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UNITED STATES DEPARTMENT OF AGRICULTURE



INVENTORY No. 116



Washington, D. C.

Issued October 1935

PLANT MATERIAL INTRODUCED BY THE DIVISION OF PLANT EXPLORATION AND INTRODUCTION, BUREAU OF PLANT INDUSTRY, JULY 1 TO SEPTEMBER 30, 1933 (Nos. 103407-103776)

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INTRODUCTORY STATEMENT

This Inventory, no. 116, is a record of plant material received by the Division of Plant Exploration and Introduction from July 1 to September 30, 1933 (103407-103776).

The introductions listed may be grouped roughly according to the nature of the material and the purpose for which it has been received.

Citrus growers in the West and Southwest will, it is hoped, benefit through the introduction of scions of lemons, mandarins, and oranges from Morocco (103554-103579). These varieties have been developed at the experiment station at Marrakech. Plants of two unusual forms of grapefruit (*Citrus grandis*, 103603, 103604) are recorded from the Society Islands. Included in a shipment of plant material from northern India are seven lots of seeds of citrus fruits (103493-103499); these were collected in little-known villages and may be useful in breeding work.

In the field of deciduous fruits, mention should be made of an introduction of trees of apples, almonds, and peaches from Natal, South Africa (103750-103765). These will be tested in the mild-wintered sections of the United States.

Plant pathologists working with wheat rust will be interested in a collection of wheat varieties (*Triticum* spp., 103527-103553) that have shown a certain degree of resistance to rust under Australian conditions. These were presented by the Department of Agriculture, Sydney, New South Wales. From this same general locality were received also 23 named varieties of oats (*Avena* spp., 103665-103687), through the courtesy of the Wagga Experiment Farm, Bomen, New South Wales.

The mountainous region of southwestern China has proved for many years a rich source of new or rare plants, chiefly valued as ornamentals. Through the kindness of the University of California,

under whose auspices Dr. J. F. Rock was once more exploring in that part of China, this Division received seeds of a large number of trees, shrubs, and herbaceous plants. Of similar nature is a lot of seeds of trees and shrubs (103421-103439) collected in western China and presented by the Bodnant Gardens of North Wales.

The botanical determinations of these introductions were made and the nomenclature determined by the late H. C. Skeels,¹ who had general supervision of this inventory.

B. Y. MORRISON,
Principal Horticulturist, in Charge.

DIVISION OF PLANT EXPLORATION AND INTRODUCTION,
Washington, D. C., May 6, 1935.

¹ Died Jan 3, 1934.

INVENTORY²

103407 and 103408. *ERIOBOTRYA JAPONICA* (Thunb.) Lindl. **Malaceae.** **Loquat.**

From Algiers, Algeria. Bud sticks presented by Dr. René Maire, University of Algiers. Received July 8, 1933.

Introduced for the use of Department specialists.

Japanese medlar varieties, originally from Dr. Tanaka, collected in the botanic station at Maison Carrée.

103407. No. 846. *Dr. L. Trabut.*

103408. No. 107. *Madame Perronne.*

103409 and 103410.

From New Zealand. Seeds presented by Brian M. Jeffery, Roxburgh, Otago. Received July 6, 1933

103409. *ASTELIA NERVOSA* Banks and Soland. **Liliaceae.**

A stout, densely tufted New Zealand perennial often forming extensive masses on swampy grounds in forests. The spreading lanceolate leaves are 2 to 8 feet long, with the midribs and other prominent nerves colored red. The fragrant flowers, borne in large panicles on scapes 1 to 2 feet high, are greenish black and are followed by bright orange-yellow berries.

For previous introduction see 101274.

103410. *CORYNOCARPUS LAEVIGATA* Forst. **Corynocarpaceae.** **Karaka.**

An ornamental New Zealand tree with a round crown and oblong evergreen leaves up to 7 inches long. The small white flowers, in erect panicles about 4 inches high, are followed by oblong orange fruits an inch long. The flesh of the fruit is extremely poisonous, but the kernel has long been one of the staple articles of diet of the Maoris, the original inhabitants of New Zealand.

For previous introduction see 77997.

103411. *CALOCARPUM MAMMOSUM* (L.) Pierre (*Lucuma mammosa* Gaertn. f.). **Sapotaceae.**

From Puerto Rico. Seeds presented by T. B. McClelland, director, Agricultural Experiment Station, Mayaguez. Received July 5, 1933.

A large erect tree over 30 feet high, native to Mexico and Central America. The obovate to oblanceolate leaves, 4 to 10 inches long and up to 4 inches wide, are light green above and paler or brownish beneath. The subsessile white flowers are followed by russet-brown elliptic fruits the size of a small muskmelon. The rough outer covering contains soft, melting, salmon-colored sweet flesh of rich flavor and a single large, elliptic, glossy brown seed. The fruit is eaten fresh, made into jam, or frozen to form a sherbet.

103412 and 103413. *PETREA VOLUBILIS* L. **Verbenaceae.**

From Trinidad. Seeds presented by R. O. Williams, director, Department of Agriculture, Port-of-Spain, through A. Joseph, manager of the St. Augustine Nursery. Received July 1, 1933.

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

103412. The typical blue-flowered form.

103413. A variety with white flowers.

103414 to 103420. *SOJA MAX* (L.) Piper. **Fabaceae.** **Soybean.**

From Manchuria. Seeds purchased from L. Ptitsin, Harbin. Received July 6, 1933.

A collection of soybeans introduced for the use of Department specialists.

Nos. 103414 and 103415 were collected at Sansing station, on the Sungari River.

103414. No. 1. A medium-small subglobose straw-yellow bean with brown hilum.

103415. No. 2. A medium-sized nearly round straw-yellow bean with brown hilum.

Nos. 103416 to 103420 were collected at Imienpo station, on the eastern line of the Chinese Eastern Railway.

103416. No. 1-a. A medium-sized nearly round straw-yellow bean with a large black hilum.

103417. No. 2-a. A medium-sized subglobose straw-yellow bean with pale hilum.

103418. No. 3-a. A medium-sized nearly round straw-yellow bean with light-brown hilum.

103419. No. 4-a. A medium-sized elliptical straw-yellow bean with light-brown hilum.

103420. No. 5-a. A large subglobose black bean with yellow germ and pale hilum.

103421 to 103439.

From China. Seeds obtained by native collectors and presented by Henry McLaren, Bodnant Gardens, North Wales. Received July 3, 1933.

The numbers correspond to those of the herbarium specimens at the Royal Botanic Gardens, Edinburgh, Scotland.

² It should be understood that the names of varieties of fruits, vegetables, cereals, and other plants used in this inventory are those under which the material was received when introduced by the Division of Foreign Plant Introduction, and, further, that the printing of such names here does not constitute their official publication and adoption in this country. As the different varieties are studied, their entrance into the American trade forecast, and the use of varietal names for them in American literature becomes necessary, the foreign varietal designations appearing in this inventory will be subject to change with a view to bringing the forms of the names into harmony with recognized horticultural nomenclature.

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

103421 to 103439—Continued.

103421. *ACER CAESIUM* Wall. Aceraceae. Maple.

No. D-99. A tree up to 75 feet high, native to the slopes of the Himalayas between 7,000 and 10,000 feet altitude. The palmately five-lobed leaves, pale beneath, are cordate with serrate margins and are 6 to 8 inches long and broad. The flowers appear after the leaves in large pyramidal panicles and are followed by smooth fruits with the wings spreading at nearly right angles.

For previous introduction see 98306.

103422. *CLETHRA DELAVAYI* Franch. Clethraceae.

No. D-130. A Chinese shrub or small tree with red branchlets and oblanceolate leaves which are pubescent beneath. The fragrant white flowers differ from those of the American sweet pepperbush (*Clethra alnifolia*) in having red calyxes and in being in solitary axillary racemes, while the sweet pepperbush usually has the racemes grouped together to form a panicle.

For previous introduction see 100862.

103423. *DIPelta YUNNANENSIS* Franch. Caprifoliaceae.

No. D-38. A shrub 10 to 15 feet high, native to western China, with opposite entire lanceolate leaves 3 to 6 inches long and leafy racemes of 2-lipped tubular-campanulate pinkish to purple flowers having shieldlike floral bracts.

For previous introduction see 97601.

103424. *ENKIANTHUS DEFLEXUS* (Griffith) C. Schneid. Ericaceae.

No. D-33. The whorled branches of this Himalayan shrub are characteristic of the entire genus and give the plant a peculiar appearance. The branchlets are red, and the margins and petioles of the obovate leaves, 1 to 3 inches long, are red when the leaves are young. The flowers, produced in dense drooping racemes, have yellow corollas, striped dark red, with darker lobes.

For previous introduction see 100541.

103425. *EUPTELEA PLEIOSPERMA* Hook. f. and Thoms. Trochodendraceae.

No. D-285. A tree 30 to 40 feet high, native to Tibet, with ovate-crenate leaves which are glaucous beneath and have very long acuminate tips. The slender-stalked red flowers, in axillary fascicles, appear before the leaves.

For previous introduction see 100875.

103426. *HYDRANGEA HETEROMALLA* D. Don. Hydrangeaceae.

No. D-95. A Himalayan hydrangea, about 10 feet high, with red stems, oval sharp-pointed leaves white hairy beneath, and white flowers borne in clusters about 6 inches wide.

For previous introduction see 59660.

103427. *ILEX CORALLINA* Franch. Aquifoliaceae. Coral holly.

No. D-335. A bushy smooth graceful shrub up to 10 feet high, which has not the rigid appearance of other hollies. The ovate-lanceolate leaves are thin, tough, fully-fringed, and from 4 to 6 inches long, brilliant green on top and pale green underneath. The numerous fruits are small and coral red.

For previous introduction see 93898.

103428. *LIGUSTRUM COMPACTUM* Hook. f. and Thoms. Oleaceae. Privet.

No. A-105. A shrub or small tree sometimes 30 feet high, native to the Himalayan region of southwestern China. The half-evergreen leaves are 3 to 6 inches long, and the small white flowers in large panicles are followed by blue-black fruits.

For previous introduction see 76256.

103421 to 103439—Continued.

103429. *PIPTANTHUS FORRESTII* Craib. Fabaceae.

No. D-290. A shrub 9 to 13 feet high, with alternate trifoliate leaves composed of lanceolate light-yellow leaflets over 1½ inches wide. Native to alpine meadows in southwestern China.

For previous introduction see 103131.

103430 to 103435. *RHODODENDRON* spp. Ericaceae.103430. *RHODODENDRON BEESIANUM* Diels.

No. D-105. A shrub 15 to 20 feet high, with leathery, purple-green, narrowly lanceolate leaves about 6 inches long and deep rich-rose flowers up to 2 inches across. Allied to *R. delavayi*, and native to Yunnan.

For previous introduction see 100329.

103431. *RHODODENDRON BREVISTYLUM* Franch.

No. D-148. A shrub up to 10 feet high with scaly purple branchlets, native to Yunnan, China, between 12,000 and 13,000 feet altitude. The elliptic-lanceolate leaves, 4 inches long, are laxly scaly above and below, and the widely funnel-shaped flowers, 1 to 2 inches long, are pale to deep rose with crimson markings and are borne in 1- to 5-flowered terminal clusters.

103432. *RHODODENDRON CHAETOMALLUM* Balf. and Forr.

No. A-1. A shrub 4 to 5 feet high, with thin twiggy branches densely clothed with branched bristly hairs. The oblong-obovate leathery leaves are about 4 inches long, dark olive green above, and covered beneath with tawny wool. The deep-crimson, tubular-campanulate flowers, 2 inches long, are borne in 4- to 6-flowered terminal umbels. It is native to Tibet and Yunnan between 11,000 and 13,000 feet altitude.

For previous introduction see 100336.

103433. *RHODODENDRON CLEMENTINAE* Forrest.

No. D-201. A shrub 4 to 10 feet high, native to southwestern China at an altitude of 11,000 feet. The oblong-oval leaves, 2 to 6 inches long, are dark green above and covered beneath with a white or pale-fawn felty indumentum. The campanulate flowers, 2 inches long, are creamy white flushed rose with crimson markings and are borne in racemose umbels of 10 to 15 flowers.

103434. *RHODODENDRON CORIACEUM* Franch.

No. D-302. A shrub or small tree 10 to 25 feet high, with gray-white branchlets, native to southwestern China and Tibet between 10,000 and 13,000 feet altitude. The narrowly lanceolate leaves, 4 to 8 inches long, are smooth and light green above and clothed beneath with a light-gray pitted indumentum. The funnel-campanulate flowers, 1 to 2 inches long, are white or light rose with crimson blotches and are borne in lax corymbose racemes of 15 to 20 flowers.

103435. *RHODODENDRON* sp.

No. D-231. Related to *R. wardii* in the *Thompsonii* series.

103436. *ROSA LONGICUSPIS* Bertol. Rosaceae. Rose.

No. A-107. A rambling bush about 20 feet high, native to western China, with sparse short prickles, large dark-green leaves, and white flowers 2 inches wide in very large lax corymbs.

For previous introduction see 100594.

103437. *SOPHORA* sp. Fabaceae.

No. A-172. Closely related to *S. glauca*.

103421 to 103439—Continued.

103438. *TETRACENTRON SINENSE* Oliver. Magnoliaceae.

No. D-322. A tree up to 100 feet high, native to western and central China. The elliptic-ovate leaves, 3 to 5 inches long, are subcordate with closely serrulate margins, and the minute yellowish flowers are in racemes 4 to 8 inches long.

For previous introduction see 100097.

103439. *THERMOPSIS ALPINA YUNNANENSIS* Franch. Fabaceae.

No. D-280. A herbaceous perennial 6 to 12 inches high, with three broadly oblong hairy leaflets and bright-yellow flowers in terminal racemes. Native to Yunnan, southwestern China.

103440. *CARYOPHYLLUS MALACCENSIS* (L.) Stokes (*Eugenia malaccensis* L.). Myrtaceae. **Ohia.**

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received July 7, 1933.

A tree with large glossy handsome leaves and masses of flowers an inch or more across, filled with hundreds of beautiful deep-rose or pink stamens. The crimson pear-shaped fruits of characteristic flavor are much esteemed in the West Indies for preserves.

For previous introduction see 99534.

103441. *CINCHONA LEDGERIANA* Moens. Rubiaceae.

From India. Seeds purchased from R. B. & D. S. Pradham, The Chandra Nursery, Sikkim, Bengal. Received July 8, 1933.

A tree, native to the Andes, yielding a bark remarkably rich in quinine which crystallizes readily as quinine sulphate. The percentage of the other alkaloids present is relatively small. The bark of this species matures in the fifth or sixth year and does not increase its quinine content after that age.

For previous introduction see 100986.

103442 to 103444. *MALUS SYLVESTRIS* Mill. (*Pyrus malus* L.). Malaceae. **Apple.**

From the Union of Soviet Socialist Republics. Scions presented by the Institute for Northern Fruit and Berry Growing, Koslov, through V. P. Alekseev, chief in charge of Foreign Plant Introduction, Leningrad. Received June 2, 1933. Numbered in July 1933.

Received under the following varietal names:

103442. No. 137714. *Antonovka*.

103443. No. 137717. *Bel Monastirskaia*.

103444. No. 137709. *Reinette Kolhasney*.

103445 to 103475.

From southwestern China and Tibet. Seeds collected by Dr. Joseph F. Rock, agricultural explorer for the University of California Botanical Garden Expedition, and presented through Dr. T. H. Goodspeed, Department of Botany, University of California, Berkeley, Calif. Received July 6, 1933.

103445. *AJUGA* sp. Menthaceae. **Bugle.**

No. 24362. Collected south of Dzampe Sheren in the Sagi Valley at 14,500 feet altitude. Flowers pale lavender to white, found growing in scree.

103446. *AJUGA* sp. Menthaceae. **Bugle.**

No. 24499. From the trail to Leirong, southwestern Muli Territory, Szechwan, on Mount Kanshu. White flowers found in alpine meadows at 14,000 feet altitude.

103445 to 103475—Continued.

103447. *ILEX* sp. Aquifoliaceae.

No. 24323. From Mutirong, Muli Territory, on the Mutikonka snow range, Szechwan, at 11,000 feet altitude. A plant between 3 and 4 feet high.

103448. *ASTRAGALUS* sp. Fabaceae. **Milkvetch.**

No. 24354. From the Sagi Valley, south of Dzampe Sheren, at 13,000 feet altitude. Purplish-blue flowers found in alpine meadows.

103449. *CASSIOPE* sp. Ericaceae.

No. 20934. A plant with white flowers found in alpine regions at 15,000 feet altitude.

103450 to 103452. *CLINTONIA* spp. Convolvulariaceae.

103450. *CLINTONIA* sp.

No. 21960. Blue flowers, collected in a canebroke between 11,000 and 12,000 feet altitude on Mount Kenichunpo.

103451. *CLINTONIA* sp.

No. 21962. Large single, deep-purple flowers found in alpine regions at 15,000 feet altitude on Mount Kenichunpo.

103452. *CLINTONIA* sp.

No. 24484. From the trail to Leirong, southwestern Muli, Szechwan, on Mount Kanshu; found in moss in a fir forest.

103453 to 103455. *DIPLARCHE* spp. Ericaceae.

103453. *DIPLARCHE* sp.

No. 21930. A shrub several inches high with pink flowers; found on grassy slopes at 14,000 feet altitude.

103454 and 103455. *DIPLARCHE MULTIFLORA* Hook. and Thoms.

A low alpine shrub, native to the Himalayan region between 11,000 and 14,000 feet altitude. The crowded leathery linear-oblong leaves are less than one-fourth inch long, and the small tubular white or pink flowers are borne in dense clusters of 8 to 20 at the ends of the branches.

For previous introduction see 99861.

103454. No. 22243. From Solola, Tsarung Province, Tibet; a shrub 1 inch high with white flowers; found in alpine regions at 14,000 feet altitude.

103455. No. 23274. From Mount Fuchuan, west of the Mekong-Salwin Divide. A shrub 2 to 6 inches high with white flowers, found on cliffs and crags.

103456. *DISPORUM* sp. Convallariaceae. **Fairybells.**

No. 21947. From Mount Kenichunpo. A shrub up to 3 feet high with white flowers; found in spruce forest at 12,000 feet altitude.

103457. *HEDYSARUM* sp. Fabaceae.

No. 22249. From Solola, Tsarung Province, Tibet; an herb with yellow flowers, found at 10,000 feet altitude.

103458. *HEDYSARUM* sp. Fabaceae.

No. 23450. From Mount Moting, west of Atuntze, Yunnan; an herb with pale-yellow flowers, found in alpine scree at 13,000 feet altitude.

103459. *ILEX* sp. Aquifoliaceae. **Holly.**

No. 22299. From Solola, Tsarung Province, Tibet; a shrub 5 feet high with red flowers; found in fir forest at 12,500 feet altitude.

103445 to 103475—Continued.

103480. *ILEX* sp. Aquifoliaceae. Holly.

No. 23654. From the mountains of Kaakerbo in southeastern Tibet, Tsarung, west of Dikerla and Yundshi; shrubs 4 to 6 feet high found in valleys at 10,000 feet altitude.

103481. *ERIOPHYTON WALLICHIANUM* Benth. Menthaceae.

No. 24532. From the western slopes of Mount Mituga, Muli Territory, southwestern Szechwan, at 15,000 feet altitude; a dwarf herbaceous perennial only 6 inches high, with the stems, leaves, and inflorescence densely covered with soft white wool a quarter of an inch long. The round toothed leaves, 1 to 2 inches across, are very closely set on the stem, and the large two-lipped yellow or pale-pink flowers, 1 to 2 inches long, are borne in axillary whorls. It is native to the Himalayan region.

For previous introduction see 93890.

103482. *NOTOCHAETE* sp. Menthaceae.

No. 24485. From Mount Kanshu on the Leirong trail in Muli Territory, southwestern Szechwan, at 13,000 feet altitude, in alpine meadows an herb whose leaves form large rosettes and whose flowers are lavender blue.

103483. *PHLOMIS ROTATA* Benth. Menthaceae. Jerusalem-sage.

No. 23363. From Mount Moting, west of Atuntze, Yunnan, in alpine meadows at 12,500 feet altitude; a stemless plant with a rosette of thick coriaceous, orbicular, crenate leaves 3 to 6 inches across, densely tomentose beneath, suddenly contracted into tomentose petioles half an inch broad. The small bluish-purple flowers, covered with white hairs, are in whorls on short peduncles, forming dense heads 1 to 2 inches in diameter in the center of the rosette of leaves. It is native to the alpine regions of the Himalayas.

For previous introduction see 93920.

103484. *PIPTANTHUS NEPALENSIS* (Hook.) Sweet. Fabaceae.

No. 24575. Collected between Muli and Kulu at 11,500 feet altitude; a shrub 2 to 11 feet high with palmately trifoliate leaves made up of lanceolate leaflets 2 to 4 inches long; the yellow pea-shaped flowers, 1 inch long, are borne in dense racemes resembling bunches of grapes.

103485. *SALVIA* sp. Menthaceae. Sage.

No. 24479. From Mount Kanshu, on the trail to Leirong, southwestern Muli, Szechwan, at 10,000 feet altitude; an herb with purple flowers.

103486 to 103488. *SATUREJA* spp. Menthaceae. Savory.103486. *SATUREJA* sp.

No. 23433. Collected in alpine meadows at 12,000 feet altitude on Mount Moting, east of Atuntze, Yunnan; an herb with yellow flowers.

103487. *SATUREJA* sp.

No. 24480. Collected on the trail to Leirong, southwestern Muli Territory, Szechwan, on Mount Kanshu at 11,000 feet altitude; flowers not seen.

103488. *SATUREJA* sp.

No. 24514. Collected among rocks in meadows at 11,000 feet altitude on the western slopes of Mount Mituga, Muli Territory, southwestern Szechwan; an herb with purplish-pink flowers.

103445 to 103475—Continued.

103469. *SOPHORA DAVIDII* (Franch.) Komarov. Fabaceae.

No. 24549. Collected in scrub forest at 11,000 feet altitude on the western slopes of Mount Mituga, Muli Territory, southwestern Szechwan; a spiny shrub up to 6 feet high with slender spreading pubescent branchlets, native to central and western China. The pinnately compound leaves, 1 to 2 inches long, have 11 to 15 small elliptic leaflets, and the violet to white pea-shaped flowers, one-half inch long, are in racemes of 6 to 12 on short terminal branchlets.

For previous introduction see 99462.

103470. *THERMOPSIS INFLATA* Cambess. Fabaceae.

No. 23336. Found in scree on Mount Moting, east of Atuntze, Yunnan, at 15,000 feet altitude; a bushy perennial about 6 inches high with a widely creeping woody rootstock and small finely pubescent trifoliate fleshy leaves. The yellow flowers, less than an inch long, are in small dense racemes. Native to the Himalayas between 15,000 and 17,000 feet altitude.

103471. *THERMOPSIS* sp. Fabaceae.

No. 24397. From Mount Siga, west of and overlooking the Yalung River, north of Karadi, at 13,500 feet altitude, in alpine meadows; an herb with red flowers.

103472 to 103474. *VACCINIUM* spp. Vacciniaceae. Blueberry.103472. *VACCINIUM* sp.

No. 22175. From alpine regions near the upper headwaters of the Eastern Irrawaddy, at 14,000 feet altitude; an herb 3 inches high with red flowers.

103473. *VACCINIUM* sp.

No. 22397. Collected at 13,500 feet altitude on Mount Wulila, east of Salwin and north of Alulaka, in southeastern Tibet; a shrub up to 6 feet high; flowers not seen.

103474. *VACCINIUM* sp.

No. 23479. From Mount Moting, west of Atuntze, Yunnan, at 14,500 feet altitude; a shrub over a foot high with red flowers.

103475. (Undetermined.)

No. 22020. From Mount Kenichunpo at Champutong near the Salwin River at 7,000 feet altitude; a handsome tree between 70 and 80 feet high with white flowers.

103476. *COLVILLEA RACEMOSA* Boj. Caesalpiniaceae.

From Tulear, Madagascar. Seeds presented by H. Henri Perrier de la Bathie, Academie Malgache, Tananarive. Received July 8, 1933.

A tree 30 to 40 feet high with pinnate leaves 3 feet long and brilliant orange-scarlet, curiously shaped flowers with 10 protruding stamens, borne in drooping racemes more than a foot long. The tree was discovered in Madagascar in 1824 and named for the Governor of Mauritius, Sir Charles Colville. In all probability it will stand no more frost than the *Poinciana*.

Like other leguminous trees, it is readily propagated from seeds.

For previous introduction see 98549.

103477. CAPSICUM ANNUUM L. Solanaceae. Common redpepper.

From China. Seeds presented by Rev. David C. Graham, through the Smithsonian Institution, Washington, D. C. Received July 11, 1933.

From Ningyuen Fu, Szechwan, at 6,000 feet altitude. A very large mild-flavored redpepper.

103478. PAROCHETUS COMMUNIS Buch.-Ham. Fabaceae. Shamrock-pea.

From Ceylon. Seeds presented by the acting curator, Botanic Gardens, Hakgala, through the director of the Botanic Gardens, Paradeniya. Received July 11, 1933.

A half-hardy perennial trailing vine with sham rocklike leaves, each leaflet marked at the base with a brown crescent. The pea-shaped flowers, nearly an inch across, have cobalt-blue standards and pink wings. It is native to tropical Asia.

For previous introduction see 91295.

103479. COLPOTHRINAX WRIGHTII Griseb. and Wendl. Phoenicaceae. Palm.

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received July 12, 1933.

A Cuban fan palm 40 feet high with a trunk swollen at the base.

For previous introduction see 90873.

103480 to 103485.

From Chile. Seeds and bulbs collected by Paul G. Ledig, Department of Research in Terrestrial Magnetism, Carnegie Institution of Washington, D. C. Received July 13, 1933.

103480. BERBERIS BUXIFOLIA Lam. Berberidaceae. Magellan barberry.

Calafati. From Magallanes. An erect bushy partially evergreen barberry 6 to 8 feet high, with hard leathery oblong-obovate leaves up to an inch long, small solitary amber-yellow flowers, and globular dark-purple fruits. Native to southern Chile, where it is cultivated for its edible fruits.

For previous introduction see 98032.

103481. DIGITALIS PURPUREA L. Scrophulariaceae. Common foxglove.

From Puerto Montt. A wild plant with flowers which vary from dark purple, lavender, pink to white.

103482. (Undetermined.)

Bulbs, collected at Puerto Montt, of a wild plant which resembles a gladiolus. The flowers are orange colored.

103483. LOTUS sp. Fabaceae.

From Puerto Montt. A yellow-flowered variety.

103484. LUPINUS sp. Fabaceae. Lupine.

From Ensenada, on Lake Llanquihue. A bushy perennial about 3 feet high, found on poor soil. The flowers are yellow.

103485. SISYRINCHIUM sp. Iridaceae. Blued-eyed-grass.

Collected at the Magallanes racetrack.

103486. ALLIUM SATIVUM L. Liliaceae. Garlic.

From India. Bulbs presented by P. G. Dani, superintendent, Ganeshkhind Botanical Gardens, Kirkee, Bombay Presidency. Received July 15, 1933.

103486—Continued.

A variety commonly cultivated in India. Introduced for the use of Department specialists.

103487 to 103515.

From India. Seeds collected and presented by Walter Koelz, University of Michigan, Ann Arbor, Mich. Received July 8, 1933.

Nos. 103487 to 103489 were collected in Bhadwar, Kangra, Punjab, between 2,000 and 3,000 feet altitude.

103487. PHLOGACANTHUS THYRSIFLORUS (Roxb.) Nees. Acanthaceae.

No. 36. *Paskaka marpo*. A scraggly shrub, 8 feet high, with attractive leaves and spikes of lovely rose-madder flowers; found in deep glens along streams, but not in heavy shade. The Tibetans use this plant medicinally.

103488. BARLERIA sp. Acanthaceae.

No. 37. A shrub 5 feet high found in well-watered shady situations. The numerous flowers are royal blue.

103489. BAUHINIA VAHLII Wight and Arn. Caesalpiniaceae. Malu-creeper.

No. 31. A shrubby vine 40 feet high, with large velvety leaves a foot long and white flowers.

For previous introduction see 98803.

103490. BAUHINIA sp. Caesalpiniaceae.

No. 16. From Bajnath, Kangra, Punjab, at 3,000 feet altitude. A shrubby vine 30 feet high, flowers not seen.

Nos. 103491 and 103492 were collected in Bhadwar, Kangra, Punjab, between 2,000 and 3,000 feet altitude.

103491. CARISSA SPINARUM L. Apocynaceae.

No. 30. A spiny suberect evergreen shrub 6 feet high, native to the lower slopes of the Himalayas in India. The elliptic-ovate leathery leaves are 1 to 2 inches long, and the white tubular fragrant flowers, one-half inch long, are abundantly borne in terminal cymes. The subglobose black fruits are one-fourth inch in diameter and are said to be edible. It is used for forage; it is also trimmed and used for hedges or specimen plants as ornamentals.

103492. CITRULLUS sp. Cucurbitaceae.

No. 7. *Seri perbu*. A Tibetan medicinal plant.

103493 to 103499. CITRUS spp. Rutaceae.

Nos. 103493 and 103494 were collected in Mandi State at 4,000 feet altitude.

103493. CITRUS AURANTIUM L. Seville orange.

No. 4. A sour orange, 3 inches in diameter, too sour for eating out of hand.

103494. CITRUS GRANDIS (L.) Osbeck. Grapefruit.

No. 5. A grapefruit, 6 inches in diameter, of good flavor, but with many seeds.

103495 and 103496. CITRUS NOBILIS DELICIOSA (Ten.) Swingle. Mandarin orange.

Collected in Bhadwar, Kangra, Punjab, at 2,000 feet altitude.

103495. No. 8. *Sun apple*. A yellow tangerine, not so acid as a lemon, and 3 inches in diameter.

103496. No. 9. *Gomiri*. A yellow tangerine, 2 inches in diameter, of acid flavor but still edible.

103497. CITRUS sp.

No. 6. From Mandi State at 4,000 feet altitude. Character of fruit unknown.

Nos. 103498 to 103501 were collected in Bhadwar, Kangra, Punjab, at 2,000 feet altitude.

103487 to 103515—Continued.

103488. CITRUS sp.

No. 10. *Kimbu*. A yellow to orange thin-skinned fruit, 3 inches in diameter.

103499. CITRUS sp.

No. 12. *Taranj*. A very acid, warty, thick-skinned citrus up to 4 inches in diameter.

103500. EVOLVULUS ALSINOIDES L. Convolvulaceae.

No. 32. A hairy perennial herb with wiry, often prostrate branches, native to southeastern Asia. The small entire leaves, 1 to 2 inches long, are very variable in shape, and the royal blue or white funnel-shaped flowers, up to one-half inch long, are borne abundantly for 6 to 8 weeks.

103501. INDIGOPERA LINIFOLIA (L.f.) Retz. Indigo.

No. 38. A legume with fine stems 6 to 8 inches high, numerous small leaves, and beautiful salmon-pink flowers. It is considered one of the best pasture plants in the Ganges Valley.

For previous introduction see 97818.

103502. KALANCHOE SPATHULATA DC. Crassulaceae.

No. 1. From dry open slopes in Mandi State at 5,000 feet altitude. A succulent perennial up to 4 feet high, with the lower leaves spatulate crenate, 3 to 10 inches long, and the upper leaves, 3 to 4 inches long, very narrow and sometimes trifoliate. The clear yellow flowers are in flattish corymbs. It is native to tropical Asia and is said to be poisonous to cattle.

For previous introduction see 93093.

Nos. 103503 to 103505 were collected at Bhadwar, Kangra, Punjab, at 2,000 feet altitude.

103503. MALLOTUS sp. Euphorbiaceae.

No. 35. A shrub or small tree 20 feet high, found on semiarid slopes, with attractive foliage and edible red fruits that remain on the shrub for a long time.

103504. FICUS sp. Moraceae.

No. 17. A large attractive tree with late-ripening yellow fruits up to 3 inches long, rather insipid, with few seeds and the odor of peaches.

103505. MORUS sp. Moraceae. Mulberry.

No. 24. A large well-formed tree with red fruits, larger and later than the common mulberry.

103506. PRUNUS sp. Amygdalaceae.

No. 26. From Bajnath, Kangra, Punjab, at 3,000 feet altitude. A cherry tree up to 20 feet high found in open or semishaded situations; the large pink blossoms are followed by inedible fruits.

103507. TRICHOSANTHES BRACTEATA (Lam.) Voigt. Cucurbitaceae.

No. 2. From Banjar, Kulu, Punjab, at 5,000 feet altitude. An annual ornamental vine climbing to 30 feet, with broadly oval leaves, scabrous above, and deeply lobed; the globose fruits are red streaked with orange. Native to India.

For previous introduction see 66977.

Nos. 103508 to 103511 were collected at Bhadwar, Kangra, Punjab, at 2,000 feet altitude.

103509. VALLARIS HEYNEI Spreng. Apocynaceae. Burma vallaris.

No. 21. A climbing shrub with fragrant white flowers three-fourths of an inch wide, often cultivated as an ornamental in India where it is native. The milky juice is used medicinally for skin diseases and is also a possible source of rubber.

For previous introduction see 74225.

103487 to 103515—Continued.

103509. WOODFORDIA FRUTICOSA (L.) Kurz. Lythraceae.

No. 34. An attractive shrub up to 8 feet high, with long spreading branches, found on open abrupt slopes in sunny situations. During the wet season for 6 to 8 weeks it is covered with brilliant-red flowers about one-half inch long. The opposite leaves are lanceolate and 2 to 4 inches long, usually gray-hairy beneath.

103510. (Undetermined.)

No. 33. An orchid 18 inches high, found along streams.

103511. OUGEINIA DALBERGIOIDES Benth. Fabaceae.

No. 29. An erect tree 20 to 40 feet high, with rather leathery, trifoliate leaves and small but copious pale-pink flowers in short racemes. Native to northern India.

103512. LANTANA CAMARA L. Verbenaceae.

No. 28. From Bajnath, Kangra, Punjab, at 3,000 feet altitude. A herbaceous plant 6 feet tall.

Nos. 103513 to 103515 were collected at Bhadwar, Kangra, Punjab, at 2,000 feet altitude.

103513. (Undetermined.)

No. 13. An exceedingly attractive shrub 7 feet high, found in half shade in forests or in open watered situations. The leaves are dark shining green, and the white to cream-colored flowers have a strangely pleasant fragrance.

103514. (Undetermined.)

No. 18. A shrubby vine up to 30 feet high, found in the open or in semishade. The leaves are attractive, and the showy white flowers have an exquisite fragrance.

103515. DODONAEA VISCOSA (L.) Jacq.

No. 19. A shrub 6 feet high, found on dry slopes.

103516. ARTOCARPUS INTEGRA (Thunb.) L. Moraceae. Jackfruit.

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received July 17, 1933.

Introduced for the use of Department specialists.

103517. TRIFOLIUM PANORMITANUM Presl. Fabaceae. Clover.

From Algeria. Seeds presented by Dr. R. Maire, Government General de l'Algérie Service Botanique, Algiers. Received July 17, 1933.

A clover, native to Algeria, which is said to be valuable for forage. Introduced for the use of Department specialists.

103518. CALOTROPIS GIGANTEA (L.) R. Br. Asclepiadaceae. Giant milkweed.

From India. Seeds presented by W. O'Brien, Hyderabad, Deccan. Received July 20, 1933.

An erect shrubby milkweed, 8 to 15 feet high, native to the Himalayas in India where it ascends to 3,000 feet. The obovate to wedge-shaped leaves are woolly beneath, and the rose-purple flowers are borne in umbels. Some parts of the plant are said to be of value as an insecticide.

103519 and 103520.

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received July 24, 1933.

103519 and 103520—Continued.

103519. *ANNONA BULLATA* A. Rich. Annonaceae.

A tree, native to Cuba, which is related to the sugar-apple and appears to be unusually well adapted to dry soils. The aromatic leaves are used to season stews, and the small, scaly, ovoid-cordiform, scarcely edible fruits, which mature in July, are eaten by pigs.

For previous introduction see 102622.

103520. *MIMUSOPS ROXBURGHIANA* Wight. Sapotaceae.

A large tree, native to India, with broadly elliptic leathery leaves 3 to 4 inches long. The small white axillary flowers are followed by subglobose shining yellow fruits less than an inch in diameter.

103521. *PONCIRUS TRIFOLIATA* (L.) Raf. Rutaceae. **Hardy orange.**

From China. Seeds collected in Lushan, Kiangsi Province, and presented by A. N. Steward, University of Nanking. Received May 10, 1933.

Introduced for the use of Department specialists.

103522. *HYPARRHENIA HIRTA PUBESCENS* (Vis.) Sims. Poaceae.

From Algeria. Seeds presented by Dr. R. Maire, Government General de l'Algerie Service Botanique, Algiers. Received July 24, 1933.

Hemar. A coarse perennial caespitose grass, native to tropical and northern Africa, with fibrous roots and branching culms about 3 feet high. Introduced for the use of Department specialists.

103523 to 103526. *NOTHOFAGUS* spp. Fagaceae.

From New Zealand. Seeds presented by the director of forestry, State Forest Service, Wellington. Received July 25, 1933.

Seeds of trees native to New Zealand, collected at Whangamoa, Nelson, between 600 and 1,200 feet altitude.

103523. *NOTHOFAGUS FUSCA* (Hook. f.) Oerst.

An evergreen tree over 100 feet high, with zig-zag branchlets, broadly ovate, coarsely dentate leaves 1 to 2 inches long, and clusters of small nutlets resembling beechnuts.

For previous introduction see 77460.

103524. *NOTHOFAGUS MENZIESII* (Hook. f.) Oerst.

An evergreen tree which becomes 80 feet high and 5 feet in diameter, with white, silvery bark, roundish, doubly crenate, leathery leaves less than an inch long, and small fruits resembling beechnuts.

For previous introduction see 77461.

103525. *NOTHOFAGUS SOLANDRI* (Hook. f.) Oerst. **Solander's beech.**

A forest tree up to 100 feet high, with small leaves less than an inch long and fruits resembling small beechnuts. This is the most abundant of the New Zealand beeches, forming immense forests on the drier mountain slopes.

103526. *NOTHOFAGUS TRUNCATA* Hort.

Clinker beech. Said to be closely related to *Nothofagus fusca*.

103527 to 103553. *TRITICUM* spp. Poaceae. **Wheat.**

From Australia. Seeds presented by H. Wenholtz, director of plant breeding, Department of Agriculture, Sydney, New South Wales. Received July 25, 1933.

103527 to 103553—Continued.

A collection of wheats which have proved to have some resistance to leaf rust under Australian conditions. Introduced for the use of Department specialists.

103527 to 103551. *TRITICUM AESTIVUM* L. (*T. vulgare* Vill.). **Common wheat.**

103527. *Artigas*. C. 6193.

103528. *Bladette de Besplas*. C. 6148.

103529. *Bordeaux*. C. 6140.

103530. *Cedric*. C. 3909.

103531. *Currimp*. C. 4429.

103532. *Dindiloa*. C. 4990.

103533. *Dookie Gamma*. C. 6409.

103534. *Hatit Inversable*. C. 4206.

103535. *Heine's Kolben*. C. 5137.

103536. *Hornblende*. C. 24.

103537. *Janetzki*. C. 5138.

103538. *John Brown*. C. 12.

103539. *Kenya crossbred*. C. 6040.

103540. *Kenya crossbred*. C. 6042.

103541. *Kenya Governor*. C. 4089.

103542. *Paix*. C. 6147.

103543. *Potenziani*. C. 6136.

103544. *Preparateur Etienne*. C. 6141.

103545. *Reraf*. C. 35.

103546. *Roussillon*. C. 6143.

103547. *Russian* (062). C. 5247.

103548. *Saisette*. C. 6149.

103549. *S. H. J.* C. 3157.

103550. *Varonne*. C. 6146.

103551. *Warchief*. C. 3910.

103552 and 103553. *TRITICUM DURUM* Desf. **Durum wheat.**

103552. *Durity*. C. 6406.

103553. *Durity*. C. 6408.

103554 to 103579. *CITRUS* spp. Rutaceae.

From Morocco. Scions presented by H. Brayard, Directeur de la Station Experimentale, Marrakech. Received July 29, 1933.

Introduced for the use of Department specialists.

103554 to 103558. *CITRUS LIMONIA* Osbeck. **Lemon.**

103554. No. 15. *Bernia*.

103555. No. 16. *Corregia*.

103556. No. 17. *De Ba Ahmed*.

103557. No. 13. *Des 4 saisons*.

103558. No. 14. *Panache*.

103559 to 103563. *CITRUS NOBILIS DELICIOSA* (Ten.) Swingle. **Mandarin orange.**

103559. No. 2. *Commune*.

103560. No. 1. *De Ba Ahmed*.

103561. No. 3. *De Valence*.

103562. No. 5. *Naranjo mandarine*.

103563. No. 4. *Sanguine*.

103554 to 103579—Continued.

103564 to 103579. *CITRUS SINENSIS* (L.) Osbeck.
Orange.

103564. No. 7. *Bernia*.
103565. No. 8. *Bresilienne*.
103566. No. 21. *Calendula punchosa*.
103567. No. 6. *Del Rio*.
103568. No. 24. *De Tetouan*.
103569. No. 23. *Fuya Monuda*.
103570. No. 11. *Indigene Gze-Gzel*.
103571. No. 9. *Indigene Petrignanai*.
103572. No. 22. *Magnum*.
103573. No. 12. *Ovale de Sangre*.
103574. No. 19. *Pajarito*.
103575. No. 20. *Precocede valence*.
103576. No. 26. *Royal*.
103577. No. 10. *Sanguine grosse ronde*.
103578. No. 25. *Torregrossa*.
103579. No. 18. *Viciedo*.

103580 to 103586.

From Arabia. Seeds presented by Mary C. Van Pelt, American mission, Kuwait. Received July 31, 1933.

Desert plants collected near Kuwait.

103580. *ALLIUM* sp. Liliaceae.
103581. *ASTRAGALUS* sp. Fabaceae. **Milkvetch.**
103582. *ASTRAGALUS* sp. Fabaceae. **Milkvetch.**
103583. *RESEDA* sp. Resedaceae.
103584. *SCABIOSA* sp. Dipsacaceae.
103585. (Undetermined.)
103586. (Undetermined.)

103587 and 103588. PHASEOLUS LUNATUS L. Fabaceae. Lima bean.

From Java. Seeds presented by the chief of the Agricultural Institute, Buitenzorg, through K. A. Patton, American consul general, Batavia. Received July 28, 1933.

Kratok beans. Locally grown varieties introduced for the use of Department specialists.

103587. A form with red or pinkish seeds.
103588. A form with white seeds.

103589 and 103590.

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received August 1, 1933.

103589. *BANISTERIA LAURIFOLIA* L. Malpighiaceae.

A shrubby vine 15 to 20 feet long, native to tropical America. The oblong to obovate reticulate leaves are 2 to 6 inches long, and the small yellow flowers, borne in panicles, are followed by red-brown maplelike fruits.

103590. *SOLANUM TUCUMANENSE* Griseb. Solanaceae.

A subtropical shrub about 3 feet high, with stout hairy branches, oval-lanceolate leaves, and small white flowers in few-flowered cymes. Native to Tucumán, Argentina.

For previous introduction see 88259.

103591. MUSA PARADISIACA SAPIENTUM (L.) Kuntze. Musaceae. Banana.

From Palestine. suckers presented by Aaron Khazanoff, Palestine Jewish Colonization Society Haifa. Received August 3, 1933.

Cavendish banana. A commercial variety, considered one of the best in Palestine. Introduced for the use of Department specialists.

103592 to 103597.

From Guatemala. Seeds presented by M. Pacheco, Director General of Agriculture. Received August 1, 1933.

A collection of locally grown seed.

103592. *BARYXYLUM BRASILIENSE* (L.) Pierre. Caesalpinaceae.

A tree up to 80 feet high, with bipinnate leaves of small leaflets and axillary or terminal racemes of small yellow flowers. The orange-colored wood is elastic, tough, and durable and takes on a fine polish. The tree is native to Central America.

For previous introduction see 93579.

103593. *ERYTHRINA* sp. Fabaceae. **Coraltree.**

103594. *RANDIA* sp. Rubiaceae.

103595. *SIDEROXYLON TEMPISQUE* Pittier. Sapotaceae.

A large tree, glabrous throughout, native to El Salvador and Guatemala. The coriaceous elliptical leaves are 2 to 4 inches long on long petioles, and the small green-yellow flowers are in dense clusters on the old wood and are followed by ovoid 1-seeded fruits 1 to 2 inches long.

For previous introduction see 80702.

103596. *TABEUIA* sp. Bignoniaceae.

103597. *XIMENIA AMERICANA* L. Olacaceae. **False sandalwood.**

A widely distributed tropical tree with clustered oblong-obtuse leaves, small yellow flowers, and yellow plumlike acid fruits enclosing a white nut.

For previous introduction see 80499.

103598. PRUNUS LAUROCERASUS L. Amygdalaceae. English cherry-laurel.

Collected in the Capitol Grounds, Washington, D. C., by Paul Russell, of the Bureau of Plant Industry. Received August 5, 1933.

Variety *schipkaensis*. A shrubby form with nearly entire leaves 2 to 5 inches long.

103599 to 103602.

From southern Madagascar. Seeds presented by Henri Perrier de la Bathie, Academie Malgache, Tananarive. Received August 2, 1933.

Nos. 103599 to 103601 were collected at Tulear.

103599. *ALOE ANTANDROI* (Decary) Perrier. Liliaceae.

An aloe from Madagascar, with 4 or 5 simple or sometimes branched stems up to 3 feet long, each bearing a rosette of 15 to 25 ascending recurved leaves 3 to 5 inches long. The reddish flowers, about 1 inch long, are in small spikes on scapes 2 to 4 feet high.

For previous introduction see 88869.

103600. *CAPPARIS GRANDIDIERI* Baill. Cappariaceae.

A tree 20 to 30 feet high, with linear-oblong leathery acuminate leaves 2 inches long and rather large rosy flowers. Native to Madagascar.

103599 to 103602—Continued.

103601. *KALANCHOE GRANDIDIERI* Baill. Crassulaceae.

An arborescent succulent plant, native to Madagascar, with a smooth stem 3 to 6 feet high and entire flat leaves 4 to 6 inches long. At the top of the stem a flower stalk, about 20 inches high, bears a paniclelike cluster of pendulous violet flowers.

For previous introduction see 77908.

103602. *POINCIANA ADANSONIODES* Hort. Caesalpiniaceae.

Collected in dry limestone soil at Manompetsa.

A name for which a place of publication and a description have not been found.

103603 to 103605.

From the Society Islands. Budsticks and plants presented by Harrison H. Smith, Papeari, Tahiti. Received August 8, 1933.

103603. *CITRUS GRANDIS* (L.) Osbeck. Rutaceae. **Grapefruit.**

A variety with green flesh.

103604. *CITRUS GRANDIS* (L.) Osbeck. Rutaceae. **Grapefruit.**

A variety with pink flesh of excellent quality, originally from Sarawak.

103605. *GARDENIA TAITENSIS* DC. Rubiaceae.

Tiare Tahiti. A spineless tropical shrub with opposite obovate leaves and fragrant white flowers, borne singly in the uppermost leaf axils. It is native to the Society Islands, where it grows to perfection on the low atoll islands.

103606 to 103623.

From Tonkin, Indo-China. Seeds grown at the Agricultural Station de Phu-Ho, and presented through the director of the Institut National d'Agronomie Coloniale, Nogent-sur-Marne, France. Received August 3, 1933.

103606 to 103609. *CASSIA* spp. Caesalpiniaceae.

103606. *CASSIA ABSUS* L.

An erect annual tropical legume, about 2 feet high, with small red-yellow flowers. It is native to India and Egypt.

For previous introduction see 93765.

103607. *CASSIA HIRSUTA* L.

An erect annual herb covered with long hairs. The compound leaves are made up of 3 to 5 pairs of ovate leaflets 2 to 3 inches long, and the yellow flowers are borne in axillary racemes. It is native to Brazil.

For previous introduction see 90535.

103608. *CASSIA MIMOSIODES* L.

A sensitive plant, with pea-shaped flowers, which does well in poor dry soil.

For previous introduction see 90546.

103609. *CASSIA PATELLARIA* DC.

A subshrubby perennial with densely pubescent stems 2 to 3 feet high, native to tropical America. The small oblong-linear leaflets are borne in 10 to 25 pairs, and the inconspicuous flowers are in peduncled axillary clusters.

103610. *CROTALARIA CHINENSIS* L. Fabaceae.

A perennial herb 1 to 2 feet high, native to southeastern Asia. The ascending branches are clothed with long brown silky hairs; the simple linear to oblanceolate leaves are 1 to 2 inches long; and the inconspicuous flowers are in densely capitate terminal clusters of 3 to 6.

103606 to 103623—Continued.

103611. *CROTALARIA UNCINELLA* Lam. Fabaceae.

A much-branched shrub over a foot high, with slender branches and terminate leaves composed of oval-obtuse leaflets. The small flowers, in terminal and axillary racemes, are succeeded by small round pea-shaped pods. Native to the island of Bourbon.

103612. *FLEMINGIA CONGESTA* Roxb. Fabaceae.

An erect shrub 4 to 6 feet high, with angular silky branchlets, native to southeastern Asia. The trifoliate leaves have broadly lanceolate leaflets 4 to 6 inches long, and the small flowers, covered by the shining pale-brown silky calyx, are in dense oblong racemes 2 inches long.

For previous introduction see 102760.

103613 to 103622. *MEIBOMIA* spp. Fabaceae.

103613. *MEIBOMIA CAPITATA* (Burm.) Kuntze (*Desmodium capitatum* DC.).

A subshrubby shrub native to southeastern Asia. The somewhat leathery trifoliate leaves have obovate-cuneate leaflets 1 to 2 inches long, green above and covered beneath with silky white hairs. The inconspicuous flowers are borne in dense headlike racemes 1 to 2 inches long.

103614. *MEIBOMIA CEPHALOTES* (Roxb.) Kuntze (*Desmodium cephalotes* Wall.).

A tall shrub with densely silky, acutely angled, zigzag branches and compact umbels of deep-red flowers. It is native to the tropical zone of the eastern Himalayas. Cattle and goats are said to be fond of the leaves.

For previous introduction see 86632.

103615. *MEIBOMIA ELEGANS* (Lour.) Kuntze.

A low shrub or herbaceous perennial with villose stems and compound leaves consisting of three ovate-obtuse leaflets, silky hairy beneath, and 2 to 4 inches long. The small flowers, in dense heads or umbels, are followed by flat three-jointed pods with rounded joints. It is native to Hong Kong.

103616. *MEIBOMIA GANGETICA* (L.) Kuntze (*Desmodium gangeticum* DC.).

A woody herbaceous plant, more or less erect, and 3 to 4 feet high, with oblong leaflets 3 to 6 inches long and copious lateral and terminal flower clusters. Native to the Himalayas up to 5,000 feet, and distributed throughout the East Indies and tropical Africa.

For previous introduction see 65587.

103617. *MEIBOMIA HETEROCARPA* (L.) Kuntze (*Desmodium polycarpum* DC.).

An erect or suberect undershrub found throughout the Himalayas and Burma at altitudes up to 5,000 feet. All of the shrubby species of this genus are said to contain good fibers, used in some cases for papermaking.

For previous introduction see 99742.

103618. *MEIBOMIA LASIOCARPA* (Beauv.) Kuntze (*Desmodium latifolium* DC.).

An erect undershrub 3 to 6 feet high, native to southeastern Asia. The branches are densely clothed with short brown pubescence; the single leathery leaflet, 3 to 6 inches long, is ovate with obscurely undulate margins; and the dense spike-like racemes of small flowers are 2 to 6 inches long.

103619. *MEIBOMIA MAURITIANA* (Willd.) Kuntze (*Desmodium mauritanum* DC.).

A much-branched perennial herb 1 to 3 feet high, native to the island of Mauritius. The trifoliate leaves have firm obovate leaflets 1 inch long, and the small red flowers are in racemes 2 to 3 inches long.

103606 to 103623—Continued.

103620. *MEIBOMIA PULCHELLA* (L.) Kuntze
(*Desmodium pulchellum* Benth.).

An erect hairy shrub with trifoliolate leaves and spike-like clusters of red flowers. It is native to southeastern Asia.

103621. *MEIBOMIA RETICULATA* (Champ.) Kuntze (*Desmodium reticulatum* Champ.).

A tall shrub with compound leaves composed of oval, bright-green leaflets an inch long and small reddish flowers in terminal racemes 6 inches long. Native to Hong Kong and allied to *Meibomia concinna*.

103622. *MEIBOMIA TRIQUETRA* (L.) Kuntze (*Desmodium triquetrum* DC.).

A handsome shrub with triangular branches, stiff leathery leaflets, and long axillary and terminal racemes of red flowers. It is found in most places in eastern and southern India, and also in China and the Philippines.

103623. *URARIA CRINITA* (L.) Desv. Fabaceae.

An erect somewhat shrubby perennial 3 to 6 feet high, native to southeastern Asia. The compound leaves are made up of 3 to 7 leathery oblong leaflets 4 to 6 inches long, and the small purple flowers are borne in dense cylindrical racemes 12 to 15 inches long and nearly 2 inches in diameter.

103624. *CARPOTROCHE BRASILIENSIS* (Raddi) Endl. Flacourtiaceae.
Sapucainha.

From Pernambuco, Brazil. Seeds collected by Rev. Bento Pickel, and presented by Father Hugh O'Neill, of the Catholic University, Washington, D. C. Received August 8, 1933.

A tropical tree 30 to 50 feet high, with oblong leaves about 4 inches long and few-flowered racemes of small white flowers. The fruits are about 4 inches in diameter. A sirup said to cure leprosy and an ointment used for skin affections are prepared from the seeds.

For previous introduction see 95500.

103625. *GOSSYPIUM BARBADENSE* L.
Malvaceae. **Sea-island cotton.**

From the South Sea Islands. Seeds presented by Earl F. Wallace. Received August 5, 1933.

Introduced for the use of Department specialists.

103626. *LICUALA* sp. **Phoenixaceae.**
Palm.

From Annam, Indo-China. Seeds presented by M. Pollane, Institut des Recherches Agronomiques de l'Indochine, Division de Botanique Forestiere, Saigon. Received August 12, 1933.

The licualas are rather low palms, sometimes almost stemless, with terminal fan-shaped leaves.

103627. *ALLIUM SATIVUM* L. **Liliaceae.**
Garlic.

From China. Bulblets presented by T. Y. Wang, head of the horticultural department of the Sun Yat Sen Tomb and Memorial Park Commission. Received August 15, 1933.

Introduced for the use of Department specialists.

103628 and 103629.

From Arabia. Seeds presented by K. S. Twitchell, New York City, through William A. Taylor, Chief, Bureau of Plant Industry. Received August 15, 1933.

103628 and 103629—Continued.

103628. *CASSIA AURICULATA* L. **Caesalpinaceae.**

A tall shrub native to southeastern Asia. The compound leaves, 3 to 4 inches long, are made up of 16 to 24 rigid leathery ovate-oblong leaflets about 1 inch long, covered beneath with fine gray down. The bright-yellow flowers, 1 inch long, are borne in large racemes.

103629. *CRACCA VILLOSA PURPUREA* (L.) Kuntze.

A purple-flowered, herbaceous perennial of low spreading habit which is native to tropical Africa. The plant is useful as a cover crop and also as a green manure.

For previous introduction see 97871.

103630. *URGINEA INDICA* (Roxb.) Kunth. **Liliaceae.**

From India. Seeds presented by the forest botanist, Forest Research Institute, Dehra Dun. Received August 16, 1933.

A bulbous perennial 12 to 18 inches high, native to India and tropical America. The flower scape, appearing before the linear leaves, bears a raceme 6 to 12 inches long of drooping campanulate flowers an inch long, greenish white with green nerves.

103631 to 103645. *ALLIUM* spp. **Liliaceae.**

From Manchuria. Seeds purchased from L. Ptitin, Harbin. Received August 16, 1933.

A collection of locally grown alliums, introduced for the use of Department specialists.

103631 to 103642. *ALLIUM CEPA* L. **Onion.**

103643 and 103644. *ALLIUM PORRUM* L. **Leek.**

103645. *ALLIUM SCHOENOPRASUM* L. **Chives.**

103646 to 103650. *IPOMOEA BATATAS* (L.) Poir. **Convolvulaceae.**
Sweetpotato.

From Australia. Tubers presented by Dr. H. Wenzholz, Department of Agriculture, Sydney, New South Wales. Received August 19, 1933.

A collection of varieties introduced for the use of Department specialists.

103646. *Ashburn.*

103647. *Director.*

103648. *Farmer's Special.*

103649. *Rosella.*

103650. *Wannop.*

103651. *VIGNA SINENSIS* (Torner) Savi.
Fabaceae. **Cowpea.**

From Australia. Seeds presented by Dr. Alexander McTaggart, senior plant introduction officer, Division of Plant Industry, Canberra. Received August 18, 1933.

Giant. A commercial variety from the Cairns district, Queensland.

103652 and 103653. *JUGLANS REGIA* L.
Juglandaceae. **Persian walnut.**

From Australia. Trees presented by L. J. Hicks, Highbury East, South Australia. Received August 21, 1933.

Australian varieties, introduced for the use of Department specialists.

103652. *Freshford Gem.*

103653. *Kelvin.*

103654. EUCALYPTUS GOMPHOCEPHALA
DC. Myrtaceae. Tooart.

From Australia. Seeds purchased from Stinton & Son, Geelong, Victoria. Received August 19, 1933.

A tree, native to Australia, of fairly rapid growth, which reaches a height of 100 feet. The very heavy, tough and strong wood is used for shipbuilding, bridges, and docks. This species will endure but little frost and prefers limestone soils.

For previous introduction see 48989.

103655. CANAVALLA RUSIOSPERMA
Urban. Fabaceae.

From Haiti. Seeds presented by H. D. Barker, Service National de la Production Agricole et de l'Enseignement Rural, Port-au-Prince. Received August 15, 1933.

Quary A high-climbing herbaceous perennial, sometimes 4 inches in diameter at the base, native to the West Indies. The trifoliate leaves have ovate leaflets 4 inches long; the red flowers, an inch across, are borne in racemes 10 inches long; and the beanlike pods, 10 inches long, enclose bright crimson suborbicular seeds nearly an inch in diameter.

103656. AVENA BYZANTINA Koch. Poa-
ceae. Oats.

From Argentina. Seeds presented by the División de Estaciones Experimentales Dirección de Agricultura, Ministerio de Agricultura, Buenos Aires. Received August 24, 1933.

A local variety introduced for the use of Department specialists.

103657 to 103664. AVENA SATIVA L.
Poaceae. Oats.

From France. Seeds presented by Florimond Despres, Capelle par Templeuve (Nord). Received August 24, 1933.

A collection of oat varieties introduced for the use of Department specialists.

103657. *Gruyonnaise*.

103658. *Grise de Beauce*.

103659. *Ligowo*.

103660. *Logowo Bril*.

103661. *Pluie d'Or*.

103662. *Pluie d'Or II*.

103663. *S. F.*

103664. *Von Lockow*.

103665 to 103687. AVENA spp. Po-
aceae.

From Australia. Seeds presented by the manager of the Wagga Experiment Farm, Bomen, New South Wales. Received August 24, 1933.

A collection of named varieties, introduced for the use of Department specialists.

103665 to 103670. *AVENA BYZANTINA Koch.*

103665. *Amarilla I.* W 812.

103666. *Amarilla II.* W 813.

103667. *Argolis.* W 1038.

103668. *Baldwin.* W 917.

103669. *Cyprus White.* W 985.

103670. *Romano 6.* W 974.

103671 to 103683. *AVENA SATIVA L.*

103671. *Adonis.* W 1146.

103672. *Advocate.* W 1046.

103665 to 103687—Continued.

103673. *Barwon.* W 1224.

103674. *Binda.* W 1035.

103675. *Bradley.* W 884.

103676. *Burrage.*

103677. *Florest.* W 803.

103678. *Hiver III.* W 918.

103679. *Hjarn.* W 1635.

103680. *Stark's Hooiemaker.* W 896.

103681. *Westdale.* W 1138.

103682. *Weston.* W 1012.

103683. *Weston.* W 1531.

103684 to 103687. *AVENA spp.*

103684. *Biharia.* W 802.

103685. *Imbros Island.* W 1655.

103686. *Saisine.* W 1651.

103687. *Winton.* W 900.

103688 to 103694. TRIFOLIUM RESUPI-
NATUM L. Fabaceae.

Persian clover.

From the Union of Soviet Socialist Republics. Seeds presented by Dr. A. I. Belov, Central Plant Breeding Station, Tashkent, Turkistan. Received August 21, 1933.

A collection of widely varying strains, introduced for the use of Department specialists.

Native name *Shabdar*.

103688. No. 2320. From Gijdurán, near Bokhara, Turkistan.

103689. No. 3172. From the District of Saman, northern Persia.

103690. No. 3173. From the District of Damghan, northern Persia.

103691. No. 3175. From the District of Tsfahan, central Persia.

103692. No. 3176. From Qum, central Persia.

103693. No. 3187. From Shahrud, District of Damghan, northern Persia.

103694. No. 2743. From northern Afghanistan.

103695 and 103696. ALLIUM SATIVUM
L. Liliaceae. Garlic.

From Burma, India. Bulbs presented by A. McLean, deputy director of agriculture, East Central Circle, Pynmana. Received August 24, 1933.

103695. "Indian type", a garlic with smooth bulbs, presented by D. Rind, economic botanist, Agricultural College, Mandalay, at the request of Mr. McLean.

103696. *Shan garlic*.

103697. GLADIOLUS sp. Iridaceae.

From Portugal. Seeds presented by John Gossweiler, Loanda, Angola, Africa. Received August 25, 1933.

103698. ILEX PARAGUARIENSIS St. Hil.
Aquifoliaceae. Yerba maté.

From Paraguay. Seeds presented by Dr. C. Fiebrig, director, Botanical Garden, Asuncion. Received August 23, 1933.

A tender evergreen Paraguayan holly, the leaves of which are dried and used to make a beverage called maté, or Paraguay tea.

For previous introduction see 101516.

103699. UVARIA RUFA (Dunal) Blume.
Annonaceae.

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received August 23, 1933.

A much-branched shrub, native to Java, with a stem 4 to 6 inches in diameter and alternate, elliptic-oblong, acute or obtuse leaves 2 to 5 inches long. The solitary flowers are purplish red and about 1 inch wide. The oblong kidney-shaped fruits, about 2 inches long, are in bunches of 18 to 20 with scant whitish flesh which is juicy, aromatic, and subacid without a trace of sugar; they contain many seeds.

For previous introduction see 90938.

103700 to 103714.

From India. Seeds presented by D. N. Mahta, economic botanist, Nagpur, Central Provinces. Received August 24, 1933.

A collection of locally grown vegetables introduced for the use of Department specialists.

103700. ALLIUM CEPA L. Liliaceae. Onion.

103701. ALLIUM SATIVUM L. Liliaceae. Garlic.

103702. CUCUMIS SATIVUS L. Cucurbitaceae. Cucumber.

A long green variety.

103703. CUCUMIS SATIVUS L. Cucurbitaceae. Cucumber.

A long white variety.

103704. CUCURBITA MOSCHATA Duchesne. Cucurbitaceae. Cushaw.

103705. LAGENARIA LEUCANTHA (Duchesne) Rusby (L. vulgaris Seringe). Cucurbitaceae. Calabash gourd.

103706. LUFFA ACUTANGULA (L.) Roxb. Cucurbitaceae. Singkwa towelgourd.

Bottle gourd.

103707. LUFFA CYLINDRICA (L.) Roemer. Cucurbitaceae. Suakwa towelgourd.

Sponge gourd.

103708. MOMORDICA CHARANTIA L. Cucurbitaceae. Balsam-pear.

Bitter gourd.

103709 and 103710. PISUM SATIVUM L. Fabaceae. Pea.

103711. SOLANUM MELONGENA L. Solanaceae. Eggplant.

A purple-fruited variety.

103712. SOLANUM MELONGENA L. Solanaceae. Eggplant.

A white-fruited variety.

103713. SPINACIA OLERACEA L. Chenopodiaceae. Common spinach.

103714. TRICHOSANTHES ANGUINA L. Cucurbitaceae. Snakegourd.

103715 to 103721. SACCHARUM OFFICINARUM L. Poaceae. Sugarcane.

From the Philippine Islands. Cuttings presented by the Philippine Sugar Association, Manila. Received September 2, 1933.

Introduced for the use of Department specialists.

103715. PSA 15. 103719. PSA 35.

103716. PSA 18. 103720. PSA 36.

103717. PSA 19. 103721. PSA 37.

103718. PSA 24.

103722. PHYSALIS PERUVIANA L. Solanaceae. Peruvian groundcherry.

From Mexico. Seeds presented by A. C. Baker, principal entomologist, United States Department of Agriculture, Bureau of Entomology, Mexico City. Received August 31, 1933.

Cape gooseberry or husk tomato. A shrub native to tropical and temperate America, but widely naturalized in many countries of the warmer zones. It reaches a height of about 4 feet, the fruits are oval or nearly round, up to an inch in length, and deep yellow when fully ripe. They are used for preserving, but are too acid to be eaten out of hand.

For previous introduction see 91043.

103723. PRUNUS sp. Amygdalaceae.

From the Union of Soviet Socialist Republics. Seeds presented by Vale Lichagov, horticulturist, Sochi, Caucasus. Received September 2, 1933.

A strong and rapid-growing wild cherry, collected in the middle mountain zone of Sochi District. It is well adapted for growing in heavy soil in a humid climate.

103724 to 103732. Phoenicaceae. Palm.

From Ceylon. Seeds presented by T. H. Parsons, curator, Royal Botanic Garden, Peradeniya. Received August 31, 1933.

103724. ARCHONTOPHOENIX ALEXANDRAE (F. Muell.) Wendl. and Drude.

A pinnate-leaved palm 70 to 80 feet high, with leaves several feet long and lanceolate, usually entire, leaflets 1 to 2 feet long and whitish beneath. The yellow-green flowers are borne in a cluster about 1 foot long and are followed by small round dry fruits. It is native to Queensland, Australia.

For previous introduction see 98454.

103725. BACTRIS PALLIDISPINA Mart.

A slender palm, 10 to 20 feet high, with the stems in clusters, native to Brazil. The pinnately divided leaves, made up of linear-lanceolate segments 8 to 12 inches long, are 5 to 9 feet long, and the petioles are thickly covered with black-tipped yellow spines 1 to 3 inches long. The yellow-green flowers are followed by green ovoid fruits 1 to 2 inches in diameter.

103726. CALYPTROGYNE OCCIDENTALIS (Swartz) G. Maza. (C. swartzii Becc.).

A beautiful and rare palm with a straight smooth stem, sometimes reaching a height of 50 feet. The pinnate leaves are from 8 to 12 feet long.

For previous introduction see 101257.

103727. CARYOTA MITIS Lour.

A palm, native to the Malay Peninsula, 15 to 20 feet high, which sends up suckers from the base. The pinnate leaves, 6 to 9 feet long, are divided into wedge-shaped segments, and the globular purple fruits are about the size of a cherry.

For previous introduction see 103159.

103728. DIDYMSPERMA PORPHYROCARPON (Mart.) Wendl. and Drude.

A reedlike palm 3 to 6 feet high, native to Java. The pinnately divided leaves, 5 to 8 feet long, are glaucous beneath and are made up of narrowly oblong segments 6 inches long, often 2- or 3-lobed at the tip. The oblong purple fruits are about 1 inch long.

103729. LOXOCOCCUS RUPICOLA (Thwaites) Wendl. and Drude.

A pinnate-leaved palm 20 to 40 feet high, native to Ceylon, where it grows between 1,000 to 5,000 feet altitude. The leaves are 5 to 6 feet long, and the blood-red flowers are followed by globular fruits about 1 inch in diameter.

For previous introduction see 30743.

103724 to 103732—Continued.**103730. ONCOSPERMA FASCICULATUM** Thwaites.

The *Katu-kiul* palm of Indo-Malaya is one of the graceful cluster palms which make magnificent groups 40 to 60 feet high in the Peradeniya Gardens. The stems are spiny, making it unsuitable for small gardens, but it is useful for large parks.

For previous introduction see 94090.

103731. PHOENICOPHORUM BORSIGIANUM (Koch) Stuntz.

This noble palm, famous for its beauty, is native to the Seychelles Islands. The mature palm is wholly destitute of spines, whereas in the young state the deep orange-red petioles are clothed with black needlelike spines 1 to 3 inches long. The young leaves are orange beneath and mottled with orange spots above. The difference between the young and the mature plants is so great that the uninitiated would consider them different species. The flower spike is from 3 to 6 feet long, divided into numerous slender branches, swollen at the base and densely covered above with yellow flowers, each about one-fourth of an inch in diameter.

For previous introduction see 103002.

103732. PHOENIX ZEYLANICA (Trimen.).
Ceylon date palm.

A pinnate-leaved palm, native to Ceylon, with a stem 8 to 20 feet high and a crown of rather short leaves made up of numerous linear-lanceolate, light-green leaflets 7 to 10 inches long. The obovoid-oblong, violet-blue, edible fruits are one-half inch long.

For previous introduction see 93325.

103733. EUPHORBIA sp. *Euphorbia-ceae.* **Spurge.**

From India. Seeds collected on the northern slopes of the Wyndhian Mountains, Jhansi Division, United Provinces, and presented by Dr. Leon Croizat, New York, N. Y. Received September 5, 1933.

Tuhahr. Of possible value as a rubber plant.

103734. CARYOTA CUMINGII Lodd.
Phoenicaceae. **Palm.**

From Cuba. Seedlings presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received September 5, 1933.

A palm, native to the Philippine Islands, with a tall, stout, spineless ringed trunk about 20 feet high and a few spreading bipinnate leaves and small globular fruits.

For previous introduction see 72950.

103735 to 103738. MACADAMIA TERNI-FOLIA F. Muell. *Proteaceae.*
Queensland-nut.

From Australia. Seeds presented by S. M. Greer, Murwillumbah, Tweed Rio, New South Wales. Received September 5, 1933.

An evergreen tree up to 50 feet high, native to shady jungles in the eastern part of Australia where the soil is rich and the annual rainfall is over 60 inches. It is cultivated for its edible nuts, which have sweet white flesh with the flavor of chestnuts, incased in a shell that is typically very hard.

103735. A variety with a thin shell.

103736. An everbearing variety.

103737. *Mammoth.*

103738. A variety with a medium hard shell and large nuts.

103739. GUILIELMA UTILIS Oerst.
Phoenicaceae. **Pejibaye.**

From Cuba. Seeds presented by Robert M. Grey, superintendent, Atkins Institution of the Arnold Arboretum, Soledad, Cienfuegos, through F. G. Walsingham. Received September 5, 1933.

A pinnate-leaved palm, native to tropical regions of the Western Hemisphere. Its straight slender stem, about 6 inches in diameter, becomes 60 feet high and is armed from the ground upward with stiff, very sharp, black spines about 2 inches long. The racemes, 18 to 24 inches long, of small sessile yellow-white flowers are produced from the trunk of the palm immediately below or among the lower leaves and are protected by erect spathes. When the fruit is mature the raceme weighs over 25 pounds, and often 5 or 6 such racemes are produced in a single crop. The individual fruits are conical or ovoid, vary from 1 to 2 inches in length, and have dry mealy flesh of a pale-orange or yellow color. It is one of the important food plants of the Tropics.

For previous introduction see 65054.

103740 and 103741.

From Arizona. Seeds presented by the Boyce Thompson Southwestern Arboretum, Superior, through F. J. Crider. Received April 9, 1932. Numbered in September 1934.

103740. FEROCACTUS WISLIZENI (Englm.) Britt. and Rose. *Cactaceae.*

A large cactus, at first globular, but becoming cylindric and finally reaching a height of over 5 feet when old. The numerous ribs, often 25 or more, are 1¼ inches high, beset with brown-felted areoles from which arise subulate, strongly hooked red or white spines about 2 inches long. The yellow or sometimes red flowers are over 2 inches long, and the oblong yellow fruits are nearly as long as the flowers. Native to northern Mexico and the southwestern United States.

103741. NEOMAMMILLARIA MACDOUGALLII (Rose) Britt. and Rose. *Cactaceae.*

A flattened globular cactus 3 to 4 inches in diameter, with a carrot-shaped root. The axils of the flattened, somewhat-angled tubercles often bear long white wool, and from the tops of the tubercles appear 10 to 12 radial spines, white or yellowish, and about one-half inch long. The cream-colored flowers are an inch or more long and are followed by club-shaped red fruits. Native to southeastern Arizona.

103742. BLIGHIA SAPIDA Koen. *Sapindaceae.* **Akee.**

From Trinidad. Seeds presented by H. Bruins-Lich, Department of Agriculture. Received September 11, 1933.

A tree, native to the Guinea Coast of Africa, which has become naturalized in the West Indies. The triangular bright-red capsule contains shiny black seeds, each partly surrounded by a yellow fleshy aril. The fruit is said to be poisonous when immature or overripe, but the fleshy portion (aril) is eaten after being boiled or fried.

For previous introduction see 102278.

103743. COLUTEA ORIENTALIS Mill.
Fabaceae. **Oriental bladder-senna.**

From the Union of Soviet Socialist Republics. Seeds presented by the director of the Tiflis Botanic Garden, Tiflis, Georgia. Received January 7, 1932. Numbered in September 1933.

A shrub 6 to 8 feet high, with pubescent branchlets, native to the Caucasus region. The compound leaves are made up of 7 to 11 broadly ovate leaflets 4 to 6 inches long. The pea-shaped, red-brown flowers, in racemes of 2 to 5, are followed by bladdery pods 1 to 2 inches long, usually suffused with violet purple.

103744 to 103746. PRUNUS spp. Amygdalaceae.

From Palestine. Seeds presented by Asaph Grasovsky, Department of Agriculture and Forests, American colony, Jerusalem. Received September 13, 1933.

Locally developed varieties, introduced for the use of Department specialists.

103744. PRUNUS ARMENIACA L. Apricot.

Clabisee. From the horticultural station at Jerusalem.

103745. PRUNUS sp.

Karasia. A plum grown in the village of Wallageh.

103746. PRUNUS sp.

Swedah. A plum from the village of Artess.

103747 and 103748.

From Straits Settlements. Seeds presented by the assistant curator, Botanic Gardens, Singapore. Received September 13, 1933.

103747. LIVISTONA SUBGLOBOSA (Hassk.) Mart. Palm.

A medium-sized palm, native to Java, with palmately divided leaves having segments 10 to 12 inches long which are two-parted nearly to the base into linear pendulous lobes. The small, very dark violet fruits, one-half inch in diameter, are borne in a panicle on a spadix about a foot long.

For previous introduction see 103166.

103748. PALAQUIUM GUTTA (Hook.) Burck. Sapotaceae. Guttapercha tree.

A tree up to 100 feet high, native to the Malay Peninsula, and a source of guttapercha. The oblanceolate coriaceous leaves, 3 to 5 inches long, are dark green above and golden-coppery beneath. The small white flowers, in clusters of 3 to 5 in the axils or on the bare parts of the branches, are followed by oblong red pubescent fruits nearly an inch long.

103749 GARCINIA CORNEA L. Clusiaceae.

From the Canal Zone. Seeds presented by J. E. Higgins, director, Canal Zone Experiment Gardens, Summit. Received September 18, 1933.

A small erect tree native to the Malay Archipelago. The oblong or oblong-lanceolate leathery shining leaves are 4 to 6 inches long, and the roundish, dull rusty yellow fruits are the size of a small orange.

103750 to 103765.

From the Union of South Africa. Trees purchased from H. F. Kothe, Edendale, Natal. Received September 19, 1933.

Introduced under the following varietal names for the use of Department specialists.

103750 to 103753. AMYGDALUS COMMUNIS L. Amygdalaceae. Almond.**103750. Britz.****103751. Harriott Seedling.****103752. Mission Princess.****103753. Rosens Levelling.****103754 to 103759. AMYGDALUS PERSICA L. Amygdalaceae. Peach.****103754. Alexander Jewell.****103755. Bells November.****103756. Hertzog.****103750 to 103765—Continued.****103757. Killiekrankie.****103758. Schoongezicht.****103759. Van Rensburg Late.****103760 to 103764. MALUS SYLVESTRIS Mill. Malaceae. Apple.****103760. Beyers.****103761. Eccleville Pippin.****103762. Rokewood.****103763. Statesman.****103764. Tullis.****103765. PRUNUS ARMENIACA L. Amygdalaceae. Apricot.****Alpha.****103766. THALICTRUM sp. Ranunculaceae. Meadowrue.**

From Sitkalidak Island, Alaska. Seeds purchased from Walter J. Eyerdam, Seattle, Wash. Received December 5, 1931. Numbered in 1933.

103767. BUMELIA sp. Sapotaceae.

From British Guiana. Seeds presented by J. G. Myers, Rupununi Savannas, through David Fairchild. Received September 15, 1933.

Wichabai tree. A small tropical tree with edible black berries nearly as large as a cherry and green delicious pulp resembling that of a plum. The latex is sticky.

103768. EUONYMUS ALATUS (Thunb.) Rupr. Celastraceae.**Winged euonymus.**

From Zenkoku, Chosen. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received December 9, 1929. Numbered in September 1933.

A spreading shrub up to 5 feet high, with corky branches, sharply toothed elliptic leaves about 2 inches long, and clusters of yellow flowers followed by small two-seeded bright-red fruits.

103769. GORDONIA LASIANTHUS Ellis. Theaceae. Loblolly-bay.

From England. Plants purchased from V. E. Gauntlett & Co., Chiddingfold, Surrey. Received September 23, 1933.

An evergreen tree up to 60 feet high, but usually shrubby in cultivation. The obovate-lanceolate leaves, 4 to 6 inches long, have crenate margins, and the large white flowers, appearing in July and August, are 2 to 3 inches across. Native to the southeastern United States.

103770. (Undetermined.)

From Annam, Indo-China. Seeds presented by M. Poilane, Institut des Recherches Agronomiques de l'Indochine, Division de Botanique Forestiere, Saigon. Received August 12, 1933.

A shrub that may have value as a stock plant for *Coffea arabica*.

103771. STRYCHNOS SPINOSA Lam. Loganiaceae. Kaffir-orange.

From Madagascar. Seeds presented by Henri Perrier de la Bathie, Academie Malgache, Tananarive. Received September 25, 1933.

Piriformis. A variety of the Kaffir orange with pear-shaped fruits. This is a low spiny tree, native to tropical Madagascar. The slightly leathery ovate to suborbicular leaves are 2 to 3 inches long, and the small greenish flowers, borne in dense terminal cymes, are followed by orange-red fruits, usually globular, with edible flesh.

103772 to 103776.

From China and Japan. Seeds collected by P. H. Dorsett and W. J. Morse, agricultural explorers, Bureau of Plant Industry. Received in 1929 and 1930. Numbered in September 1933.

103772. CELASTRUS ARTICULATUS Thunb. Celastraceae. Oriental bittersweet.

No. 7228. Collected in the Yung Lo Ming Tomb, Nankow, China, September 19, 1930. A vine which climbs to about 20 feet. The yellow husks of the fruit persist but open, showing the red fruit.

For previous introduction see 90658.

103773. EUONYMUS HAMILTONIANUS Wall. Celastraceae.

No. 7248. From Chinglungchiao, China, September 21, 1930. A large Himalayan shrub which under favorable circumstances becomes a moderate-sized tree, 30 to 35 feet high, with a short straight trunk 4 to 5 feet in circumference. The clusters of greenish-white flowers are followed by yellow capsules, the seeds of which are entirely surrounded by a scarlet aril. The fruit begins to ripen in August, and the leaves are brilliantly colored in the autumn.

For previous introduction see 90660.

103772 to 103776—Continued.**103774. QUERCUS SERRATA Thunb. Fagaceae. Oak.**

No. 1480. Collected near Kawazoe, Japan, October 12, 1929. A white oak up to 70 feet high, native to Japan, Chosen, and China. The oblong ovate leaves are lustrous bright green and hold their color until late in the autumn. It is usually shrubby under cultivation.

For previous introduction see 90795.

103775. EUONYMUS MAACKII Rupr. Celastraceae.

No. 1563. From Keijo, Chosen, October 27, 1929. A large shrub or small tree with narrowly ovate leaves about 3 inches long and small clusters of pink, four-lobed fruits which have orange-red arils. Native to northeastern Asia.

For previous introduction see 92050.

103776. EUONYMUS JAPONICUS L. f. Celastraceae. Evergreen burningbush.

No. 3156. From Tokyo, Japan, December 13, 1929. An upright shrub 6 to 8 feet high, native to Japan. The thick evergreen obovate leaves are 1 to 3 inches long, and the small greenish-white flowers are followed by depressed-globose pink capsules.

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