sav. Bombacaceæ.**

From Kingston, Jamaica. Seeds presented by W. S. Goodman, acting superintendent, Hope Gardens. Received January 11, 1924.

A beautiful tropical tree, native to the West Indies and northern South America, which becomes about 30 feet tall, with a trunk up to a foot in diameter. The flowers, about a foot wide, are of extraordinary beauty with their crimson petals and white stamens, and a delightful perfume is given off by them. The fruit is a very large woody capsule which contains numerous edible seeds; these are of the size, appearance, and taste of chestnuts.

**58583. MOMORDICA COCHINBINENSIS (Lour.) Spreng. Cucurbitaceæ.**

From Santiago de las Vegas, Cuba. Seeds collected at the agricultural experiment station, Santiago de las Vegas, and presented by C. V. Piper, Bureau of Plant Industry. Received January 11, 1924.

A tall climber with ovoid, orange fruits, about 6 inches long. The numerous round, flat seeds are said to be rich in oil. (*Piper*.)

For previous introduction, see S. P. I. No. 58554.

**58584. MUSA sp. Musaceæ.**

From Nice, France. Seeds presented by Dr. A. Robertson Proschowsky. Received January 11, 1924.

A large number of the Muses are handsome ornamentals and are extensively cultivated in the warmer parts of the world for their gorgeous tropical effect. This unidentified species will be given a trial in the southernmost part of Florida.

**58585 and 58586.**

From Richmond, Victoria, Australia. Seeds presented by F. H. Baker. Received January 12, 1924.

**58585. ACACIA JONESSII** Muell. and Maiden. Mimosaçæ.

A very handsome little shrub, native only to a small district of New South Wales, where it reaches a height of 2 to 3 feet, with a stem about three-fourths of an inch in diameter. The fine-cut foliage is a deep green, and the flower headlets are in simple racemes. (Adapted from *Proceedings of the Linnean Society of New South Wales, vol. 8, ser. 2, p. 13.*)

**58586. INDIGOPERA AUSTRALIS** Willd. Fabaceæ.

An erect branching shrub 2 to 4 feet high, with very attractive compound leaves and dense or loose clusters of showy red flowers. It is very variable in regard to habit and foliage, and in its various forms is found almost throughout Australia, except in the Northern Territory. (Adapted from *Bentham, Flora Australiensis, vol. 2, p. 199.*)

For previous introduction, see S. P. I. No. 56575.

**58587. FICUS MYSORENSIS** Heyne. Moraceæ.

From Lal Bagh, Bangalore, India. Seeds presented by G. H. Krumbiegel, superintendent, Government Botanic Gardens. Received January 15, 1924.

A large, broadly spreading tree, native to the forests of the subtropical Himalayas from Sikkim eastward. The aerial roots are few, embracing the trunk, and the ovate, leathery leaves, which are prominently veined, are up to 8 inches in length. (Adapted from *Hooker, Flora of British India, vol. 5, p. 500.*)

**58588. TITHONIA DIVERSIFOLIA** (Hemsl.) A. Gray. Asteraceæ.

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received January 15, 1924.

I have just seen this perennial composite at its best, and it far surpasses my expectations as an ornamental. Clumps of it are a blazing mass of yellow, and the flowers often reach a width of 4 inches. These are produced in great abundance during the autumn and early winter months, and the plant therefore might be a good ornamental for Florida during the early winter season. (*Wester*.)

For previous introduction, see S. P. I. No. 57093.

**58589. GARCINIA MORELLA** (Gaertn.) Desr. Clusiaceæ.

From Dominica, British West Indies. Seeds presented by Joseph Jones, curator, botanic gardens. Received January 17, 1924.

In connection with the department's effort to establish mangosteen culture in the tropical American dependencies of the United States, several species of *Garcinia* have been tested as stock plants. The mangosteen, when grown on its own roots, is a delicate subject indeed, and it has been thought

grafting on more vigorous species might solve one of the difficulties in the way of its culture. *Garcinia morella* has shown promise as a stock plant, and the seeds under this number will be used to produce plants for further experimentation.

**58590. FUNTUMIA ELASTICA** (Preuss) Stapf. Apocynaceæ.

**Lagos rubber tree.**

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received January 17, 1924.

The Lagos rubber tree is the most important source of rubber native to West Africa and is distributed throughout western tropical Africa from Sierra Leone to Cameroon, and also in British East Africa.

Introduced for rubber specialists.

**58591. LANDOLPHIA DROGMANSIANA** Wildem. Apocynaceæ.

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received January 18, 1924.

A giant creeper from the Belgian Congo which becomes over 300 feet in length, with a stem about 8 inches in diameter. The leathery, oblong-rounded leaves are about 5 inches long. This species yields an excellent rubber-producing latex (Adapted from *Wildeman and Gentil, Lianes Caoutchoutifères du Congo, p. 59.*)

Introduced for testing by rubber specialists.

**58592. HYDNOCARPUS ANTHELMINTHICA** Pierre. Flacourtiaceæ.

From Bangkok, Siam. Seeds presented by Dr. A. F. G. Kerr, director, botanical section, Ministry of Commerce. Received January 18, 1924.

The *maikrabao*, as this species is called in Siam, where it is native, is a vigorous, graceful tree 30 to 60 feet in height, with large leathery leaves up to a foot in length, pale yellowish above and shining green below. The rose-colored or purplish flowers are in few-flowered racemes, and the large, round fruits, about 3 inches in diameter, contain each about 80 oval seeds from which a fatty oil is expressed. In its physical characteristics and chemical composition this oil closely resembles chaulmoogra oil, which is used with great success in the treatment of leprosy. Like the true chaulmoogra oil (obtained from *Taraktogenos kurzii* King) this consists to a large extent of the glyceryl esters of chaulmoogric and hydrocarpic acids, and it may therefore be inferred that it possesses similar medicinal value.

Young trees of this species are doing well in Hawaii. The plant is likely to prove of value in that region as well as in tropical America.

**58593. MARKHAMIA sp.** Bignoniaceæ.

From Umтали, Rhodesia, South Africa. Seeds presented by Rev. E. H. Greely. Received January 23, 1924.

A native Rhodesian tree with yellow flowers 2 inches across. It resembles the central African species of *Spathodea*. (*Greely*.)

This is a genus of handsome tropical evergreen trees or shrubs, with large panicles of flowers which are usually yellow.

**58594. VALLARIS HEYNEI** Spreng. Apocynaceæ.

From Allahabad, India. Seeds presented by W. B. Hayes, horticulturist, Allahabad Agricultural Institute. Received January 22, 1924.

A climbing shrub with fragrant, white flowers three-fourths of an inch wide, often cultivated as an ornamental in India, where it is native. It has milky juice which is used medicinally in its native country. The plant is introduced for the use of specialists engaged in rubber investigations.

For previous introduction, see S. P. I. No. 53592.

**58595 and 58596.**

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 23, 1924. Notes by Mr. Rock.

58595. *LILIUM* sp. Liliaceæ. Lily.

(October, 1923.) A small lily 10 to 12 inches high, which grows on the alpine meadows of the Sila Pass, Mekong-Salwin Divide, at an altitude of about 12,000 feet. It is well worthy of cultivation on account of its drooping, rich purplish black, bell-shaped flowers, tinged with carmine, which are 1 or 2 inches long and broad.

58596. *MECONOPSIS* sp. Papaveraceæ.

(November 1, 1923.) An herbaceous plant 3 to 4 feet high, found on Francis Garnier Peak at an altitude of 14,500 feet, en route from the Salwin River to the Mekong River, via the Shondsungla-Tibet border. The flowers are probably yellow.

**58597 to 58600.**

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 24, 1924. Notes by Mr. Rock.

58597. *JUGLANS REGIA* L. Juglandaceæ.

(October 25, 1923.) A tall, straight tree which forms dense forests below Shondsungla in the valley of the Dayonlumba, a tributary of the Salwin, on the Tibetan border, at an altitude of 9,500 feet. It is often associated with maples and rhododendrons. The fruits are usually oblong, rarely globose.

58598. *RHODODENDRON ARALIAEFORME* Balf. f. and Forrest. Ericaceæ.

(No. 10882. November, 1923.) A shrub 5 to 8 feet high which grows on the mountain slopes west of Atuntze at an altitude of about 12,000 feet. The rich, golden yellow flowers are in large terminal corymbs.

58599. *RHODODENDRON ARALIAEFORME* Balf. f. and Forrest. Ericaceæ.

(No. 10883. November 11, 1923.) A much-branched small tree 10 to 12 feet in height, which grows at an altitude of 13,500 feet on Mount Drungu, Tibetan border, overlooking the Mekong River. The leathery, dark-green, oblong leaves are brownish yellow beneath, and the flowers are deep red.

58600. *TUMION FARGESII* (Franch.) Skeels. (*Torrea fargesii* Franch.). Taxaceæ.

(October, 1923.) A tree 100 to 150 feet tall, with a trunk  $4\frac{1}{2}$  feet in diameter and huge descending branches, which grows rarely in the deciduous and semideciduous forests of the Mekong-Yangtze Divide and also more commonly on the Mekong-Salwin Divide at an altitude of 10,000 feet. The fruits are the size of small walnuts. The tree prefers rich black soil and considerable rainfall.

**58601. HYOSCYAMUS MUTICUS** L. Solanaceæ.

From Algiers, Algeria. Seeds presented by Dr. L. Trabut. Received January 24, 1924.

Like the henbane (*Hyoscyamus niger*) this plant, which is native to Egypt and western Asia, is a source of hyoscyamin, an alkaloid used in the treatment of various nervous disorders. It is a thick-stemmed perennial with fleshy, ovate leaves about 4 inches long and violet-spotted, whitish flowers nearly an inch in length.

For previous introduction, see S. P. I. No. 53543.

**58602. CASTANEA MOLLISSIMA** Blume. Fagaceæ. Chestnut.

From Nanking, China. Seeds purchased from Prof. J. H. Reinsner, College of Agriculture and Forestry, University of Nanking. Received January 26, 1924.

In the endeavor to relieve the situation caused by the rapid disappearance of our native chestnut due to the ravages of the chestnut-blight fungus, the Chinese hairy chestnut is being introduced into this country in considerable quantity. The size and quality of the nuts compare rather favorably with those of our native chestnut, although neither the size of the tree nor the tannin content measures up to those of our native species.

**58603 to 58623.**

From Elstree, Herts, England. Seeds presented by Vicary Gibbs, Aldenham House Gardens. Received January 25, 1924.

58603. *ACANTHOPANAX SESSILIFLORUM* (Rupr. and Maxim.) Seem. Araliaceæ.

A vigorous, deciduous shrub which forms a large spreading bush 10 feet high, with 3 or 5 lobed, irregularly toothed leaves. The flowers, brownish purple with yellow protruding stamens, are packed closely in a spherical, almost stalkless cluster about an inch in diameter and appear in July. The inky black berries are in round clusters about an inch thick. This is one of the hardiest shrubs introduced from northern China, where it is native.

58604. *BERBERIS VEITCHII* C. Schneid. Berberidaceæ. Barberry.

A shrub with gracefully arching branches, leathery, pale-green leaves, and bronze-yellow flowers with reddish outer surfaces. The berries are black and broadly elliptic. Native to western Hupeh, China. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 3, p. 438.)

For previous introduction, see S. P. I. No. 53646.

58605. *CHAENOMELES LAGENARIA WILSONII* Rehd. Malaceæ.

A bush 4 to 6 meters (approximately 13 to 20 feet) tall, found at an altitude of 1,800 meters (approximately 5,900 feet), in western Szechwan. The flowers vary in color from white to red, and the fruits are golden and red. This variety differs from the typical form in the dense yellowish wool which covers the lower surfaces of the leaves. (Adapted from *Sargent, Plantae Wilsonianae*, vol. 2, p. 298.)

For previous introduction, see S. P. I. No. 49664.

58606. *CLEMATIS TANGUTICA ORTUSIUSCULA* Rehd. and Wils. Ranunculaceæ.

A handsome climbing shrub, native to Central Asia, with sharply cut compound leaves and very large, solitary, nodding flowers which are borne on erect stems 6 inches long and arched at the tip. The golden-yellow sepals are about 2 inches long, with recurved tips. (Adapted from *Curtis's Botanical Magazine*, pl. 7710.)

For previous introduction, see S. P. I. No. 52337.

58607. *COROKIA VIRGATA* Turill. Cornaceæ.

A slender-branched shrub, 6 to 12 feet high, native to the most northern part of New Zealand, where mild weather prevails throughout the year. The shining-green, oblong-spatulate leaves are downy white beneath, and the yellow flowers about half an inch across, are in 3-flowered clusters. (Adapted from *Curtis's Botanical Magazine* pl. 8466.)

58603 to 58623—Continued.

58608 to 58611. COTONEASTER spp. Malacææ.

58608. COTONEASTER BULLATA Bois.

An ornamental hardy shrub, about 10 feet high, native to western China. The leaves are dark green and the flowers rosy white, but the greatest attraction of this shrub is the abundant crop of brilliant red fruits which are borne on the upper sides of the long arching branches toward the end of August. Some of the fruiting clusters are 2 inches across.

For previous introduction, see S. P. I. No. 53672.

58609. COTONEASTER FRIGIDA Wall.

Var. *vicari*. 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 species. (Adapted from *Gardening Illustrated*, vol. 42, p. 721.)

For previous introduction, see S. P. I. No. 56450.

58610. COTONEASTER SALICIFOLIA RUGOSA (E. Pritz.) Rehd. and Wils.

A very handsome Chinese shrub with long pendulous branches and wrinkled, narrow leaves with the lower surfaces covered with down. The small, scarlet berries contrast very effectively with the autumnal tints of the foliage. (Adapted from *Journal of the Royal Horticultural Society*, vol. 38, p. cclii.)

For previous introduction, see S. P. I. No. 55083.

58611. COTONEASTER sp.

According to Mr. Gibbs this is closely related to *Cotoneaster francheti*, which is an evergreen shrub from western China, with lustrous green leaves, rosy white flowers, and oblong, orange-scarlet fruits.

58612. KALOPANAX DIVARICATUM (Sieb. and Zucc.) Miquel. Araliacææ.

A deciduous shrub of vigorous habit, forming a large, spreading bush 5 to 10 feet or more in height. It is native to the mountains of Kiushiu, Japan, and is closely related to *Acanthopanax sessiliflorum*, cultivated in European gardens for its handsome, dark-green leaves and spherical heads of inky black fruits. Unlike the latter, this species has downy young shoots, and the lower surfaces of the leaves are also quite downy. It should probably prove hardy in all but the coldest parts of the United States.

58613. LIGUSTRUM DELAVAYANUM Harriot. Oleacææ. Privet.

An evergreen shrub about 6 feet high with long graceful branches and dark, shining-green, oval leaves. The white flowers, borne in downy panicles, and the black fruits make the shrub very ornamental. It is native to the mountainous regions of Yunnan, China, and is probably suited for growing only in the southern United States.

For previous introduction, see S. P. I. No. 55089.

58614. LONICERA TRICHOPODA Franch. Caprifoliacææ. Honeysuckle.

A slender-branched shrubby honeysuckle from Yunnan, China, with narrowly oblong leaves which are covered with fine hairs. The yellowish white flowers are marked with red and are followed by bright-red berries.

58603 to 58623—Continued.

58615. LONICERA sp. Caprifoliacææ.

Honeysuckle.

An undetermined species which, according to Gibbs, is related to *Lonicera henryi*, which is an evergreen climber native to western China, with dark-green leaves, purplish red flowers, and blackish purple fruits.

58616 to 58618. ROSA spp. Rosacææ. Rose.

58616. ROSA BRUNONII Lindl.

The Himalayan Musk rose is a tall shrub with arching branches short, stout, hooked prickles, and fragrant, single, white flowers about 2 inches across, borne in large many-flowered clusters. It is a native of the Himalayas and also of western China.

58617. ROSA DAVIDI Crepin.

A pink-flowered, orange-fruited rose 3 to 18 feet high, native to western Szechwan, China, at altitudes of 4,000 to 9,000 feet. It is the nearest Chinese relative of *Rosa macrophylla* of the western Himalayas. (Adapted from *Sargent, Plantae Wilsonianæ*, vol. 2, p. 322.)

For previous introduction, see S. P. I. No. 53732.

58618. ROSA PRATII Hemsl.

A slender-branched, shrubby rose which becomes about 8 feet in height, with numerous bristles and slender prickles. The pink flowers, about three-fourths of an inch across, occur singly or in few-flowered clusters, and the scarlet fruits are about one-third of an inch long. This hardy species is a native of western China.

For previous introduction, see S. P. I. No. 43907.

58619. SCHIZANDRA RUBRIFLORA (Franch.) Rehd. and Wils. Magnoliacææ.

A climbing shrub, often 20 feet in height, which grows at high altitudes in the mountains of western China. The oblong or obovate, sharp-pointed leaves are dark green above and paler below, and the solitary dark-red flowers are about an inch across. (Adapted from *Sargent, Plantae Wilsonianæ*, vol. 1, p. 412.)

58620. STRANVAESIA DAVIDIANA Decaisne. Malacææ.

This yellow-fruited form was raised from the same batch of seeds as S. P. I. No. 56695, but the fruits were found to have a distinct orange-yellow color. Seedlings may revert to the original type. (*Edwin Beckett, superintendent, Aldenham House Gardens.*)

For previous introduction, see S. P. I. No. 56696.

58621. STRANVAESIA DAVIDIANA UNDULATA (Decaisne) Rehd. and Wils. Malacææ.

A low, spreading, evergreen shrub, or occasionally a small tree, which is native to western China. The leathery, narrowly oval leaves are glossy green and 1 to 3 inches long, and the white flowers, about half an inch across, appear in terminal clusters. Its greatest charm as an ornamental is the abundant crop of bright-red fruits.

For previous introduction, see S. P. I. No. 40196.

## 58603 to 58623—Continued.

58622. *VIBURNUM DASYANTHUM* Rehder. Caprifoliaceæ.

A hardy ornamental shrub about 7 feet high from the mountains of western Hupeh, China, where it grows at altitudes of 4,000 to 9,000 feet. The narrow, toothed leaves are dark metallic green above, paler beneath, and prominently veined. The flowers are in lax panicles, and the small red berries make the shrub a striking object of beauty in the fruiting season.

58623. *VIBURNUM PHEBOTRICHUM* Sieb. and Zucc. Caprifoliaceæ.

A deciduous shrub, native to Japan, which is very similar to *Viburnum urightii*, from the same country. It becomes 6 to 10 feet in height, with rather small, narrowly oval, bright-green leaves, white flowers produced in cymes 2 to 4 inches across, and roundish red berries which give the shrub a very attractive appearance.

For previous introduction, see S. P. I. No. 40200.

58624. *BAUHINIA HETEROPHYLLA* Kunth. Cæsalpiniaceæ.

From Santiago de las Vegas, Cuba. Seeds presented by Dr. Mario Calvino, director, Estación Experimental Agronómica. Received January 28, 1924.

This is called "bejuco tortuga (turtle vine)," because of the characteristic turtle-shaped swellings in the older parts of the vine. It grows in low, sandy places, chiefly on the edges of lagoons and marshes in western Cuba, where it climbs over trees and shrubs. The clusters of yellowish white flowers appear in December. The young vine is used by the natives for making rough baskets and rope. (*Calvino*.)

58625 and 58626. *DIOSCOREA* spp. Dioscoreaceæ.

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, Porto Rico Agricultural Experiment Station. Received January 31, 1924. Notes by R. A. Young, unless otherwise stated.

58625. *DIOSCOREA CAYENENSIS* Lam. Yellow Guinea yam.

Congo. In Mayaguez this is called Congo amarillo, but in the San Juan market, where it is found in greater abundance than other kinds, it is known as Yellow Guinea. It thrives much better in sandy soil than most yams. The large roots attain a length of a foot, are rather cylindrical, and average a weight of 4 or 5 pounds in favorable seasons. The interior of the starchy root is a rich light yellow and turns dark brown when exposed to the air. It is smoother and more even grained than the water yams and not less so than the roots of the White Guinea or the Potato yams. It is rich yellow and of good texture when cooked. The flavor is pleasant and compares favorably in richness with the best yams. The vines of this variety are not angled; they are small and very strong, and make a moderately vigorous growth. (Adapted from C. F. Kinman in *Bulletin 27, Porto Rico Agricultural Experiment Station, pp. 20 and 21.*)

In addition to the data on quality given by Kinman, it may be noted that this yam has a slightly bitter taste; on this account special methods of cooking may sometimes be required. It is said that the bitterness is more noticeable in immature tubers than in fully mature ones.

For previous introduction, see S. P. I. No. 54901.

58626. *DIOSCOREA ROTUNDATA* Poir. White Guinea yam.

Guinea yam. A white-fleshed yam of excellent quality and one of the most popular varieties grown in Porto Rico. The tubers are usually cylindrical and commonly weigh from 3 to 6 pounds each at maturity.

For previous introduction, see S. P. I. No. 53006.

58627. *CARICA CANDICANS* A. Gray. Papayaceæ.

From Peru. Seeds presented by B. E. Dahlgren, Field Museum of Natural History, Chicago, Ill. Received January 31, 1924.

Collected by J. F. Macbride, in Peru. (*Dahlgren*.)

A wild relative of the papaya (*Carica papaya*), which is native to the mountainous region of Peru between Lima and Obrajillo, at an altitude of about 7,000 feet. It is a small tree, 6 to 10 feet high, with a few stout branches and a fruit said to be shaped like a cacao pod. It may be of use to horticulturists in southern Florida who are carrying on breeding experiments with the papaya.

58628. *EUCALYPTUS DELEGATENSIS* R. T. Baker. Myrtaceæ.

From Tasmania. Seeds presented by Dr. J. G. Lipman, director, agricultural experiment station, New Brunswick, N. J. Received February 1, 1924.

This seems to be a valuable timber tree in Tasmania, where it is native. (*Lipman*.)

"The gum-topped stringybark is an erect tree, often assuming the largest dimensions. The branches are usually short and ascending, and the bark is thin and fibrous." (*L. Rodway, Tasmanian Eucalypts, p. 15.*)

For previous introduction, see S. P. I. No. 58127.

58629 and 58630. *JUGLANS REGIA* L. Juglandaceæ.

From Srinagar, Kashmir, India. Seeds presented by R. K. Koul, Koul's Gardens. Received February 2, 1924.

Walnuts have been cultivated since remote times in the hilly portions of India, and in Kashmir especially the industry has been highly developed. These seeds are from superior varieties which are grown at an altitude of about 5,500 feet, in a region where mild winters and warm, but not hot, summers prevail.

58629. *Kaghzi*.

58630. A small variety.

58631 and 58632. *TRIFOLIUM PRATENSE* L. Fabaceæ. Red clover.

From Valence, Rhone, France. Seeds purchased from Tézier Frères. Received March 12, 1924.

Locally grown strains introduced for clover specialists.

58631. Harvested in the southern Alps.

58632. Harvested in Drome, near Valence.

58633 and 58634. *RHODODENDRON* spp. Ericaceæ.

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received January 31, 1924. Notes by Mr. Rock.

58633. *RHODODENDRON* sp.

(No. 10884. Tsarong, Tibet. November 23, 1923.) A shrub or small tree, 10 to 15 feet high, collected on the banks of the Dzossutong, at an altitude of 12,000 feet. All parts of the plant are extremely aromatic, with a peppermint-turpentine fragrance. The elliptical, thin, dark glossy green leaves are greenish brown beneath, densely dotted, and have red petioles. The flowers may be pink.

58634. *RHODODENDRON* sp.

(No. 10885. November, 1923.) A tree or shrub 15 to 25 feet in height, sometimes with a trunk 10 inches in diameter, found on the slopes of the sacred mountain Dokerla, Tibetan border, at an altitude of 11,000 feet, in a mossy forest along the banks of a stream. The lanceolate glabrous leaves are dull green, paler beneath, and the red flowers are in terminal umbels.



**58635. CROTALARIA sp. Fabaceæ.**

From Angola, Africa. Seeds presented by Merlin W. Ennis. Received February 2, 1924.

In our experiments with various plants introduced for cover crops we did not discover anything satisfactory, so we turned to the plants growing wild in this region. Among these was the "Elende clover," of which we are sending you seeds. This is a rather inconspicuous plant which grows in all sorts of places. I tried it first as a cover crop in the orange grove, in the hope that it might restrain the Bermuda grass. It not only smothered the Bermuda grass, but as it appears now in its second year it has made a very heavy stand. As the plant is well supplied with root nodules I believe that it will prove valuable as fertilizer. (*Ennis.*)

**58636 to 58640.**

From India. Seeds collected by Ralph R. Stewart. Received February 2, 1924. Field notes by Mr. Stewart.

**58638 to 58639. RIBES spp. Grossulariaceæ.****58638. RIBES ALPESTRE Decaisne.**

(No. 7376½. Sonamarg. August 22, 1922.) Collected at an altitude of about 8,600 feet. This is the only prickly Ribes in Kashmir, and it has very large fruits.

**58637. RIBES GLACIALE Wall.**

(No. 6743. Sonamarg. August 22, 1922.) A very hardy species, collected at an altitude of 10,000 feet. The fruit is not used.

A shrub, 10 to 15 feet high, with reddish young shoots, rounded leaves, and small flowers which are maroon or purplish on the inside. The small, scarlet, currantlike fruits mature in July in the higher altitudes of the Himalayas, where the species is native. (Adapted from *Janczewski, Monographie des Groseilliers, p. 467.*)

**58638 and 58639. RIBES ORIENTALE Desf.**

Unarmed, deciduous shrubs about 6 feet high distributed from eastern Europe to the Himalayas. The leaves are shining green and bristly below, the flowers are greenish red, and the small red fruits are covered with viscid hairs.

**58638.** (No. 7309. Sonamarg. July and August, 1922.) A hardy species, usually on dry, open banks, at an altitude of 7,000 to 9,000 feet.

**58639.** (No. 7385½. Matayan Dras, Ladak. August 29, 1922.) From an altitude of 10,000 feet.

**58640. RUBUS SAXATILIS L. Rosaceæ.**

(No. 7467. Baltal. September 3, 1922.)

According to Sir Joseph Hooker (*Flora of British India*), *Rubus saxatilis* is distributed throughout the Himalayan region, commonly at altitudes of 10,000 to 11,000 feet. The stems are short, erect, annual from a stout, woody rhizome. The leaves are composed of three ovate, somewhat lobed, acutely double-toothed leaflets, each 2 to 3 inches long. The white flowers, half an inch in diameter, are followed by fruits composed of a few large scarlet drupelets. Judging by its distribution in Asia, this species should prove sufficiently hardy for cultivation in many parts of the United States. It is of interest mainly to plant breeders who are working with this genus.

**58641. ABIES FORRESTII Craib. Pinaceæ. Fir.**

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 5, 1924.

For previous introduction and descriptive note, see S. P. I. No. 58468.

**58642. ABIES sp. Pinaceæ. Fir.**

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received February 9, 1924.

For previous introduction and descriptive note, see S. P. I. No. 58469.

**58643. FICUS CARICA L. Moraceæ. Fig.**

From Saonara, Padova, Italy. Plants purchased from Fratelli Sgaravatti. Received February 9, 1924.

*Dottato.* Dr. Gustavus Eisen, long with this department and instrumental in bringing about the introduction of many fig varieties into the United States, describes *Dottato* as the best-known fig of Tuscany. A large proportion of the figs exported from Italy are of this variety. The tree is said to love rich, moist soils and is not suitable for dry lands. Under proper environmental conditions, it is a strong grower and heavy bearer of medium-sized fruits, oval-pyriform in shape, smooth, and yellowish green in color.

This well-known Italian variety is introduced for cultural and comparison tests by horticulturist; engaged in fig-breeding experiments.

For previous introduction, see S. P. I. No. 56631.

**58644. PASPALUM NOTATUM Fluegge. Poaceæ.**

From San Jose, Costa Rica. Seeds purchased from J. Alfredo Quiros. Received January 30, 1924.

Bahia grass is a perennial grass forming a dense sward of leaves and with flowering culms about 1 foot high, two-branched at the top. It is native from Cuba and Mexico southward to Argentina. It is generally recognized as a very valuable pasture grass. The rootstocks are very stout, so that even on very sandy soil the grass makes a firm sod. At the Florida experiment station, Bahia grass is spreading year by year even into land already occupied by other grasses. In Florida the best germination has been obtained by sowing the seed the latter part of May and in June. A firm seed bed seems desirable.

Bahia grass has proved hardy throughout Florida and as far north as McNeill, Miss. It succeeds on nearly all types of soil, even on the sand hills, but best in fairly firm soils.

The ergot which attacks Dallis grass and many other species of Paspalum also affects Bahia grass. Indeed, in parts of Argentina where the pastures are largely of this grass the ergot causes a disease of cattle apparently the same as that caused by the same ergot on Dallis grass in Mississippi. It is not likely, however, that this ergot will ever be serious except perhaps in limited areas where Bahia grass or Dallis grass makes up the whole pasturage. (*C. V. Piper, Bureau of Plant Industry.*)

For previous introduction, see S. P. I. No. 51121.

**58645. CLITANDRA ARNOLDIANA Wildem. Apocynaceæ.**

From Kisantu, Belgian Congo. Seeds presented by Frère J. Gillet. Received February 5, 1924.

One of the commonest rubber-producing plants of the Belgian Congo, being found throughout the entire territory. It is a vine which becomes a foot in diameter and 250 feet in length, with leathery, narrowly oblong leaves. The rubber obtained from the latex of this species is black and of first quality. (Adapted from *Wildeman and Gentil, Lianes Caoutchoutifères du Congo, p. 80.*)

Introduced for rubber specialists.

**58646.** × *POPULUS GENEROSA* A. Henry. **Salicaceæ.** **Poplar.**

From Dublin, Ireland. Cuttings presented by Dr. Augustine Henry, College of Science for Ireland. Received March 22, 1924.

This hybrid poplar is, according to its originator, Augustine Henry, intermediate in characters between its parents (*Populus angulata* and *P. trichocarpa*). The leaves are coarsely serrate and pale gray beneath. The tree is a rapid grower and unusually vigorous.

**58647 to 58658.**

From Paris, France. Plants purchased from Vilmorin-Andrieux & Co. Received February 20, 1924.

**58647.** *AMPELOPUS MEGALOPHYLLA* Diels and Gilg. (*Vitis megalophylla* Veitch.). **Vitaceæ.**

A vigorous, hardy, very interesting vine, becoming 20 to 30 feet in length, with long-stemmed, deeply lobed leaves often more than 3 feet in diameter. The bluish black fruits are in loose cymes. This species is native to western Hupeh, China, where it grows at an altitude of about 4,000 feet.

For previous introduction, see S. P. I. No. 39569.

**58648.** *CHEIRANTHUS MUTABILIS* L'Her. **Brassicaceæ.**

A half-woody ornamental from Madeira, about 3 feet high, with very narrow, pointed leaves. The flowers are white, cream colored, or yellowish, becoming darker and striped.

**58649.** *EOMECON CHIONANTHA* Hance. **Papaveraceæ.**

A hardy, herbaceous perennial, native to eastern China. The pearly white flowers, 2 inches across, are borne in a many-flowered cluster on a reddish scape a foot or more high. The contrast of the white flowers with the pale-green leaves is very striking. The root stalks run freely underground and increase rapidly.

**58650.** *LAVATERA OLBIA* L. **Malvaceæ.**

A shrubby perennial, native to southern Europe, about 6 feet in height. The 3-lobed or 5-lobed oblong leaves are softly hairy, and the solitary, reddish purple flowers are sometimes over 2 inches across.

**58651.** *RUBUS FLAGELLIFLORUS* Focke. **Rosaceæ.**

A climbing, evergreen, shrubby *Rubus* from central and western China, where it is found at an altitude of about 6,000 feet. The slender, graceful stems become 5 or 6 feet long in one season; when young they are covered with a whitish felt through which are scattered small recurved prickles. The broadly oval, long-pointed leaves are sometimes 7 inches long, with the lower surfaces covered with thick, yellowish felt. The shining black fruits, half an inch thick, are edible.

**58652.** *RUBUS TRIFIDUS* Thunb. **Rosaceæ.**

An erect, woody, Japanese species, 7 to 10 feet high, with large, palmately ribbed, serrate leaves, and medium-sized, scarlet, edible berries. Because of its bright autumn foliage this is sometimes called the "fire raspberry."

**58653.** *SALVIA DICHROA* Hook. f. **Menthaceæ.**

This perennial is considered by some authorities as one of the most beautiful of the more hardy sages. It comes from the Atlas Mountains in Morocco. The plant grows about 3 feet high, and the deeply cut leaves are 6 to 8 inches long. The flowers are very striking, with the upper lip bright blue, the lateral lobes light blue, and the pendulous midlobe white. The many-flowered racemes are a foot or more in length.

**58647 to 58658—Continued.****58654.** *SISYRINCHIUM STRIATUM* J. E. Smith. **Iridaceæ.**

A hardy, herbaceous perennial, 1 to 3 feet high, which is native to Chile and Argentina. It has sword-shaped leaves and lemon-yellow flowers in sessile clusters on long spikes. Each tuft develops 20 to 30 flower spikes, and throughout July this makes a very striking garden ornamental.

For previous introduction, see S. P. I. No. 33818.

**58655.** *SPHAERALCEA MUNROANA* (Dougl.) Spach. **Malvaceæ.**

A very attractive herbaceous perennial, 1 or 2 feet in height, found on dry plains in British Columbia and southward. The leaves are faintly 3-lobed, sometimes incised, and the scarlet or rose-colored flowers, an inch across, are in many-flowered terminal or axillary panicles.

**58656.** *THLADIANTHA OLIVERI* Cogn. **Cucurbitaceæ.**

A vigorous herbaceous vine, with annual, softly hairy stems sometimes 30 feet long and large, heart-shaped leaves about 8 inches long. Clusters of yellow, bell-shaped flowers an inch across appear in the leaf axils from July to September, making the vine very attractive. The native home of this species is central China.

**58657.** *VACCINIUM URCEOLATUM* Hemsl. **Vacciniaceæ.**

A handsome bush, 2 to 6 feet in height, common on red sandstone rocks in western Szechwan, China. It has leathery, narrowly oval leaves 2 to 4 inches long, small pink flowers in racemes, and small, black, urn-shaped berries.

**58658.** *VERBASCUM WEIDEMANNIANUM* Fisch. and Mey. **Scrophulariaceæ.**

A hardy herbaceous biennial, 1 to 3 feet high, covered with cobwebby, woolly hairs. The radical leaves are oblong and about 4 inches long; the stem leaves are sessile and very small. The purplish lilac flowers over an inch wide are either solitary or in a simple raceme or slightly branched panicle. This species is native to the Caucasus.

**58659.** *CASTANEA MOLLISSIMA* Blume. **Fagaceæ.**

From Yih sien, Shantung, China. Seeds presented by K. M. Gordon, South Shantung Industrial School of the American Presbyterian Mission (North). Received March 29, 1924.

These nuts, unusually sweet in flavor, came from the village of Yangchenlou, about 3 miles north of Yih sien. (Gordon.)

The Chinese hairy chestnut has been introduced into this country several times and has been quite generally distributed. It is a promising immigrant, as the nut more closely resembles our American sweet chestnut than any other foreign species. Our own chestnut is rapidly disappearing, because of the chestnut blight which was introduced from the Orient about 20 years ago. *Castanea mollissima* is resistant to blight and has other characters that would seem to make it worthy of cultivation and study.

**58660.** *CARICA* sp. **Papayaceæ.**

From Lima, Peru. Seeds presented by Ing. Miguel U. Reátegui, Lima, through Dr. Mario Calvino, San Manuel, Oriente, Cuba. Received March 19, 1924.

*Papaya aromática.* An unidentified species from the highlands of Peru, which will be used in papaya-breeding experiments in southern Florida.

**58661. OLEA EUROPAEA L. Oleaceæ.**  
**Olive.**

From Ariana, near Tunis, Tunisia, Africa. Cuttings presented by F. Boucif, chief, botanical service. Received March 28, 1924.

*Barouni*. "This variety is described in a paper entitled 'L'Olivier en Tunisie,' by N. Minangoin, published by the Department of Agriculture and Commerce of Tunis in 1901. The leaves, fruits, and seeds are illustrated in Plate I, figure 1, of this publication. I translate what Minangoin says concerning it:

"This variety is found almost exclusively in the olive orchards of the Sahel (eastern coast of Tunis) and in particular at Kalaa Srira (11 km. from the town of Sousses).

"Foliage sparse, leaves 7 to 8 cm. long, narrow, light green on the upper surface, whitish on the lower surface. Fruits single, very large, shaped like a pear upside down, wine red when mature, ripening very early. Peduncle long and strong, flesh thick and white, seed one-sided, long and thick, ending in a point. Flowers at the end of February."

"Mr. Minangoin told me himself in 1904 that the variety is extremely rare and that he knew of only three trees, which were on the estate of M. Robert at Kalaa Srira. The word Barouni means foreign, and the variety is supposed to have been introduced by one of the Beys of Tunis from Greece or Turkey. He said that the trees in question were old and do not bear well. He stated that the fruits sometimes weighed as much as 20 grams.

"I met M. Robert, who was at that time vice president of the Municipality of Sousses, and he also stated that the Barouni variety is found only at Kalaa Srira. He said that it was not commonly grown, as it requires a good deal of water and must be irrigated.

"There are two varieties of olive in Tunis to which the name Barouni is applied. The large pickling olive is Barouni de Kalaa Srira, while the other variety is known as Barouni de Soliman and has a small fruit used for making oil." (*T. H. Kearney, Bureau of Plant Industry; letter of February 7, 1924.*)

**58662. DIOSCOREA sp. Dioscoreaceæ.**  
**Yampi.**

From Mayaguez, Porto Rico. Tubers presented by T. B. McClelland, horticulturist, agricultural experiment station. Received March 26, 1924.

*Mapuey morado*. The yampi is usually of even form and somewhat club-shaped, and the tubers are commonly 4 to 10 ounces in weight; the inner skin is pink. The flesh is white, but often becomes slightly grayish when cooked. The flavor is much like that of the potato, but the yampi has in addition an agreeable sweetness. (*R. A. Young, Bureau of Plant Industry.*)

For previous introduction, see S. P. I. No. 56660.

**58663 to 58668. FICUS CARICA L.**  
**Moraceæ. Fig.**

From Malaga, Spain. Cuttings presented by Luis Liró Ortiz, director, Estación de Agricultura General de Torrox, through D. D. Shepard, American consul. Received March 4, 1924. Notes by Señor Ortiz.

*58663. Blanquilla*. A tree of medium size which does not produce early fruits (brevas), but bears only a large crop of small, very sweet, late fruits (higos).

*58664. Negra or Goen*. A large tree which bears both early and late fruits; these are sweet and of medium size.

**58663 to 58668—Continued.**

*58665. Pacueca*. A tree of medium size, bearing regular crops of early and late fruits, which are large and black.

*58666. Pardilla*. A tree which never becomes very tall, because of its spreading habit. When young it bears both early and late crops, but after several years it bears only the late fruits. These are large, brown, and very sweet. This is the best variety grown in the vicinity of Malaga; it yields well and the fruits are the best for drying.

*58667. Valenciana*. A large tree which produces only a late crop, which is regular and heavy. The fruits are large, white, and sweet.

*58668. Verdeja or Ojo de Perdiz*. A large tree which produces a late crop; the fruits are not so numerous as those of the *Blanquilla* [S. P. I. No. 58663], nor are they so sweet. The name "Ojo de Perdiz" is derived from the red eye of the fruit.

**58669. JUGLANS REGIA L. Juglandaceæ.**  
**Walnut.**

From Simla, Punjab, India. Plant presented by Howard Spence, The Red House, Ainsdale, England. Received March 7, 1924.

In 1916 I received from Simla, India, a few walnuts of a variety superior in quality to any I have ever tasted, with a delicate coconut flavor. The long, narrow nut was particularly well filled with closely packed convolutions resembling those of a pecan more than of an ordinary walnut. The shell is rather thick, and the average length of the nut is a little less than 2 inches. The original tree is said to be in Bhujji (between Bilaspur and Rampur), 23 miles from Simla, in a hot, inclosed valley through which runs the Sutlej River. There may be a chance that the seeds will transmit the quality of the parent. (*Spence.*)

**58670 to 58672.**

From Manila, Philippine Islands. Seeds presented by P. J. Wester, Bureau of Agriculture. Received February 28, 1924. Notes by Mr. Wester.

**58670. AMPELOCISSUS MARTINI Planch. Vitaceæ.**

*Bika*. A very attractive vine, with leaves dark green above and russet beneath. The vine dies to the ground when the fruits are ripe. The fruits are about the size of Delaware grapes, dark maroon to almost black, in bunches sometimes containing over 200. The flesh is juicy and acid, with a rather biting aftertaste. Although inedible raw, the Americans in Cebu and Iloilo say that an excellent jelly is made from them.

**58671. CARICA PAPAYA L. Papayaceæ. Papaya.**

This is one of the most remarkable papayas I have ever seen. The fruit is oblong, obviously a hermaphrodite type, medium in size, with thick flesh, a small cavity, and few seeds. The flesh is very firm, pale-flesh color except for a distinct greenish yellow "rind" about an eighth of an inch thick, and of good quality. It will probably ship better than the average soft papaya.

**58672. CITRUS NORILIS DELICIOSA (Ten.) Swingle.**  
**Rutaceæ. Mandarin orange.**

This mandarin, imported from China, is the best flavored citrus fruit I ever have eaten.

## 58673 and 58674.

From Perth, Western Australia. Seeds presented by S. L. Kessell, conservator of forests. Received March 1, 1924.

58673. *BORONIA MEGASTIGMA* Nees. Rutaceæ.

A very slender bushy shrub about 2 feet high, from the swampy regions of Western Australia. The rather scanty foliage consists of small compound leaves having very narrow leaflets; the numerous axillary flowers are very fragrant, maroon-purple on the outside and greenish yellow within. (Adapted from *Curtis's Botanical Magazine*, pl. 6046.)

58674. *LESCHENAUTIA BILOBA* Lindl. Goodeniaceæ.

A low shrub, 2 to 3 feet high, with slender, scattered leaves half an inch in length. The flowers are either in small clusters in the upper axils or else borne in a large, leafy, terminal cluster. The corolla, about an inch long, has spreading, dark-blue wings marked with parallel, transverse veins, and the sepals are narrow like the leaves. This species is native to Western Australia. (Adapted from *Bentham, Flora Australiensis*, vol. 4, p. 42.)

58675 to 58691. *ALLIUM* spp. Liliaceæ.

From Nancy, France. Seeds presented by Prof. Edmond Gain, director, botanic garden. Received February 28, 1924.

Introduced for horticulturists studying the food possibilities of the genus.

58675. *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.

58676. *ALLIUM CARINATUM* L.

The leaves of this European species are narrowly linear, and the lilac-purple flowers are produced in a comparatively large head. It is found throughout southern Europe, especially in the Alps.

58677 and 58678. *ALLIUM CEPA* L. Onion.

58677. Common onion.

58678. Var. *bubbellifera*. A form which has bulbs in the place of flowers.

58679. *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.

58680. *ALLIUM GLOBOSUM* Bieb.

The bulbs of this species are almost cylindrical, with an oblique base, and the very narrow, almost filiform leaves are shorter than the scape, which is 8 to 12 inches high. The petals are pink or white marked with a red middle stripe. Native to southeastern Europe.

58681. *ALLIUM MOLY* L.

A bulbous species with broad, glaucous leaves and scapes 10 to 15 inches high. The bright-yellow flowers are in compact heads. Native to southern Europe.

58682. *ALLIUM NARCISSIFLORUM* Vill.

An elegant Italian species about 9 inches high, with nodding heads of beautiful rose-colored flowers.

58683. *ALLIUM NUTANS* L.

A Siberian species with narrow leaves, all radical, and two nodding flower heads.

## 58675 to 58691—Continued.

58684. *ALLIUM OBLIQUUM* L.

A species cultivated in Siberia as a substitute for garlic.

58685. *ALLIUM PORRUM* L. Leek.58686. *ALLIUM SATIVUM* L. Garlic.58687. *ALLIUM SCHOENOPRASUM* L. Chives.

A European species with numerous, slender, awl-shaped leaves and a globular head of light-purple flowers.

58688. *ALLIUM SCORODOPRASUM* L.

*Rocambole*. This species grows wild in Greece and was formerly cultivated in England for the same purposes as garlic. Its bulbs are smaller than those of garlic, milder in taste, and are produced at the tip of the stem as well as at the base.

58689. *ALLIUM SPURIUM* Don.

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.

58690. *ALLIUM URSINUM* L.

A wild European onion which grows in large masses in the open woods. When in flower it is very effective, clothing the ground with its broad green leaves, above which the numerous umbels of white flowers are borne on scapes a foot high.

58691. *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.

## 58692 to 58718.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received February 29, 1924.

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

58692 to 58694. *ASTRAGALUS* spp. Fabaceæ.58692. *ASTRAGALUS ALOPECUROIDES* L.

An erect, pubescent, Siberian species 2 to 5 feet in height, with narrowly oval leaves and yellow flowers produced in thick, oblong spikes.

58693. *ASTRAGALUS BOETICUS* L.

An upright, often stout annual, with compound leaves usually composed of 9 to 15 pairs of very narrow leaflets, and 6 to 15 pale-yellow flowers in a crowded raceme. Native to the Mediterranean countries.

58694. *ASTRAGALUS PONTICUS* Pall.

A hairy stemmed species with dense, axillary flower heads. Native to southern Russia.

58695. *BRACHYPODIUM DISTACHYUM* (L.) Beauv. Poaceæ. Grass.

A low, tufted annual grass, native to the Mediterranean countries, which deserves trial in the Pacific Coast States.

58696. *CAMPYLOTROPIS MACROCARPA* (Bunge) Rehder (*Lespedeza macrocarpa* Bunge). Fabaceæ.

A Chinese shrub closely allied to the *Lespedeza*s, which becomes 6 feet in height, with long-stalked leaves, oval leaflets, and many-flowered racemes of purple flowers.

For previous introduction, see S. P. I. No. 43679.

58692 to 58718—Continued.

58697. *CORONILLA EMERUS* L. Fabaceæ.  
Scorpion-senna.

A dense, half-hardy, symmetrical shrub, native to southern Europe. 3 to 5 feet high, with deep glossy-green compound leaves and large, showy flowers which are yellow, tipped with red. In warm regions this species is evergreen.

58693. *CORONILLA MONTANA* Scop. Fabaceæ.

An erect, smooth yellow-flowered perennial species, with the flowering stems twice as long as the leaves, found in the mountainous regions of the Caucasus.

58699. *DINEBRA ARABICA* Jacq. Poaceæ. Grass.

A laxly caespitose, somewhat rigid annual, branched from the base, with the culms sometimes prostrate, sometimes ascending or obliquely erect, 1 to 18 inches long. Native to tropical Africa and the East Indies.

For previous introduction, see S. P. I. No. 49517.

58700. *FESTUCA AMETHYSTINA* L. Poaceæ.  
Grass.

A densely caespitose perennial grass with fibrous roots, stout culms, and very narrow leaves. Native to central and southeastern Europe.

58701. *HIPPOCREPIS CILIATA* Willd. Fabaceæ.

A low annual, with very narrow leaflets and small, pealike, yellow flowers. Native to the Mediterranean countries.

58702 to 58704. *LOTUS* spp. Fabaceæ.

58702. *LOTUS EDULIS* L.

A more or less hairy annual with ascending or erect branched stems 4 to 16 inches long, short-stemmed grayish green leaflets, and large, yellow flowers in few-flowered heads. It grows only in sandy areas in the Mediterranean region.

For previous introduction, see S. P. I. No. 56668.

58703. *LOTUS ORNITHOPODIOIDES* L.

A hairy annual with branched ascending or decumbent stems, mostly 4 to 12 inches long, native to grassy places in the Mediterranean region. The yellow flowers are in clusters of two to five.

For previous introduction, see S. P. I. No. 51866.

58704. *LOTUS SILIQUOSUS* L.

A perennial, herbaceous, hairy plant, with a compact base and slender runners. The stems, branched at the base, are mostly about a foot long and either decumbent or ascending. The solitary flowers are bright yellow. Native to northern and eastern Europe.

58705. *MEDICAGO TORNATA* Mill. Fabaceæ.

An annual species, native to Italy, with several slender branching stems a foot and a half long, and small, solitary, yellow flowers. The broad, flat, lunate pods are filled with kidney-shaped seeds.

58706. *MELICA ALTISSIMA* L. Poaceæ. Grass.

A climbing perennial grass with stout culms narrow long-pointed leaves, and racemelike, elongate panicles. Native to southeastern Europe and west-central Asia.

58707. *PISUM ELATIUS* Bieb. Fabaceæ.

A hardy annual, about 5 feet high, with leaves composed of one to three pairs of narrow leaflets, and purple flowers. Native to woods and thickets in the alpine regions of Europe.

58692 to 58718—Continued.

58708. *POA CAESIA* J. E. Smith. Poaceæ. Grass.

A densely caespitose perennial grass, native to Europe, with flowering stems 1 or 2 feet high and leaves resembling those of Kentucky bluegrass (*Poa pratensis*). It grows very freely, seeding itself.

For previous introduction, see S. P. I. No. 53156.

58709. *SCLEROPOA RIGIDA* (L.) Griseb. (*Festuca rigida* Kunth). Poaceæ. Grass.

An annual tufted grass, up to a foot in height, with linear, sharp-pointed leaves and rigid panicles. Native to Asia Minor.

58710. *SCORPIURUS SUBVILLOSA* L. Fabaceæ.

A decumbent or ascending annual with one to three stems up to 20 inches in length, long-stemmed, simple, grass-green narrow leaves, and small, yellow flowers. Native to the Mediterranean countries.

58711. *SCORPIURUS SULCATA* L. Fabaceæ.

A species very similar to the preceding (*S. subvillosa*, S. P. I. No. 58710), differing chiefly in having mostly a 3-flowered umbel and in the sepals being shorter than the calyx tube. Native to the Mediterranean countries.

58712. *TRIFOLIUM BADIUM* Schreb. Fabaceæ.  
Clover.

An herbaceous perennial clover with flower-bearing stems and also leaf rosettes which do not bear flowers. The stems are mostly 4 to 8 inches long, upright, or ascending. The bright-yellow flowers become brown when dried. Native to rocky places in alpine regions of Europe.

58713. *TRIFOLIUM SQUARROSUM* L. Fabaceæ.  
Clover.

An upright or ascending robust annual, with branches up to 30 inches in length, native to the Mediterranean countries. The pink or white flower heads are oval when young, becoming more elongated later.

For previous introduction, see S. P. I. No. 56272.

58714 to 58717. *TRIGONELLA* spp. Fabaceæ.

58714. *TRIGONELLA CORNICULATA* L.

An annual fodder plant, distributed from southern Europe to Africa and India. It is upright in habit, 4 to 20 inches high, with spreading branches. The elongate or obovate leaflets are greenish white beneath, and the yellow flowers are in racemes.

58715. *TRIGONELLA CRETICA* (L.) Boiss.

A yellow-flowered annual species with ascending stems, obovate leaves, and very short pods. Native to Asia Minor.

58716. *TRIGONELLA MONSPELIACA* L.

A rather low annual species, usually 2 to 8 inches high, with soft pubescence and with a pronounced coumarin odor. The leaflets are gray-green, and the sessile, yellow flowers are very small. Native to the Mediterranean countries.

58717. *TRIGONELLA POLYCRATA* L.

A prostrate or ascending annual, usually 1 or 2 feet high, with obovate leaflets and yellow flowers in small umbellike clusters. Native to southern Europe and northern Africa.

58718. *VICIA DASycARPA* Ten. Fabaceæ. Vetch.

An annual species which is closely related to the hairy vetch (*V. villosa*); some varieties of it, however, have an earlier season than hairy vetch and are of special value for the Southern States.

For previous introduction, see S. P. I. No. 50318.

**58719 to 58724. CASTANEA MOLLISSIMA**  
Blume. Fagaceæ.

From Nanking, China. Seeds presented by Prof. J. H. Reiser, College of Agriculture and Forestry, University of Nanking. Received March 11, 1924. Notes by Professor Reiser.

Introduced in connection with experiments to obtain a blight-resistant strain of chestnut.

58719 and 58720. Secured by Rev. S. Emmet Stephens, Tsingtao, Shantung.

58719. *Tsil*. From Tainhsien Kinkou, Shantung.

58720. From Chuchenghsien, Shantung.

58721 to 58723. Secured by Rev. H. G. Romig, Tanghsien, Shantung.

58721. From Tanghsien, Shantung.

58722. From Yencheng, Shantung.

58723. From Peihhsien, Shantung.

58724. Secured by Rev. J. E. Shoemaker, Kuyao, Chekiang, from Shanyu, Chekiang.

**58725 to 58730.**

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26 and March 14, 1924. Field notes by Doctor Harlan.

Collected in Modjo, Abyssinia.

58725. *ANDROPOGON CERESIAEFORMIS* Nees. Poaceæ. Grass.

(No. 298. November 11, 1923.) Used for thatching.

A tufted perennial, erect or ascending grass with very slender stems 1 to 4 feet long. Native to South Africa.

58726. *ANDROPOGON* sp. Poaceæ. Grass.

(No. 305. November, 1923.) Seeds of a wild roadside grass.

58727. *AVENA ABYSSINICA* Hochst. Poaceæ. Oats.

(No. 292. November 11, 1923.) Selected in a field of mixed oats and barley; said to be seeded with the barley.

58728. *AVENA STRIGOSA* Schreb. Poaceæ. Oats.

(No. 304. November, 1923.) Panicles from a field of barley.

58729. *BRASSICA* sp. Brassicaceæ.

(No. 317. November, 1923.)

58730. *CAPSICUM ANNUM* L. Solanaceæ.

(No. 318. November, 1923.) Red pepper.

**58731. CHLORIS** sp. Poaceæ. Grass.

From Paris, France. Seeds presented by Prof. D. Bois, Museum of Natural History. Received February 29, 1924.

Introduced for forage-crop specialists.

**58732 to 58802.**

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26 and March 14, 1924. Notes by Doctor Harlan.

58732 and 58733. *CICER ARIETINUM* L. Fabaceæ. Chickpea.

58732. (No. 312. Modjo, Abyssinia. November, 1923.)

**58732 to 58802—Continued.**

58733. (No. 352. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58734. *CORIANDRUM SATIVUM* L. Apiaceæ.

Coriander.

(No. 316. Modjo, Abyssinia. November, 1923.) A plant esteemed because of its fragrant capsules.

58735. *CUCURBITA MAXIMA* Duchesne. Cucurbitaceæ. Squash.

(No. 323. Modjo, Abyssinia. November, 1923.)

58736. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Poaceæ. Teff.

(No. 375. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58737. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Poaceæ. Teff.

(No. 296. Modjo, Abyssinia. November 11, 1923.) Grown as a cereal crop; preferred to all others for bread making.

58738. *GOSSYPIUM* sp. Malvaceæ. Cotton.

(No. 289. Lake Zwai, Abyssinia. November 5, 1923.) From Hans Jammash's ostrich farm.

58739. *GOSSYPIUM* sp. Malvaceæ. Cotton.

(No. 290. Lake Zwai, Abyssinia. November 5, 1923.) From Hans Jammash's ostrich farm.

58740 and 58741. *GUIZOTIA ABYSSINICA* (L. f.) Cass. Asteraceæ.

An annual plant, 6 to 8 feet high, with showy yellow flower heads. The black, shining seeds furnish the Niger oil of commerce.

58740. (No. 314. Modjo, Abyssinia. November, 1923.)

58741. (No. 344. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58742 to 58746. *HOLCUS SORGHUM* L. (*Sorghum vulgare* Pers.) Poaceæ. Sorghum.

58742. (No. 291. Modjo, Abyssinia. November 11, 1923.) A wild sorghum, 3 or 4 feet high, found growing in fields and grasslands.

58743. (No. 306. Modjo, Abyssinia. November, 1923.) A loose-panicked sorghum grown here for the seeds.

58744. (No. 338. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58745. (No. 353. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58746. (No. 394. Molu. November 19, 1923.) From the banks of the Muger River.

58747 to 58755. *HORDEUM* spp. Poaceæ.

58747 and 58748. *HORDEUM DEFICIENTE* Steud. Deficient barley.

58747. (No. 293. Modjo, Abyssinia. November 11, 1923.)

58748. (No. 339. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58749 to 58754. (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.

58749. *HORDEUM VULGARE COELESTE* L. Six-rowed barley.

(No. 368.)

58732 to 58802—Continued.

- 58750 to 58754. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.  
 58750. (No. 349.) 58753. (No. 372.)  
 58751. (No. 351.) 58754. (No. 376.)  
 58752. (No. 370.)
58755. *HORDEUM VULGARE PALLIDUM* Seringe. Six-rowed barley.  
 (No. 392. Molu. November 19, 1923.) On the road to Gojam, 20 miles northwest of Addis Ababa.
58756. *HYPARRHENIA* sp. Poaceæ. Grass.  
 (No. 379. Molu. November 19, 1923.) Found at an altitude of 8,000 feet.
58757. *LATHYRUS SATIVUS* L. Fabaceæ. Bitter vetch.  
 (No. 309. Modjo, Abyssinia. November, 1923.)
- 58758 to 58760. *LENTILLA LENS* (L.) W. F. Wight. (*Lens esculenta* Moench.). Fabaceæ. Lentil.  
 58758. (No. 297. Modjo, Abyssinia. November 11, 1923.)  
 58759. (No. 343. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.  
 58760. (No. 371. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
- 58761 to 58764. *LINUM USITATISSIMUM* L. Linaceæ. Flax.  
 58761. (No. 302. Modjo, Abyssinia. November 11, 1923.)  
 58762 to 58764. (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.  
 58762. (No. 346.) 58764. (No. 374.)  
 58763. (No. 373.)
58765. *PENNISSETUM* sp. Poaceæ. Grass.  
 (No. 380. Molu. November 19, 1923.) Found along the Muger River at an altitude of 7,000 feet.
58766. *PENNISSETUM* sp. Poaceæ. Grass.  
 (No. 391. Molu. November 19, 1923.) Found at an altitude of 7,500 to 8,000 feet.
- 58767 to 58770. *PHASEOLUS VULGARIS* L. Fabaceæ. Common bean.  
 (Modjo, Abyssinia. November, 1923.)  
 58767. (No. 328.) Picked in a garden.  
 58768. (No. 333.) 58770. (No. 335.)  
 58769. (No. 334.)
- 58771 to 58774. *PISUM SATIVUM* L. Fabaceæ. Pea.  
 58771. (No. 315. Modjo, Abyssinia. November, 1923.) The seeds are mixed, bright violet and slate gray.  
 58772. (No. 325. Modjo, Abyssinia. November, 1923.) Mottled and white.  
 58773. (No. 355. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Large, green and white.  
 58774. (No. 367. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Large, mixed brown, gray and mottled, the mottled one striking.
- 58775 to 58777. *PISUM SATIVUM* L. Fabaceæ. Pea.  
 58775. (No. 295. Modjo, Abyssinia. November 11, 1923.) Common variety grown in pure culture.  
 58776. (No. 310. Modjo, Abyssinia. November, 1923.)  
 58777. (No. 347. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Color green.

58732 to 58802—Continued.

58778. *SESAMUM ORIENTALE* L. Pedaliaceæ. Sesame.  
 (No. 350. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Local name, salet.
58779. *SPOROBOLUS* sp. Poaceæ. Grass.  
 (No. 378. Molu. November 19, 1923.) Collected at an altitude of 8,000 feet. Seeds almost as big as those of tefl.
58780. *TRICHOLAENA* sp. Poaceæ. Grass.  
 (No. 390. Molu. November 19, 1923.) Found along the Muger River.
58781. *TRIGONELLA FOENUM-GRÆCUM* L. Fabaceæ. Fenugreek.  
 (No. 369. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. A small-seeded legume.
- 58782 to 58796. *TRITICUM* spp. Poaceæ.  
 58782 to 58787. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). Common wheat.  
 58782. (No. 299. Modjo, Abyssinia. November 11, 1923.) This type of wheat is ripening now.  
 58783. (No. 303. Modjo, Abyssinia. November 12, 1923.) Several types of spikes, two of which had bright-violet kernels.  
 58784. (No. 326. Modjo, Abyssinia. November, 1923.)  
 58785. (No. 340. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market. Color purple and white.  
 58786. (No. 345. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.  
 58787. (No. 366. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
- 58788 and 58789. *TRITICUM DICOCCUM* Schrank. Emmer.  
 58788. (No. 311. Modjo, Abyssinia. November, 1923.) Mostly white.  
 58789. (No. 324. Modjo, Abyssinia. November, 1923.) Black.
- 58790 and 58791. *TRITICUM DURUM* Desf. Durum wheat.  
 58790. (No. 313. Modjo, Abyssinia. November, 1923.) Including spikes with violet kernels.  
 58791. (No. 348. Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.
58792. *TRITICUM POLONICUM* L. Polish wheat.  
 (No. 320. Modjo, Abyssinia. November, 1923.)
- 58793 to 58796. *TRITICUM DURUM* Desf. Durum wheat.  
 (Addis Ababa, Abyssinia. November 17, 1923.) Purchased in the market.  
 58793. (No. 337.)  
 58794. (No. 341.) White.  
 58795. (No. 342.) Purple.  
 58796. (No. 354.)
58797. (Undetermined.)  
 (No. 377. Molu. November 19, 1923.) A wild leguminous plant collected on the banks of the Muger River at an altitude of about 7,000 feet.

## 58732 to 58802—Continued.

59798 and 58799. *VICIA FABA* L. Fabaceæ.  
Broad bean.

58798. (No. 294. Modjo, Abyssinia. November 11, 1923.) Plants found scattered in a maize field.

58799. (No. 321. Modjo, Abyssinia. November, 1923.)

58800. *VIGNA CYLINDRICA* (Stieckm.) Skeels. Fabaceæ.  
Catjang.

(No. 300. Modjo, Abyssinia. November 11, 1923.) An especially heavily seeded bean.

58801 and 58802. *ZEA MAYS* L. Poaceæ. Corn.

58801. (No. 301. Modjo, Abyssinia. November 11, 1923.)

58802. (No. 332. Modjo, Abyssinia. November, 1923.)

## 58803 to 58808.

From Edinburgh, Scotland. Seeds presented by William Wright Smith, regius keeper, Royal Botanic Garden. Received March 12, 1924.

Introduced for horticulturists experimenting with small fruits.

58803. *BERBERIS VIRESCENS* Hook. f. Berberidaceæ.  
Barberry.

The outstanding features of this Himalayan barberry are its elegant habit and the red tinge of its stems in winter. It is a deciduous shrub 6 to 9 feet in height, with smooth, reddish, shining branches, slender spines sometimes three-fourths of an inch in length, bright-green leaves, pale sulphur-yellow flowers, and slender reddish berries.

58804. *RIBES PETRAEUM* Wulf. Grossulariaceæ.

Var. *bisbersteini*. This variety of red currant is from the Caucasus, where it forms an upright shrub about 8 feet in height, with 5-lobed, heart-shaped leaves, reddish flowers, and red or dark-purple, acid fruits.

For previous introduction, see S. P. I. No. 52708.

58805. *RIBES WARSEWICZII* Jancz. Grossulariaceæ.

This Siberian species is closely allied to the northern red currant (*Ribes rubrum*) and bears large, purplish black, very acid fruits. It is an unarmed shrub about 5 feet high, with pinkish flowers in pendent racemes 2 inches in length.

58806. *RUBUS IDAEUS* L. Rosaceæ. Raspberry.

Var. *leesi*. A simple-leaved form of the European red raspberry.

58807. *VIBURNUM BUREJAETICUM* Regel and Herd. Caprifoliaceæ.

A northern Chinese species allied to the Wayfaring tree (*Viburnum lantana*); the flowers are produced in dense cymes 2 inches across, and the fruits are ovoid and bluish black.

For previous introduction, see S. P. I. No. 57366.

58808. *VIBURNUM RHYTIDOPHYLLUM* Hemsl. Caprifoliaceæ.

A hardy evergreen shrub about 10 feet in height, which is one of the most striking of all the viburnums because of its bold, wrinkled, shining leaves and red fruits. The leaves are sometimes over 7 inches in length, and the dull-white flowers are in large terminal clusters 4 to 8 inches across. Native to central and western China.

For previous introduction, see S. P. I. No. 53750.

58809. *PRUNUS ARMENIACA* L. Amygdalaceæ.  
Apricot.

From Tripoli, Libia, North Africa. Seeds presented by E. O. Fenzl. Received March 13, 1924.

Ain thor (bull's eye); also bergsam. A very large tree, taller and more vigorous than any other kind; leaves thin, irregularly toothed; fruit globose, with hardly any groove, weight 40 grams, diameter 40 millimeters; 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. (Fenzl.)

58810. *JUGLANS INSULARIS* Griseb.  
Juglandaceæ. Cuban walnut.

From Santiago de las Vegas, Cuba. Seeds presented by Prof. Gonzalo M. Fortun, acting director, Estación Experimental Agronómica. Received March 13, 1924.

Nuts collected in our arboretum from trees grown from seeds obtained near Trinidad, San Juan de Letran. (Fortun.)

This interesting Cuban tree is found in the mountainous sections of the island, sometimes at considerable elevations. I have seen it in the mountains near Trinidad, on the south coast, at an elevation of about 2,000 feet, growing among numerous other trees along the banks of a small stream. It seems, however, to be comparatively rare and does not occur in great numbers. It is erect and slender in habit, growing to a height of 40 or more feet, with foliage somewhat finer than *Juglans nigra* of the United States. The nuts resemble those of *J. nigra* in size and appearance, though sometimes smaller. The kernels, however, are removed with difficulty, the septæ being very thick and woody. In its present wild state the Cuban walnut, as it is called, does not seem of great horticultural value, but with a little improvement by selection it might become an excellent nut for tropical regions. It has been suggested that it might serve as a stock for the Persian walnut, making possible the culture of this species in Cuba and other tropical regions where it is not now successfully grown. (Wilson Popenoe, Bureau of Plant Industry.)

For illustrations of the tree and fruit, see the Journal of Heredity, vol. 6, p. 561, December, 1915.

For previous introduction, see S. P. I. No. 43052.

## 58811 to 58813.

From Paris, France. Seeds presented by Vilmorin-Andrieux & Co. Received March 13, 1924.

Introduced for horticulturists engaged in small-fruit breeding.

58811. *RIBES* sp. Grossulariaceæ.

No. 2706. From China.

58812. *VIBURNUM BUDDLEIFOLIUM* C. H. Wright. Caprifoliaceæ.

A deciduous shrub about 6 feet high, with narrowly oblong, shallow-toothed leaves, downy beneath, 3 to 5 inches long; white, funnel-shaped flowers in cymes about 3 inches wide, and oval, black fruits about one-third of an inch long. Native to central China.

58813. *VIBURNUM RHYTIDOPHYLLUM* Hemsl. Caprifoliaceæ.

For previous introduction and description, see S. P. I. No. 58808.

58814. *TRIFOLIUM PRATENSE* L. Fabaceæ.  
Red clover.

From Warsaw, Poland. Seeds presented through Leo J. Keena, American consul general. Received March 15, 1924.

Locally grown seeds introduced for clover specialists.



**58815. SOLANUM TUBEROSUM L. Solanaceae. Potato.**

From Trujillo, Peru. Tubers presented by A. Martin Lynch. Received March 15, 1924.

These are considered the standard variety for northern Peru. They appear to be drought resistant. (Lynch.)

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 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 deep eyes, and it would then be worth extensive cultivation. (Wilson Popence, Bureau of Plant Industry.)

For previous introduction, see S. P. I. No. 56863.

**58816. ZEA MAYS L. Poaceae. Corn.**

From Addis Ababa, Abyssinia. Seeds collected by H. V. Harlan, Bureau of Plant Industry. Received February 26, 1924.

(No. 336. November 17, 1923.) Purchased in the market. (Harlan.)

**58817 to 58839.**

From Yunnan, China. Seeds collected by J. F. Rock, National Geographic Society, Washington, D. C. Received March 15, 1924. Notes by Mr. Rock.

**58817. ACER sp. Aceraceae. Maple.**

(No. 11402. November, 1923.) A tree 60 to 80 feet tall, with a large crown and a trunk about 3 feet in diameter, which grows along watercourses at the foot of the Likiang Snow Range at an altitude of about 9,000 feet.

**58818. BENZOIN sp. (Lindera sp.). Lauraceae.**

(No. 11384. Champutong, November, 1923.) A tree 25 feet high from the Salwin Valley, Tibetan border, at 8,000 feet altitude. The oval, acute, pubescent leaves are brown beneath, and the red ovoid fruits are fragrant. This is similar to the Tengyueh species (S. P. I. No. 36292).

**58819. CASTANOPSIS sp. Fagaceae.**

(No. 11491. Lautchunshan, November, 1923.) A tree about 50 feet tall, which grows in forests at 8,000 feet altitude. The leathery, serrate leaves are oblong and acuminate, and the small nuts are in thick spikes.

**58820. COTONEASTER sp. Malaceae.**

(No. 11360. Karila, December, 1923.) A shrub or small tree, about 20 feet high, growing in a deciduous forest at 12,000 feet altitude. It has small, oval leaves and black fruits.

**58821. COTONEASTER sp. Malaceae.**

(No. 11481. November, 1923.) A shrub about 5 feet high from the drier slopes of the Likiang Snow Range at an altitude of about 10,000 feet. It has small, oval leaves, pale beneath, and globose, scarlet fruits.

**58822. ERIOBOTRYA sp. Malaceae.**

(No. 11451. Sungkwe, November, 1923.) An attractive shrub 4 feet high, found in rather dry places at 8,000 feet altitude. It has pale-green, roundish, serrate leaves and corymbs of carmine fruits.

**58823. EUONYMUS sp. Celastraceae.**

(No. 11394. Ganhaitze, November, 1923.) A tree about 40 feet high, from the eastern slopes of the Likiang Snow Range, where it grows at an altitude of 10,000 feet. The leaves are rich green, and the pink fruits, with dark-red seeds, are in large umbels.

**58817 to 58839—Continued.**

**58824. JUNIPERUS sp. Pinaceae. Juniper.**

(No. 11353. November, 1923.) A tree 50 feet tall, with dark-green branches, which covers the eastern slopes of Peimashan at altitudes of 13,000 to 15,000 feet on the Yangtze-Mekong Divide. The glaucous fruits are deep bluish black.

**58825. JUNIPERUS sp. Pinaceae. Juniper.**

(No. 11475. November, 1923.) A shrub 8 feet high which grows in rocky limestone soil opposite the Likiang Snow Range at an altitude of about 9,000 feet. It has globose, orange-red fruits.

**58826. MAGNOLIA sp. Magnoliaceae.**

(No. 11215. Mount Kenichunpu, October, 1923.) A tree 30 feet high, from the Salwin-Irrawaddy Divide, where it grows at an altitude of 12,000 feet. It has large white flowers and very large leaves, 1 or 2 feet long and a foot broad, glaucous beneath.

**58827. MAGNOLIA sp. Magnoliaceae.**

(No. 11232. Mount Kenichunpu, October, 1923.) A very ornamental tree 35 feet high which grows at an altitude of 11,000 feet on the Salwin-Irrawaddy Divide, Tibetan border. It has small, oval, smooth leaves and large white flowers.

**58828. MALUS YUNNANENSIS (Franch.) C Schneid. (Pyrus yunnanensis Franch.). Malaceae.**

(No. 11398. Ganhaitze, November, 1923.) A very attractive tree about 25 feet high, which grows in forests at an altitude of 11,000 feet. It has yellowish red fruits the size of cherries and large, crenate, hairy leaves.

**58829. NOMOCHARIS PARDANTHINA Franch. Liliaceae.**

(No. 10249. Champutong, October, 1923.) A beautiful liliaceous plant about 3 feet high, which grows on grassy slopes on the outskirts of forests in the Salwin Valley, at an altitude of about 9,000 feet. The leaves are ternate and the large flowers, white, pink, purple, or red, with deep irregular purple blotches, have salver-shaped corollas.

**58830. OSMANTHUS sp. Oleaceae.**

(No. 11444. November, 1923.) An exceedingly handsome shrub about 4 feet in height from an altitude of 10,000 feet on the Likiang Snow Range. It has small, oval, serrate leaves, numerous cream-colored flowers, and ovoid, blue-black fruits.

**58831. PHOTINIA sp. Malaceae.**

(No. 11479. Saba, November, 1923.) A small tree, 10 feet in height, growing in a forest on the Likiang Snow Range at 11,000 feet altitude. The oblong, glossy leaves have red midribs and petioles. The flowers are white and the rich-crimson fruits are in large corymbs.

**58832. PRUNUS sp. Amygdalaceae. Cherry.**

(No. 11221. Champutong, October, 1923.) A red-flowered tree 15 feet high, from an altitude of about 13,000 feet in the Salwin Valley. The fruits are ovoid and red.

**58833. PRUNUS sp. Amygdalaceae. Cherry.**

(No. 11237. Mount Kenichunpu, October, 1923.) A dwarf cherry which grows as a shrub 4 feet high at an altitude of about 13,000 feet on the Salwin-Irrawaddy Divide, Tibetan border. It has oval, serrate leaves, red flowers, and ovoid black fruits.

**58834. PYRUS sp. Malaceae. Pear.**

(No. 11480. November, 1923.) A tree 20 feet high, found along stream beds at the foot of and on the slopes of the Likiang Snow Range at about 10,000 feet altitude. It is a handsome species, with large crenate leaves white-tomentose beneath, white flowers, and yellowish red fruits the size of a cherry.

## 58817 to 58839—Continued.

58835. *PYRUS* sp. Malacææ. Pear.

(No. 11492. Lautchunshan. November, 1923.) A handsome tree about 25 feet high, with leaves white hairy beneath and corymbs of red fruits. It grows at an altitude of about 10,000 feet.

58836. *SLOANEA* sp. (*Echinocarpus* sp.). Elæocarpaceæ.

(No. 11236. Mount Kenichumpu. October, 1923.) A very ornamental tree 30 feet high, which grows on the Salwin-Irrawaddy Divide, at 9,000 feet altitude. The oblong, crenate leaves are hairy beneath, and the fruit capsules are covered with pale, straw-colored bristles.

58837. *SORBUS* sp. Malacææ.

(Karila. December, 1923.) A deciduous tree 20 feet high which grows at an altitude of 13,000 feet. It has white fruits with a pinkish tinge.

58838. *TSUGA YUNNANENSIS* (Franch.) Masters. Pinacææ. Hemlock.

(No. 11493. November, 1923.) A tall tree, 80 feet or more in height, with a straight trunk about 5 feet in diameter and small cones, which grows in mixed forests on the western slopes of the Likiang Snow Range at 10,000 feet altitude.

58839. (Undetermined.)

(No. 11359. December, 1923.) A very handsome tree about 50 feet tall, which is common on rocky slopes of the Yangtze River embankments at Gohinda, north of Luku. It has glossy, dark-green, crenate leaves, large terminal corymbs of small white flowers, and very attractive crimson fruits.

58840. *CITRUS GRANDIS* (L.) Osbeck. Rutacææ. Grapefruit.

From Ancon, Canal Zone. Budwood presented by W. T. Robertson, Pedro Miguel, Canal Zone, through James Zetek, Ancon. Received March 21, 1924.

This is a rare and interesting variety of grapefruit, said to produce fruits with juicy flesh of blood-red color. Its origin is uncertain, but it seems probable that it was brought from Asia in the early days of trans-Isthmian travel. Red-fleshed grapefruits or pomelos are common in India, but they usually lack juice and are very different from the grapefruit of Florida in general character. Some of the Indian varieties have been introduced into the United States, where they have failed to become popular. A pink-fleshed grapefruit, which originated in Florida as a bud sport from one of the standard commercial sorts, has met with a more favorable reception, but has not attained commercial importance.

If the variety which Mr. Robertson has sent proves to be of good quality and at the same time has flesh of attractive red color, it should prove a novelty of much interest. In forwarding the budwood his letter states: "In one of the oldest towns of the Republic of Panama, about 8 miles from the canal, I found three trees of the blood-red grapefruit. I was told by one of the oldest inhabitants that these were the original trees, all the others in the vicinity being seedlings from them. These three trees have never been cared for, but were simply planted and allowed to grow up in the jungle, without pruning, spraying, or fertilizing. They appear to be at least 40 years old and are about 50 feet high."

58841. *FRAGARIA* sp. Rosacææ. Strawberry.

From Woodbridge, England. Plants purchased from R. C. Notcutt. Received March 26, 1924.

"*Dreadnought*. Plant of close, compact growth; fruit large, of excellent flavor; season medium." (Notcutt, 1923-24 Catalogue, p. 10.)

Introduced for horticulturists engaged in strawberry breeding.

58842 to 58849. *FRAGARIA* spp. Rosacææ. Strawberry.

From Bedford, England. Plants purchased from Laxton Bros. Received March 26, 1924. Quoted notes from the catalog of Laxton Bros., unless otherwise stated.

58842. *FRAGARIA* sp.

"*Black Prince*. Very early, with small, dark-colored fruits of good flavor; much grown for earliest supplies for preserving."

For previous introduction, see S. P. I. No. 56160.

58843. *FRAGARIA* sp.

"*Elton Pine*. A very late, hardy variety which bears well. The somewhat acid fruits are useful for preserving."

58844. *FRAGARIA* sp.

"*Grove End Scarlet*. An old, well-known, midseason variety. The small, round fruits are preserved whole."

58845. *FRAGARIA* sp.

"*Ruskin*. A variety said to be grown for jam making in the Clyde Valley, Scotland.

58846. *FRAGARIA* sp.

"*Sir Joseph Paxton*. The main-crop variety most widely grown for market. Fruit rich crimson, with firm flesh."

58847. *FRAGARIA* sp.

"*The Duke*. A very vigorous variety which will grow in almost any soil where strawberries can be cultivated. It is earlier and bears a heavier crop of better flavored fruits than the 'Royal Sovereign.' The fruit is brilliant scarlet, conically oval, and borne on long, erect trusses. The flesh is highly flavored and firm, so that the berries ship well. The variety is excellent for forcing."

58848. *FRAGARIA* sp.

"*The Earl*. This may be best described as a much-improved *Vicomtesse de Thury*, larger in size, more vigorous, and free cropping. Season late." (*Bunyard's Catalogue of Fruit Trees*.)

For previous introduction, see S. P. I. No. 56171.

58849. *FRAGARIA* sp.

"*Vicomtesse H. de Thury*. An early variety, with small, rich-flavored fruits; much grown for preserving."

58850. *ANNONA DIVERSIFOLIA* Safford. Annonacææ. Ilama.

From El Barranquillo, Guatemala. Seeds purchased from Fernando Carrera, through Philip Holland, American consul, city of Guatemala, Guatemala. Received March 20, 1924.

For several years this office has been engaged in establishing the ilama in southern Florida, where the first fruits were produced by trees at the Miami Plant Introduction Garden in the summer of 1923. Our experience up to the present indicates that this species seems likely to prove much better adapted to the climatic conditions of that region than the cherimoya (*Annona cherimola*).

The ilama may be termed the cherimoya of the lowlands. The cherimoya does not succeed in the Tropics unless grown at altitudes of 4,000 to 6,000 feet, where the climate is cool. The ilama, on the other hand, belongs to the lowlands, but is strikingly similar in character to a good cherimoya. It is a valuable recruit and one which can not be too strongly recommended for cultivation throughout the Tropics. (*Wilson Popenoe, Bureau of Plant Industry*.)

For previous introduction, see S. P. I. No. 58030.

**58851. CRYPTOSTEGIA GRANDIFLORA R.**  
Br. Asclepiadaceæ. Palay rubber.

Growing at the Chapman Field Plant Introduction Garden, Coconut Grove, Fla., under P. I. G. No. 514. Numbered March, 1924.

Introduced for trial as a source of 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.

**58852 and 58853.**

From Brooklyn, N. Y. Seeds presented by the curator of plants, Brooklyn Botanic Garden. Received March 20, 1924.

**58852. LOTUS REQUIENT Mauri.** Fabaceæ.

A hairy leguminous perennial, of erect or ascending habit, native to Italy, introduced for forage-crop specialists.

**58853. PHALARIS ARUNDINACEA L.** Poaceæ.  
Ribbon grass.

Var. *pieta*. The typical form of this species has proved a promising forage grass for wet land in the northern Pacific Coast States and also in the western Rocky Mountain region. This variety has been obtained for forage-crop specialists.

**58854. TRIFOLIUM FRAGIFERUM L.** Fabaceæ.

From Sydney, New South Wales. Seeds presented by A. J. Bristol, Takoma Park, D. C., through A. J. Pieters, Bureau of Plant Industry. Received August, 1922. Numbered March, 1924.

Shearman's clover was accidentally discovered at Fullerton Cove near New Castle, New South Wales, by a man named Shearman. The Australian literature gives the information that it is a very rapidly growing plant and does well in moist situations. It appears to be a sport from *Trifolium fragiferum*, at least all its morphological characters point to such a conclusion. The variety is largely sterile, although not wholly so, since some seeds have been found at the Arlington Farm, Va., and in Oregon and Idaho.

The probable use of this plant will be as a leguminous grazing crop in permanent pastures. The lack of an abundant seed supply will prevent its use as a rotation crop. (*Pieters*.)

For previous introduction, see S. P. I. No. 56551.

**58855 to 58858. TRIFOLIUM PRATENSE L.** Fabaceæ. Red clover.

From Warsaw, Poland. Seeds presented through Leo J. Keena, American consul general. Received March 27, 1924.

Locally grown seeds introduced for clover specialists.

**58855.** From Pultusk, near Warsaw.

**58856.** From Nowo Radomskie.

**58857.** From Bonskie.

**58858.** From Lomzynskie.

**58859 to 58862. TRIFOLIUM PRATENSE L.** Fabaceæ. Red clover.

From Moravia, Czechoslovakia. Seeds presented by Dr. Rudolf Kuraz, agricultural attaché, Czechoslovak Legation, Washington, D. C. Received March 20, 1924.

Locally grown strains introduced for clover specialists.

**58859 to 58862—Continued.**

**58859.** From Hrotovicko.

**58860.** From Trebic.

**58861.** From Pribor.

**58862.** From Mor. Budejovice.

**58863 to 58865.**

From Glasnevin, Dublin, Ireland. Seeds presented by the director, Royal Botanic Gardens. Received March 20, 1924.

Introduced for forage-crop specialists.

**58863. ERODIUM TRICHOMANEFOLIUM L'Her.** Geraniaceæ.

A low herbaceous perennial, 4 to 6 inches high, native to hilly places in Syria. The narrowly oblong leaves are deeply cut, and the flowers are flesh colored, marked with darker veins.

**58864. ERODIUM sp.** Geraniaceæ.

Received as *Erodium willomianinum*, for which a place of publication has not been found.

**58865. PIPTANTHUS NEPALENSIS (Hook.) Sweet.** Fabaceæ.

A fairly hardy evergreen climber, native to southwestern China and northeastern India, which becomes about 10 feet in height, with deep-green trifoliate leaves and handsome yellow flowers an inch or more in length.

For previous introduction, see S. P. I. No. 49645.

**58866 to 58898.**

From Kew, England. Seeds presented by Dr. Arthur W. Hill, director, Royal Botanic Gardens. Received March 20, 1924.

Introduced for agronomists experimenting with crop plants.

**58866. AGROPYRON PUNGENS (Pers.) Roem. and Schult.** Poaceæ. Grass.

A wide-creeping grass, with stout, white runners and stems about a foot high. The leaf blades are compact and often bristly. Native to sandy places along the seacoast of southern Europe.

**58867. AGROSTIS sp.** Poaceæ. Grass.

The genus *Agrostis* contains a number of species important as forage grass. This species was received as *Agrostis canina*, but does not agree with material in the National Herbarium; it will be tested by department agronomists.

**58868 to 58896. ALLIUM spp.** Liliaceæ.

A collection of *Allium* introduced for department horticulturists studying food possibilities of wild members of the genus.

**58868. ALLIUM ALBOPILOSUM C. H. Wright.**

A Transcasian species which has probably the largest flowers of the genus. The bulbs are large, and the strap-shaped leaves, 18 inches in length, have longitudinal lines of white hairs beneath and on the edges. The scape is nearly 2 feet high and bears large heads 9 inches across, each composed of from 60 to 80 deep-lilac flowers.

**58869. ALLIUM CANADENSE L.**

The well-known wild garlic, native to temperate North America. Because of its great variability and its rare seeding in the United States, seeds have been obtained from a foreign source.

**58870. 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.

## 58866 to 58898—Continued.

58871. *ALLIUM GIGANTEUM* Regel.

One of the tallest members of the genus, becoming 4 feet in height. It is native to the Himalayas. The bulbs are large, and the fleshy leaves are about 18 inches in length. The bright-lilac flowers are in heads 4 inches in diameter.

58872. *ALLIUM GRANDE* Lipsky.

A Caucasian species with a scape 3 feet or more in height, wide-margined leaves 10 to 12 inches long, and many-flowered umbels of pinkish white flowers. (Adapted from *Acta Horti Petropolitani, vol. 13, p. 343.*)

58873. *ALLIUM HELDREICHI* Boiss.

A Grecian species, a foot or less in height, with thin terete leaves shorter than the scape and rosy flowers.

58874. *ALLIUM KARATAVIENSE* Regel.

A herbaceous plant with very broad, oval-oblong, flat leaves, and pink flowers borne in dense, convex umbels. The scapes are about 6 inches high. Native to Turkestan.

58875. *ALLIUM MACRANTHUM* Baker.

A handsome herbaceous perennial from the eastern Himalayas. The flat leaves are over a foot long, and the mauve-purple flowers are produced in clusters of 50 or more on scapes 2 feet high.

58876. *ALLIUM MONTANUM* F. W. Schmidt.

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.

58877. *ALLIUM NEAPOLITANUM* Cirillo.

A southern European species, about a foot and a half high, with flat leaves and very ornamental white flowers.

58878. *ALLIUM NIGRUM* L.

A tall species, about 3 feet in height, native to southern Europe. The dull-violet or whitish flowers are produced in summer.

58879. *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. 55442.

58880. *ALLIUM OSTROWSKIANUM* Regel.

This species, native to Turkestan, has rose-colored flowers produced freely in many-flowered umbels on scapes 6 inches high.

58881. *ALLIUM ROSEUM* L.

A plant about a foot in height, with strap-shaped leaves rolled inward at the top and pale lilac-rose flowers produced in umbels. Native to southern Europe.

58882. *ALLIUM SCORZONERAEFOLIUM* DC.

A species of unknown origin, cultivated in European gardens. It has very narrow concave leaves and small, yellow flowers in a few-flowered umbel.

58883. *ALLIUM SICULUM* Ucria.

A handsome biennial, native to Sicily, with broad, flat leaves and scapes 3 feet or more in height. The dull, purplish flowers are borne in drooping umbels. The species is characterized by a very strong odor when bruised.

## 58866 to 58898—Continued.

58884. *ALLIUM SIKKIMENSE* Baker.

A compact, neat little perennial 6 inches high or more, with grasslike leaves and loose umbels of deep-blue flowers. Native to Sikkim, India.

58885. *ALLIUM TUBERGENI* Freyn.

A species from Asia Minor with ovoid bulbs about an inch and a quarter long, oval or oval-lanceolate leaves about 10 inches long, and rosy red flowers produced on a scape nearly 2 feet high. (Adapted from *Mémoires de l'Herbier Bossier, No. 13, p. 32.*)

58886. *ALLIUM* sp.

Received as *Allium huteri*, for which a place of publication has not been found.

58887. *BETA TRIGYNA* Waldst. and Kit. Chenopodiaceae.

Introduced for plant breeders.

A hardy herbaceous white-flowered perennial, about 3 feet in height, native to Hungary.

58888. *BETA VULGARIS* L. Chenopodiaceae. Beet.

Seeds of what is said to be the wild form of the cultivated beet, introduced for cultural tests.

58889. *BRACHYPODIUM DISTACHYUM* (L.) Beauv. Poaceae. Grass.

For previous introduction and description, see S. P. I. No. 58695.

58890. *BRACHYPODIUM PINNATUM* (L.) Beauv. Poaceae. Grass

A perennial grass native to Europe, having much the same general habits as timothy. It will probably prove a valuable plant for semiarid places.

## 58891 to 58893. Introduced for strawberry specialists.

58891. *DUCHESNEA INDICA* (Andrews) Focke (*Fragaria indica* Andrews). Rosaceae.

English-grown seed of an Eurasian plant common as a weed in the United States.

58892. *FRAGARIA CALIFORNICA* Cham. and Schlecht. Rosaceae. Strawberry.

A wild strawberry from the Coast Range of California, with light-green, hairy leaflets, flowers in pairs, and globose white fruits about one-third of an inch in diameter.

58893. *FRAGARIA* sp. Rosaceae. Strawberry.

Received as *Fragaria chinensis*, for which a place of publication has not been found.

58894. *LATHYRUS NIGER* (L.) Bernh. Fabaceae.

An erect or ascending, slender, branched species 1 or 2 feet in height, with light-green leaflets and small, blue flowers. It has short rootstocks and succeeds well in partial shade. Native to central Europe.

58895. *PHALARIS BULBOSA* Jusl. Poaceae. Grass.

A tufted, perennial grass, native to the Mediterranean countries, with coarse, stiff stems 3 to 4 feet in height. It makes good hay if cut as soon as the flower heads begin to appear and will stand a considerable amount of pasturing.

For previous introduction, see S. P. I. No. 55067.

58896. *RUBUS LASIOSTYLUS* Focke. Rosaceae.

A wild raspberry from western China, with bluish white, bristly stems, small, pinnate leaves, silvery beneath, magenta flowers, and rose-colored, woolly fruits which are sweet but said to be of little use for eating.

## 58866 to 58898—Continued.

58897. SOJA MAX (L.) Piper (*Glycine hispida* Maxim.). Fabaceæ. Soybean.

An unknown variety from which desirable strains may be obtained.

58898. STIPA sp. Poaceæ. Grass.

Received as *Stipa papposa*, but does not agree with material in the National Herbarium.

## 58899. LANDOLPHIA KIRKII DELAGOENSIS Dewevre. Apocynaceæ.

From Pretoria, Union of South Africa. Seeds presented by I. B. Pole Evans, chief, division of botany. Received March 12, 1924.

This vine appears to be confined more or less to the Delagoa Bay region, and probably resembles very closely the species *Landolphia kirkii*, whose distribution extends as far north as Abyssinia and as far south as Zululand. *Landolphia kirkii*, which is regarded as the most important rubber vine in East Africa, being the source of "Zanzibar rubber," assumes a low-growing habit in dry regions, whereas under a heavy rainfall this same species may attain a height of 100 feet or more, with a stem measuring up to 10 or 12 inches in diameter.

If the quantity and quality of the rubber in the variety delagoensis is equal to that of the species, a valuable addition will have been made to the collection of rubber plants now being brought together for investigational purposes in southern Florida. (*Alfred Keys, Bureau of Plant Industry.*)

## 58900. EUPHORBIA FULVA Stapf. Euphorbiaceæ.

Growing at the Chapman Field Garden, Coconut Grove, Fla., under P. I. G. No. 555. Numbered March, 1924.

Introduced for trial as a source of rubber.

The "Palo amarillo," as this tree is called in southwestern Mexico, produces latex which consists of a mixture of rubber and resin, and its value as a source of rubber appears to depend on the working out of a practical method for separating the resin from the rubber. This has already been done experimentally, both the rubber and resin proving to be of good quality.

The tree is about 30 feet high, with smooth, yellow bark, and grows in rocky soil in southern and western Mexico at altitudes of 5,000 to 6,000 feet. This information is based on an article appearing in the Kew Bulletin of Miscellaneous Information for 1907, page 294.

## 58901 to 58930.

From Darjiling, India. Seeds presented by G. H. Cave, curator, Lloyd Botanic Garden. Received March 21, 1924.

58901 to 58903. ACER spp. Aceraceæ. Maple.

58901. ACER CAMPBELLII Hook. f. and Thoms.

The pleasing contrast of the bright-green leaves and red stalks of this Himalayan maple make it worthy of a trial as an ornamental shade tree for the warmer parts of the United States. In its native country the grayish white, moderately hard timber is used for cabinetwork and for planking.

For previous introduction, see S. P. I. No. 55669.

58902. ACER HOOKERI Miquel.

A handsome tree 40 to 50 feet high, with deeply fissured brown bark, native to the Sikkim Himalayas at altitudes of 8,000 to 10,000 feet. The oval leaves, though usually

## 58901 to 58930—Continued.

green, are sometimes copper colored. The wood is gray with small pores and very numerous, fine, red, medullary rays.

For previous introduction, see S. P. I. No. 56454.

58903. ACER LAEVIGATUM Wall.

A Himalayan maple whose broad, low crown suggests it for planting as a park tree in mild-wintered regions of the United States. The bark is yellowish or dark ash colored, and the leaves are a pleasing green. The hard, close-grained wood is shining white and is popular in Nepal for building purposes.

For previous introduction, see S. P. I. No. 50360.

58904. BUDDLEIA COLVILEI Hook. f. Loganiaceæ.

With large, loose, terminal clusters of crimson flowers and dark-green leaves, this Himalayan relative of the well-known butterflybush has been called by some authorities the handsomest of the genus. It is a shrub or small tree, 30 to 40 feet high, and has proved hardy in some parts of England and Scotland.

For previous introduction, see S. P. I. No. 55675.

58905. CALLICARPA RUBELLA Lindl. Verbenaceæ.

The chief attraction of this small Chinese shrub is its appearance in the fruiting stage, with its dense cymes of small, purple berries. The flat, yellowish green leaves, 4 to 5 inches long, contrast pleasingly with the small, pink flowers.

For previous introduction, see S. P. I. No. 47651.

58906. ENKIANTHUS DEFLEXUS (Griffith) C. Schneid. (*E. himalaicus* Hook. f. and Thoms.). Ericaceæ.

The whorled branches of this Himalayan shrub are characteristic of the entire genus and give the plant a peculiar appearance. The margins and petioles of the young leaves are red. The flowers, produced in dense, drooping racemes, have yellow corollas, striped dark red with darker lobes.

For previous introduction, see S. P. I. No. 49634.

58907. ERYTHRINA ARBORESCENS Roxb. Fabaceæ.

When covered with its bright-scarlet flowers this small tree is very attractive and is often planted as an ornamental in the streets of Darjiling. There are but few prickles on its branches, and the thin, greenish leaves are often a foot in width. The strongly curved pods are about an inch wide and 6 to 9 inches long. The tree is found native in the central and eastern Himalayas at altitudes ranging up to 7,000 feet.

For previous introduction, see S. P. I. No. 55680.

58908 to 58910. MICHELIA spp. Magnoliaceæ.

58908. MICHELIA CATHCARTH Hook. f. and Thoms.

A lofty tree with magnoliolike foliage and terminal white flowers about an inch in diameter. It is native in the temperate forests of the Sikkim Himalayas, where the moderately hard, dark-brown heartwood is used for planking and for making tea boxes.

For previous introduction, see S. P. I. No. 55689.

## 58901 to 58930—Continued.

58909. *MICHELIA EXCELSA* Blume.

As ornamental plants for the warmer portions of the United States the various species of magnolias have acquired great and well-deserved popularity, and it may be expected that *Michelia excelsa*, which belongs to the same family, will some day be widely cultivated in the southernmost parts of this country. This tall tree is native in the temperate Himalayas of northeastern India at altitudes of about 5,000 feet. The large, narrow leaves are silky brown beneath, and the beautiful, white flowers are 4 or 5 inches across.

For previous introduction, see S. P. I. No. 55690.

58910. *MICHELIA LANUGINOSA* Wall.

This species is characterized by the white woolly lower surfaces of its long, narrow, magnoli-like leaves. The white, solitary flowers are 3 to 4 inches across. Although this species is a spring-flowering tree in northern India, where it is native, in Sikkim it is said to form an autumn-flowering bush.

For previous introduction, see S. P. I. No. 55691.

58911. *NYSSA SESSILIFLORA* Hook. f. and Thoms. Cornaceæ.

An Asiatic relative of the black gum (*Nyssa sylvatica*), which is a tree 60 feet tall, with oblong, punctate leaves. The soft, gray, even-grained wood is used for building purposes.

For previous introduction, see S. P. I. No. 47741.

58912. *PICEA MORINDOIDES* Rehder. Pinaceæ. Spruce.

A Himalayan spruce of spreading habit, with slender pendulous branchlets. It becomes over 200 feet tall. The young cones are purple, turning to a pale brown when mature.

58913. *PICEA SMITHIANA* (Wall.) Boiss. (*P. morinda* Link.). Pinaceæ. Spruce.

The Himalayan spruce is a lofty tree found in the mountains of northwestern India at altitudes of 7,000 to 11,000 feet; the terminal, drooping, pale-green cones are 4 to 6 inches long. The stiff, sharp, spirally arranged green leaves are crowded into hanging, tail-like twigs when young. The wood is extensively used for rough furniture and planking.

For previous introduction, see S. P. I. No. 55694.

58914 to 58930. *RHODODENDRON* spp. Ericaceæ.58914. *RHODODENDRON ANTHOPOGON* Don.

A small shrub, 1 foot high, with rough, densely scaly branches and leaves which are 1½ inches long, cinnamon brown beneath and, as it were, tomentose from the layer of glands. The yellow flowers are in numerous short terminal fascicles.

For previous introduction, see S. P. I. No. 49648.

58915. *RHODODENDRON BARBATUM* Wall.

The deep-red flowers of this arborescent rhododendron are borne in many-flowered heads. The bristly stemmed, oblong leaves are normally about 6 inches in length. In its native home in the temperate Himalayas this tree becomes 30 to 40 feet in height.

58916. *RHODODENDRON CAMELLIAEFLOREM* Hook. f.

A Himalayan rhododendron, 2 to 6 feet tall, with very thick, deep-green, leathery leaves and pure white or faintly pinkish flowers about 1½ inches wide.

For previous introduction, see S. P. I. No. 47851.

## 58901 to 58930—Continued.

58917. *RHODODENDRON CAMPANULATUM* Don.]

A large evergreen shrub of stiff, spreading habit, sometimes as much as 12 feet in height, with oval leaves which are densely covered beneath with a red-brown felt. The flowers, produced during April in rather loose clusters about 4 inches wide, are various shades of rosy purple and about 2 inches across. This species, native to Sikkim and Nepal, is one of the hardier Himalayan rhododendrons, and in England it thrives in the vicinity of London.

58918. *RHODODENDRON CAMPYLOCARPUM* Hook. f.

The foliage of this small, roundish bush is a bright, cheerful green, and contrasts splendidly with the numerous clusters of pale-yellow, slightly fragrant flowers. In Sikkim, India, where it is native, it grows at an altitude of 12,000 feet.

58919. *RHODODENDRON CILIATUM* Hook. f.

A Himalayan rhododendron, of somewhat dwarf habit, bearing many small, loose trusses of pinkish white flowers less than 3 inches wide. It rarely exceeds 6 feet in height.

For previous introduction, see S. P. I. No. 55698.

58920. *RHODODENDRON DALHOUSIAE* Hook. f.

This is said to be the finest rhododendron from northeastern India, chiefly because of the great size and beauty of the fragrant, white flowers, which resemble large lilies. It is a straggling shrub, 6 to 8 feet high, with smooth, dark-green leaves. The flowers, which occur in terminal clusters of three to five, are nearly 5 inches across.

For previous introduction, see S. P. I. No. 55699.

58921. *RHODODENDRON FALCONERI* Hook. f.

This shrub or tree, which sometimes attains a height of 30 feet, is native to northeastern India. The large, deep-green leaves, sometimes a foot long, and the whitish, densely clustered flowers make it a very fine ornamental.

For previous introduction, see S. P. I. No. 55700.

58922. *RHODODENDRON FULGENS* Hook. f.

A shrubby rhododendron, 6 to 12 feet high, from the alpine regions of the Himalayas, closely allied to *Rhododendron campanulatum*. It is chiefly distinguished by its blood-red flowers, about an inch wide and crowded in hemispherical trusses over 3 inches in width. It is native to Nepal and Sikkim, India, at altitudes of 10,000 to 14,000 feet.

58923. *RHODODENDRON GRANDE* Wight.

A handsome shrub about 15 feet high, native to the Himalayas. It bears numerous loose trusses of bell-shaped flowers about 2½ inches in diameter. These are at first suffused with a faint rose tint which later changes to white.

For previous introduction, see S. P. I. No. 47775.

58924. *RHODODENDRON HODGSONII* Hook. f.

This is considered one of the finest rhododendrons for foliage; the leathery, dark-green leaves are up to 18 inches in length, glossy above and covered with a brownish red down beneath. The rosy lilac flowers, 2 inches across, are in dense rounded trusses about 6 inches wide.

58901 to 58930—Continued.

58925. RHODODENDRON LANATUM Hook. f.

This species grows wild on the rocky spurs of the humid mountains and in gullies of the Sikkim Himalayas at altitudes of 10,000 to 12,000 feet. It is a large shrub or small tree, with the trunk 6 inches in diameter at the stoutest part, irregularly and repeatedly branching. The branches are much gnarled and bare of leaves and are covered with a dark-colored rugged bark, very different from the prevailing beautiful papery clothing of the genus. The flowers are a pale sulphur color.

58926. RHODODENDRON LEPIDOTUM Wall. f. & W.

A very distinct evergreen species from the Himalayas and western China. It grows about 1½ feet high, forming a compact bush which produces during May numerous curious flat, purple or reddish blossoms.

For previous introduction, see S. P. I. No. 49649.

58927. RHODODENDRON MADDENI Hook. f.

A shrub 6 to 8 feet high with red-stemmed, dark-green leaves. The large, delicately fragrant flowers, tinged with rose, are produced in trees at the ends of the branches. Native to the Himalayas.

For previous introduction, see S. P. I. No. 55701.

58901 to 58930—Continued.

58928. RHODODENDRON ROYLEI Hook. f. (*R. cinnabarinum* Hook. f.).

The flowers of this evergreen shrub, produced in terminal heads, are usually a dull, cinnabar red, but in some forms the corolla is orange-red on the outside and yellowish within. It is native to the mountainous regions of Sikkim and Bhutan, India.

For previous introduction, see S. P. I. No. 47777.

58929. RHODODENDRON THOMSONII Hook. f.

The rich, blood-red flowers of this shrubby Himalayan rhododendron are 2 to 3 inches across and are produced in loose clusters of six or seven flowers. The small, roundish oval, dark-green leaves have blue-white lower surfaces. This species is not able to withstand very low temperatures; it thrives in the extreme southwestern part of England.

58930. RHODODENDRON WIGHTII Hook. f.

This species has very handsome trusses of large, pale-yellow flowers. It grows abundantly in wooded valleys in the Himalayas and on the spurs of all the mountains at an altitude of 12,000 to 14,000 feet.

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