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# Plant Inventory No. 135 

UNITED STATES DEPARTMENT OF AGRICULTURE
Washington, D. C., October 1949
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## PLANT MATERIAL INTRODUCED BY THE DIVISION OF PLANT EXPLORATION AND INTRODUCTION, BUREAU OF PLANT INDUSTRY, ${ }^{1}$ APRIL 1 TO JUNE 30, 1938 (Nos. 128323 to 129590)

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## INTRODUCTORY STATEMENT

This inventory, No. 135, is a record of the plant material (Nos. 128323 to 129590) received by the Division of Plant Exploration and Introduction during the period from April 1 to June 30, 1938.
The manuscript was prepared under the supervision of Paul Russell, who has checked or identified the incoming seed materials and has verified the botanical nomenclature and descriptive notes.

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## INVENTORY

Note.-This inventory is a historical record of plant material introduced for Department and other specialists. It is not to be considered as a list of plant material for distribution.

128323 to 128329. Zea mays L. Poaceae.
Corn.
From Bolivia. Seeds presented by Rev. Verne D. Roberts, Bolivian Indian Mission, Cochabamba. Received April 6, 1938.
Received without notes.

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## 128330 to 128337.

From Germany. Plants purchased from L. Späth, Baumschulenweg, Berlin. Received April 8, 1938.

128330. Malus sylvestris Mill. Malaceae.<br>Apple. Bohnapfel Findling.<br>128331 to 128336 . Prunus spp. Amygdalaceae.<br>\section*{128331. Prunus sp.}<br>Kleine Ammer cherry.<br>128332 to 128335. Prunus avium L.<br>Sweet cherry.<br>128332. Knaufskirsche.<br>128333. Schmahlfelds Schwarze.<br>128334. Spanische Knorpelkirsche.<br>128335. Wils Früne Herzkirsche.<br>128336. Prunus domestica L.<br>Common plum. Königsbacher Frühzwetsche.<br>128337. Pyrus communis L. Malaceae.<br>Common pear. Solaner.

128338. Lycopersicon esculentum Mill. Solanaceae. Tomato.

From Canada. Seeds presented by the McFayden Seed Co., Winnipeg, Manitoba. Received April 8, 1938.
No. 926. Harkness tomato.

## 128339. Agave parviflora Torr. Amaryllidaceae.

From Arizona. Plants collected by R. H. Peebles and H. J. Fulton, United States Field Station, Sacaton. Received April 2, 1938.
No. 11444. May 4, 1938, at 4,600 feet altitude, on the road between Ruby and Nogales, Santa Cruz County. A small stemless globose agave with many ascending, gray-dotted, green leaves 4 inches long and $1 / 4$ of an inch wide and small greenish-white flowers in an inflorescence about 5 feet long. Native to Mexico.
128340. Juglans nigra L. Juglandaceae.

Black walnut.
From Canada. Scions presented by G. H. Carson, Islington, Ontario. Received April 14, 1938.
Troup. A black walnut from Jordan Station, Ontario, overlooking Lake Ontario. This nut is decidedly superior to the Learn. The nut is large, the shell thin, the meats very fat, of excellent flavor and loose in the shell.

## 128341. Impatiens balsamina L. Impatientaceae. Garden balsam.

From Sweden. Seeds presented by Dr. C. Skottsberg, Director, Botanic Garden, Göteborg. Received April 5, 1938.
For previous introduction see 127949.

## 128342. Impatiens roylei Walp. Impatientaceae.

Snapweed.
From Sweden. Seeds presented by the Director, Botanic Garden, Upsala. Received April 11, 1938.
For previous introduction see 127781.
128343. Mentzelia conzattii Green. Loasaceae.

From Oaxaca, State of Oaxaca, Mexico. Seeds presented by David Barry, Jr., Los Angeles, Calif. Received April 6, 1938.
A tall shrub with oblong-lanceolate leaves up to about 6 inches long and showy bright-yellow flowers almost 2 inches across. Native to Oaxaca, Mexico.

## 128344. Jacaranda caucana Pittier. Bignoniaceae. Gualanday.

From Colombia. Seeds presented by Dr. Vidal Y. Guitart, Escuela Superior de Agricultura Tropical, Cali, through David Fairchild, Coconut Grove, Fla. Received April 11, 1938.
An erect deciduous tree, native to the Cauca Valley, Colombia, where it is a favorite with the inhabitants because of its blue flowers. These are $1 \frac{1}{2}$ inches long, borne in large terminal panicles in summer just after the large pinnate leaves have fallen.

For previous introduction see 124732.

## 128345. Coleds frederici G. Taylor. Menthaceae.

From England. Seeds purchased from Carters Tested Seeds Ltd., Raynes Park, London S. W. 20. Received April 12, 1938.
An annual or biennial fleshy coleus up to about 4 feet high, native to bushy situations in Angola, western tropical Africa. The broadly ovate, cordate, pubescent leaves are nearly 3 inches in length, and the numerous small, deepblue fragrant flowers are attractively arranged in oblong panicles about 10 inches long. As a winter-blooming greenhouse plant, this elegant coleus has been very popular in England.

## 128346 to 128349. Citrus spp. Rutaceae.

From France. Seeds and budwood presented by John Asch, Nice. Received April 15, 1938.
128346. Citrus sinensis (L.) Osbeck. Orange. Orange de Nice. (Budwood.)
128347. Citrus sinensis (L.) Osbeck. Orange.

Bigardier. A heavy bloomer whose large white flowers are sold for the cut-flower trade and also are used for perfume. (Budwood.)
128348. Citrus sp.

Orange Sauvage. A wild orange, origin unknown, growing on the grounds of the Ministry of Agriculture experiment station at Villa Thuret, on the Cap d'Antibes. The seedlings of this tree are used as stock by the nurserymen in the district. (Budwood.)
128349. Citrus sp.

Orange Sauvage. Seeds. [See 128348 for description.]
128350. Prunus subhirtella Miquel. Amygdalaceae. Higan cherry.

From California. Scions presented by W. B. Clarke \& Co., San Jose. Received April 2, 1938.
Yae-benishidare. A double-pink, pendulous variety of the Higan cherry.
128351 to 128360. Zea mays L. Poaceae.
Corn.
From Peru. Seeds presented by Dr. A. Weberbauer, Estacion Experimental Agricola de La Molina, Lima. Received April 2, 1938.
128351. Uhina. A yellow corn from Granja Escuela Experimental del Kcaira, Cuzco.
128352. A yellow corn from the market at Lima.
128353. A white corn from the market at Lima.
128354. Paraccay. A white corn from Granja Escuela Experimental del Kcaira, Cuzco.
128355. Confite. Originally from Cuzco, Peru.
128356. Oristal. From the market at Lima.
128357. De Gallina. From the market at Lima.
128358. A purple corn from the market at Lima.

## 128351 to 128360-Continued

128359. Culli. A purple corn from Granja Escuela Experimental del Kcaira, Cuzco.
128360. Saccsa Azotado. From Granja Escuela Experimental del Kcaira, Cuzco.

## 128361 to 128365. Malus sylvestris Mill. Malaceae.

From England. Plants purchased from W. Hopwood \& Son, Cheltenham. Received April 4, 1938.

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128361. Joybells. 128364. The Queen .
128362. Langley Pippin. 128365. Tibberton Codlin.
128363. Stirling Castle.
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128366. Amygdalus persica L. Amygdalaceae.

Peach.
From Germany. Scions purchased from Philip W. Werner, Reichelscheim, Odonwald. Received April 4, 1938.
Proskauer Frühpfirsich.
128367 to 128377. Phaseolus spp. Fabaceae. Bean.
From Poland. Seeds presented by Dr. L. Kaznowski, Poland Institute for Agricultural Research, Pulawy. Received April 11, 1938.

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128367 \text { and 128368. Phaseolus coccineus L. Scarlet-runner bean. }
$$ 128367. No. 1. Piekny Jaś.

128368. No. 2. Pstra Wielka.

128369 to 128377. Phaseolus vulgaris L.
Common bean.
128369. No. 6. Cud Francji.
128370. No. 8. Hinricha Biała.
128371. No. 7. Hinricha Pstra.
128372. No. 5. Ideal.
128373. No. 11. Krajowa Thusta.
128374. No. 3. Mount d'Or.
128375. No. 4. Niewyczerpana.
128376. No. 10. Pertowka.
128377. No. 9. Tryumf.

128378 to 128380 . Cannabis spp. Moraceae. Hemp.
From the Union of Soviet Socialist Republics. Seeds presented by the Director, Botanic Garden, Kujbyshev. Received April 6, 1938.
128378. Cannabis ruderalis Janisch.

No. 485.
128379 and 128380. Cannabis sattiva L.
128379. No. 486.
128380. Originally from China.
128381. Cyrtanthus lutescens var. cooperi Baker. Amaryllidaceae.

From the Union of South Africa. Bulbs presented by W. S. Duke \& Co. Received March 6, 1926. Numbered in April 1938.
A cyrtanthus with 2 to 4 linear leaves about 1 foot long and a slender scape of equal length with about 6 fragrant yellow flowers 2 inches long. Native to South Africa.

## 128382. Campandla carpatica Jacq. Campanulaceae.

From England. Plants purchased from Maurice Prichard \& Sons, Riverølea Nurseries, Christchurch, Hants. Received June 10, 1935. Numbered in April 1938.
Mrs. V. Frere. A variety about 6 inches high. The flowers, opening flat, with acutely pointed petals, are light blue with a white center.
128383. Gossypium ratmondit Ulbrich. Malvaceae.

Cotton.
From Peru. Seeds presented by Prof. T. Boza-Barducci, Cotton Genetics Division, Estacion Experimental Agrícola de La Molina, Lima. Received March 31, 1938.
A shrub or small tree, native to Peru.
For previous introduction see 126973.
128384 to 128390. Impatiens spp. Impatientaceae.
From India. Seeds presented by the Curator, Royal Botanic Garden, Calcutta. Received April 5, 1938.
128384. Impatiens arguta Hook. f. and Thoms.

An erect branching herb, 1 to 4 feet high, with ovate or lanceolate leaves about 3 inches long and large purplish flowers. Native to the Himalayan region between 3,000 and 5,000 feet altitude.
128385. Impatiens balsamina L.

Garden balsam.
For previous introduction see 127949.
128386. Impatiens Filicornu Hook. f.

A slender branching herb a foot or more high, with long-petioled, ovate leaves and many small, light-purple flowers in umbels. Native to tropical Africa.
128387. Impatiens Jurpia Buch.-Ham.

A branching, shrubby perennial 5 to 8 feet high, with numerous ellipticlanceolate leaves 3 to 10 inches long and large white to orange-red flowers on long 1- to 3 -flowered peduncles: Native to the temperate and subtemperate Himalayan region.
128388. Impatiens longipes Hook. f. and Thoms. Snapweed.

A tall branched snapweed with distant, elliptic-lanceolate, crenate, alternate leaves 3 to 5 inches long and pale-yellow, unspotted flowers 1 inch long, in loose racemes. Native to the temperate Sikkim Himalayas between 8,000 and 10,000 feet altitude.

For previous introduction see 39669.
128389. Impatiens sultani Hook. f.

Sultan snapweed.
128390. Impatiens sp.

Collected in the Himalayas at 6,000 feet altitude.

## 128391 to 128396.

From the Union of Soviet Socialist Republics. Plants presented by Dr. N. I. Sharapov, Institute of Plant Industry, Leningrad. Received April 18, 1938.
128391 to 129394. Amygdalus persica L. Amygdalaceae. Peach. 128391. Bludtohaty Nairaneyshiy.
128392. Lagak 769 T.
128393. Ferganensis No. 189.
128394. Ferghansky Zholto-Miassy.

128395 and 128396. Prunus armeniaca L. Amygdalaceae.
Apricot. 128395. Badam Ispharac.
128396. Kondak 0234.

From Norway. Scions presented by Prof. Olav Moen, Nǒrges Landbrukshøiskole Planteskolen, Aas. Received April 18, 1938.
Graygylling.
128398 to 128417.
From Canada. Plants presented by M. B. Davis, Central Experimental Farm, Ottawa, Ontario. Received April 18, 1938.

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128398 \text { to 128414. MALUs. Malaceae. Crab apple. }
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A collection of hybrid crab apples.
128398. Amisk.
128399. Atha Baska.
128400. Bernard.
128401. Brome.
128402. Chilko.
128403. Oowichon.
128404. Geneva.
128405. Harriman.
128406. Kingsmere.

128415 to 128417. Pyrus. Malaceae. Pear.

128407. Louise.<br>128408. Makimik.<br>128409. Nameu.<br>128410. Nipissing.<br>128411. Okanagan.<br>128412. Scugog.<br>128413. Vernon.<br>128414. Wabickau.

128415. Pyrus $\times$ Rosseau.
128416. Pyrus $\times$ Sissipuk.
128417. Sissipuk.

## 128418 to 128436.

From the Union of South Africa. Bulbs purchased from Miss K. C. Stanford, Bloem Erf, Banhoek, Stellenbosch. Received April 19, 1938.
A collection of plants native to South Africa.
128418. Babiana bingens (L.) Ker. Iridaceae.

A showy cormous plant 6 to 10 inches high, with several narrow pointed linear leaves and 8 to 12 gaping scarlet flowers in a dense spike.
128419. Dierama medium N. E. Brown. Iridaceae.

A herbaceous perennial $11 / 4$ to $21 / 2$ feet high, with long linear leaves and lax spikes of 2 to 9 dark-red flowers.
128420. Dierama pendulum (Thunb.) Baker. Iridaceae.

A cormous plant up to 4 feet high, with 5 or 6 rigid linear basal leaves and large white or mauve-purple flowers in nodding panicled spikes.
128421 and 128422. Geissorhiza hirta (Thunb.) Ker. Iridaceae.
An ixialike bulbous plant with a few hairy distichous leaves and 2 to 6 bright-red flowers in a loose spike.
128423. Hesperantha buhrir L. Bolus. Iridaceae.

A hesperantha about 12 inches high, with several narrow leaves up to 8 inches long and a lax flexuose spike of about 7 small rose flowers.
128424 to 128426 . Ixia spp. Iridaceae.
128424. Ixia duckittiae L. Bolus.

A Cape Province ixia over 2 feet high, with 6 to 8 sword-shaped leaves and many orange flowers, over an inch long, in a dense spike.

## 128418 to 128436-Continued

128425. Ixia maculata L.

Spotted ixia.
An ixia with about 4 linear ribbed leaves 6 to 12 inches long, a slender simple or branched stem up to 2 feet high, and a dense erect spike of typically yellow flowers marked with dark purple or black eyes.
128426. Ixia monadelpha Delaroche.

An ixia with firm linear leaves 6 to 12 inches long, a slender simple or branched stem 1 foot or more long, and a short spike of a few flowers with limbs $1 / 2$ to $3 / 4$ inch long. The flower color varies and in the typical form is lilac with a greenish or blue throat.

## 128427. Lapeyrousia corymbosa (L.) Ker. Iridaceae.

A lapeyrousia with a spreading sword-shaped basal leaf 4 to 6 inches long and a dense flat-topped cluster of many white or blue flowers, each about 1 inch across, with nearly regular segments.
128428 to 128431. Sparaxis spp. Iridaceae. 128428. Sparaxis bulbifera (L.) Ker.

A wandflower with simple or branched stems 6 to 12 inches high, several linear or lanceolate firm basal leaves up to 1 foot long, and a solitary flower or a few small yellow flowers in a spike.

## 128429. Sparaxis.

Bloem Erf hybrids. Plants very tall with large crimson, deep amethyst, or yellow flowers.
128430 and 128431. Sparaxis grandiflora Delaroche.
A wandflower about 1 foot high, with several linear leaves and 1 to 5 white, yellow, or purple flowers; the limbs are about 1 inch long.
128430. A variety with cream flowers.
128431. A variety with purple flowers.
128432. Synnotia metelerkampiae L. Bolus.

A synnotia with 6 or 7 linear basal leaves 2 to 3 inches long and lax spikes of 9 to 12 deep-violet flowers. Allied to Synnotia variegata, but having much larger flowers.
128433 to 128436. Tritonia spp. Iridaceae.
128433. Tritonia crispa (L. f.) Ker.

A tritonia with 4 to 6 linear crisped basal leaves about 5 inches long. It has a slender simple or branched stem up to 1 foot high and spikes of 4 to 10 whitish or pale-pink flowers with segments $1 / 2$ inch long.
128434. Tritonia crocata (L.) Ker.

A tritonia with slender or branched stems about 1 foot high ; flowers pale salmon marked with white outside, in a raceme.
128435. Tritonia deusta (Soland.) Ker.

A tritonia with 4 to 10 large copper-colored flowers on a lax spike.
128436. Tritonia scillaria (L.) Baker.

A small slender tritonia with several linear leaves 4 to 6 inches long and a flexuose spike of about 6 large fragrant pink flowers.

## 128437 to 128439.

From Costa Rica. Seeds collected by H. F. Loomis, Bureau of Plant Industry, United States Department of Agriculture. Received April 19, 1938.
128437. Bactris sp. Phoenicaceae.

Palm.
Huiscoyol. From Cairo, April 8, 1938.

## 128437 to 128439-Continued

128438. Calyptrogyne sarapiquensis H. Wendl. Phoenicaceae.

Palm.
Cola de Gallo. From Cairo, April 8, 1938. A Costa Rican pinnate-leaved palm, nearly stemless or with a short thick stem and numerous leaves 4 to 6 feet long. The young leaves are pinkish green and very handsome.

For previous introduction see 123384.
128439. Theobroma purpureum Pittier. Sterculiaceae.

Wild cacao.
Cacao de Montana. From Cairo, April 7, 1938. A large shrub or small tree with digitate, long-petioled leaves of usually 5 obovate-oblong leaflets 12 to 20 inches long and clusters of 5 to 8 small purple flowers borne on the trunk. The pod, about 3 inches long, has a white edible pulp and contains numerous seeds. Native to Central America.

## 128440 to 128451.

From Chile, Argentina, and Peru. Seeds collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, in cooperation with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received April 6, 1938.
128440. Embothrium coccineum Forst. Proteaceae.

Notro.
No. 405. From Temuco, Chile, March 9, 1938. A handsome evergreen shrub or tree which, under favorable conditions, becomes 40 feet high. The thick ovate-lanceolate leaves are dark glossy green, 3 to 4 inches long, and the brilliant scarlet tubular flowers, about 1 inch long, are in short dense axillary and terminal clusters. Native to Chile.

For previous introduction see 124875.
128441 and 128442. Gevuina aveclana Molina: Proteaceae Chilean nut.
An evergreen Chilean tree up to 40 feet high, with dark-green pinnate leaves, white flowers in axillary racemes, and edible red fruits.

For previous introduction see 76484.
128441. No. 373-A. From El Vergel, Angol, Chile, March 12, 1938.
128442. No. 406. From Temuco, Chile, March 9, 1938.
128443. Juglans sieboldiana Maxim. Juglandaceae.

Japanese walnut.
No. 399. From El Vergel, Angol, Chile, March 7, 1938. A walnut, native to Japan, which becomes a roundheaded tree up to 60 feet high, with 9 to 17 ovate serrulate leaflets and ovoid, thick-shelled nuts.
For previous introduction see 75445.
128444. Lupinus sp. Fabaceae.

No. 213. From the hills above Abancay, Peru, at 10,500 feet altitude, January 15,1938 . May have value as an ornamental.
128445 to 128449. Lycopersicon esculentum Mill. Solanaceae. Tomato.
128445. No. 388. From Buenos Aires, Argentina, February 26, 1938. Fruits small, both cherry- and plum-shaped.
128446. No. 391. From Santiago, Chile, March 6, 1938. Fruit elongated with firm, very sweet flesh.
128447. No. 400. From Temuco, Chile, March 3, 1938, but grown at Talca. A small smooth red fruit; grown in this region a long time.
128448. No. 401. From Temuco, Chile, March 8, 1938, but grown at Talca. Fruit small, very smooth, light in color.
128449. No. 402. From Temuco, Chile, March 8, 1938, but grown at Chillon. Fruit medium size, very deep red, free from disease.
128450. Solanum sp. Solanaceae.

No. 389. From a dry canyon northwest of Mendoza, Argentina, March 2, 1938, at 2,000 feet altitude. Fruit green.

## 128440 to $128451 \rightarrow$ Continued

## 128451. SoLanum sp. Solanaceae.

No. 390. From a canyon east of Los Andes, Chile, at over 6,000 feet altitude. A plant with blue flowers and orange-red fruits.

## 128452 to 128462. Castanea crenata Sieb. and Zucc. Fagaceae. Japanese chestnut.

From Japan. Scions presented by the Forest Service, Yamagata. Received April 19, 1938.
For previous introduction see 119044.
128452. No. 8. Banalea.
128458. No. 3. Rasawoara.
128453. No. 13. Boshi.
128459. No. 18. Tashiro.
128454. No. 7. Chokoji.
128455. No. 4. Ginyose.
128456. No. 12. Heijho.
128460. No. 14. Omukai.
128461. No. 16. Shinnozoki.
128462. No. 1. Taishowase.
128457. No. 17. Hokizawa.

128463 and 128464. Cydonia oblonga Mill. Malaceae.
Quince.
From Maryland. Plants presented by E. V. Shear, Division of Fruit and Vegetable Crops and Diseases, Beltsville. Received March 19, 1938. Numbered in April 1938.
128463. Angers. Type A. The best type.
128464. Type B. Common type.

128465 to 128497. RHododendron spp. Ericaceae.
From Germany. Plants purchased from Herman A. Hesse, Weener, Ostfreisland. Received April 21, 1938.
128465 to 128493. Rhododendron catawbiense Michx.
128465. Adalbert, hybrid.
128466. Alarich, hybrid.
128467. Albert. 128468. Alfred. 128469. Anna. 128470. Annedore. 128471. Anton. 128472. Arno. 128473. Bibber. 128474. Bismark 128475. Botha. 128476. Carola. 128477. Christian. 128478. Daisy. 128479. Desiderius.
128480. Donar.
128481. Dürer.
128482. Emil.
128483. Fichte.
128484. Figare.
128485. Frau von Wolffersdorff.
128486. Genoveva.
128487. Gertrude.
128488. Gloria Gandavensis.
128489. Granat.
128490. Holbein.
128491. Homer.
128492. Moses.
128493. Oldewig.

128494 to 128497. Rhododendion caucasicum Pall. Caucasian rhododendron. Hardy, very early blooming, low-growing varieties. For previous introduction see 108800.
128494. Calliope. 128496. Euterpe.
128495. Erato.
128497. Mnemosyne.

## 128498. Mauranthe lunata (Liebm.) O. F. Cook (Chamaedorea lunata Liebm.). Phoenicaceae. Palm.

From Washington, D. C. Plants growing in the United States Department of Agriculture greenhouses. Numbered in April 1938.

Originally from seeds collected in 1922 by O. F. Cook, from Alta Vera Paz and Petén, eastern Guatemala.
C. A. 251. A small, slender-trunked palm, 4 to 12 feet high, with smooth, shining, pinnate leaves, the pinnae broad and obliquely oval. The young palms are suitable as house plants. Native to southern Mexico and eastern Guatemala.

## 128499 to 128503.

From Belgium. Seeds presented by Dr. Alexandre Conard, Directeur du Jardin Experimental Jean Massart, Auderghen. Received April 21, 1938.
128499 to 128501. Aquilegia spp. Ranunculaceae.
Columbine. 128499. Aquilegia canadensis L.

For previous introduction see 13022.
128500. $\times$ Aquilegia helenae G. Arends.

Helen columbine.
Considered to be a hybrid between Aquilegia caerulea and A. chrysantha. The plants are robust, with numerous blue and white flowers.

For previous introduction see 103370.

## 128501. Aquilegia skinnert Hook.

A perennial columbine 2 to 3 feet high, with panicles of several nodding flowers. The limb of the petal is yellowish green, and the red spur is about 2 inches long. Native to Mexico.
128502. Cannabis sativa L. Moraceae.
128503. Impatiens roylei Walp. Impatientaceae.

For previous introduction see 128342.

## 128504 to 128512.

From the Union of Soviet Socialist Republics. Plants and scions presented by the Forest Garden Experiment Station, Beshtaugorsky Lesopark Stanzia Mashuk, near Pyatigorsk, Caucasus. Received April 21, 1938.
128504. Juglans regia L. Juglandaceae. Persian walnut.

128505 to 128508 . Malus spp. Malaceae.
128505. Malus baccata (L.) Moench.

Siberian crab.
For previous introduction see 119229.
128506. Malus florentina (Zucc.) Schneid.

A handsome round-headed, small tree with broad-ovate leaves which turn orange scarlet in the autumn and white flowers up to an inch across, in clusters of 6 to 8 . Native to Italy.
128507. $\times$ Malus arnoldiana Sarg.

Arnold crab apple.
A hybrid crab apple (Malus floribunda $\times$ baccata) that resembles $M$. floribunda, but has larger leaves and larger flowers, lighter in color. The yellow fruit is about one-half inch across.

For previous introduction see 54082.
1208508. Malus spectabilis (Ait.) Borkh. Chinese flowering crab.

A tall shrub or small tree from northern China, with erect slightly spreading branches, large pink flowers which in the cultivated forms are more or less double, and medium-sized yellow fruits.

For previous introduction see 49091.

## 128504 to 128512-Continued

128509 to 128511. Prunus spp. Amygdalaceae.
128509. Prunds armeniaca L.
128510. Prunus avium L.
128511. Prunus spinosa L.

For previous introduction see 72577.

## 128512. Pyrus salicifolia Pall. Malaceae.

Willow-leaved pear.
A roundheaded tree 20 to 25 feet high, with a short trunk and beautiful willowlike grayish to silvery leaves 1 to 3 inches long and scarcely more than $1 / 2$ inch wide. The dense corymbs of white flowers are borne freely in April. Native to western Asia and southeastern Europe.

For previous introduction see 98195.

## 128513. Phaseolus vulgaris L. Fabaceae.

Common bean.
From California. Seeds presented by Mrs. Edith V. A. Murphey, Potter Valley, Mendocino County. Received April 18, 1938.
From the Round Valley Reservation, near Covelo, at 1,400 feet altitude.
128514 and 128515. Avena sativa L. Poaceae.
Oats.
From Australia. Seeds presented by the Department of Agriculture, State Research Farm, Werribee, Victoria. Received April 18, 1938.
128514. Dawn.
128515. Palestine.

128516 and 128517. Cannabis sativa L. Moraceae. Hemp.
From Italy. Seeds presented by R. Scuola Agraria Superiore Universita di Bologna, through Dr. Antonio Biraghi, R. Stazione di Patologia Vegetale, Rome. Received April 18, 1938.
128518. Hordedm vulgare L. Poaceae.

Barley.
From Java. Seeds presented by A. M. Cramer, Sr., Wonosobo. Received April 19, 1938.
Grown in the State of Sikkim, Upper Bengal, on the southern slope of the Himalayas. A naked barley which ripens in 3 months.

## 128519 to 128542.

From Rumania. Seeds presented by Prof. S. St. Radian, Director, Botanic Garden of the University of Bucharest, Bucharest. Received April 19, 1938.
128519 to 128526. Aquilegia spp. Ranunculaceae.
Columbine. 128519. Aquilegia alpina L.

Alpine columbine.
An alpine perennial about 12 inches high, native to Switzerland. The biternate leaves have deeply lobed divisions 1 to 2 inches long and the expanded flowers are 2 inches across with blue sepals and white petals, the incurved spurs being as long as the petals.
For previous introduction see 103360.
128520. Aquilegia ohrysantha A. Gray. Golden columbine. 128521. Aquilegia flabellata Sieb. and Zucc.

A Japanese columbine up to $11 / 2$ feet high, with many nodding lilac flowers about 2 inches across. Allied to Aquilegia sibirica.
128522. Aquilegia nigricans Baumg.

A European alpine aquilegia with smaller, deep-purple flowers than Aquilegia vulgaris, to which it is related.

## 128519 to 128542-Continued

128523. Aquilegia sibirica Lam.

Siberian columbine.
A nearly glabrous columbine, 1 to 2 feet high, native to Siberia. The biternate leaves are made up of shallow-lobed leaflets 1 to 2 inches broad, and the many lilac-blue and white flowers have stout incurved or even coiled spurs $1 / 2$ inch broad.

For previous introduction see 103372.

## 128524. Aquiligia sp.

Introduced under the name "stenopetala," for which a proper place of publication has not been found.
128525 and 128526. Aquilegia vulgaris L. European columbine. 128525. Common form.
128526. Var. Duplex.
128527. Callistephus chinensis (L.) Nees. Asteraceae.

For previous introduction see 24109.
128528 to 128533. Impatiens spp. Impatientaceae.
128528. Impatiens balsamina L.

Snapweed. Garden balsam.
128529. Impatiens biflora Walt.
128530. Impatiens balsamina L. Garden balsam.
128531. Impatiens insignis DC.

An herb 1 to 2 feet high, with thick elliptic-lanceolate leaves 2 to 5 inches long and terminal racemes of many dark-rose flowers with long slender spurs. Native to Nepal.
128532. Impatiens nolitangere $L$.

A form with yellow flowers.
128533. Impatiens scabrida DC.

A stout annual, 3 to 5 feet high, with narrow acuminate leaves 2 to 6 Inches long and golden-yellow, red-spotted flowers 1 inch across, either axillary or in panicles. Native to the temperate Himalayas at altitudes of 6,000 to 10,000 feet.

For previous introduction see 28222.
128534 to 128541 . Viola spp. Violaceae.
Violet.
128534. Viola adriatica Freyn.

A stemless perennial violet with broad cordate or ovate leaves. Allied to Viola odorata and V. scotophylla. Native to Europe.
128535. Viola alichariensis G. Bech.

A subalpine perennial violet, native to Macedonia.
128536. Viola joor Janka.

A stemless violet with oblong or ovate-cordate leaves and rather large fragrant lilac flowers. Native to Europe.

For previous introduction see 123803.
128537. Viola mirabilis L.

A hardy violet, native to northern Europe, which becomes about 3 inches high, producing pale-blue flowers in midsummer.

For previous introduction see 104602.
128538. Viola persicifolia Roth.

For previous introduction see 28259,

## 128519 to 128542-Continued

128539. Viola pinnata L.

A stemless violet with palmately divided leaves, orbicular in outline, and small violet or blue flowers. Native to Europe.
128540. Viola buppil All.

A perennial violet with blue or bluish-white flowers. Native to Europe. 128541. Viola variegata Fisch.

A species with cyclamenlike leaves, white along the veins, and light purple flowers.
128542. Zephyranthes taubertiana Harms. Amaryllidaceae.

A Brazilian zephyrlily, with linear dark-green leaves 8 to 10 inches long and slightly inclined lilac flowers borne singly on the peduncle.

## 128543 to 128567.

From the Union of Soviet Socialist Republics. Scions presented by Dr. A. M. Popov, Institute of Plant Industry, Leningrad. Received April 25, 1938.
128543 to 128549. Amygdalus persica L. Amygdalaceae. Peach. 128543. Tabarzen No. 2621.
128544. Ferganensis No. 25. (Inzhirny Buudtchaty.)
128545. Ferganensis No. 19.
128546. No. 1338.
128547. No. 1376.
128548. No. 1370.
128549. No. 01346.

128550 to 128553. Maxus spp. Malaceae. Apple.
128550. Malus sylvestris Mill.
128551. Malus syivestris Mill.

Khoroshavka Alaya Guzhavina.
128552. Malus sylvestris Mill. Ssevernoe Zolotoe.
128553. Malus sp.

Tchulanovka. Used as a dwart stock.
128554 to 128559. Pbunus spp. Amygdalaceae.
128554 to 128556. Pbunus armeniaca L. 128554. Baidam, 128555. Bairam-All No. 2698.
128556. Oranzhevo Krassny.

128557 to 128559. Prunus spp.
128557. Bejonniere.
128558. Otchakovskaya. 128559. Pulkovskaya.
128560. Pybus sp. Malaceae. Pear

Finliandskaya.
128561 to 128563. Prunus spp. Amygdalaceae.
128561. Prunus cerrasifera Ehrh.

Myrobalan plum.
Kok Sultan.

## 128543 to 128567-Continued

128562 and 128563. Prunus armeniaca L. Apricot.
128562. Krassnostchoky Nairanneyshy No. 2638.
128563. Krassnostchoky Nairanneyshy No. 2639.
128564. Pyrut. Malaceae.

- Bergamotte Ossenny.

128565 and 128566. $\times$ Prunus dasycarpa Ehrh. Amygdalaceae. Plum-apricot. 128565. Irany Oliu No. 4.
128566. Schroedera 0347.
128567. Pyrus. Malaceae.

Ushakovskaya.

## 128568. Cypella perdviana Baker. Iridaceae.

From Africa. Seeds purchased from the Mount Elgon Nurseries, Kitale, Kenya Colony. Received April 27, 1938.
A Peruvian cypella with 2 or 3 linear stem leaves about 8 inches long and 2 or 3 showy bright-yellow fugacious flowers on a terminal stalk. The petals are spotted red brown at the base.

## 128569 and 128570.

From China. Seeds presented by R. C. Ching, Lu-Shan Arboretum and Botanical Garden, Lu-Shan, Kiukiang Province. Received April 27, 1938.
128569. aesculus wilsonil Rehder. Aesculaceae. Horsechestnut.

A handsome tree up to 75 feet high, native to Szechwan and Hupeh Provinces, China. The leaves are downy when young, and the white flowers, $1 / 2$ inch long, are borne in cylindrical panicles which sometimes become 18 inches long. The burs are rough but not spiny. It is very closely allied to Aesculus chinensis. For previous introduction see 77647.
128570. Castanea henryi (Skan) Rehd. and Wils. Fagaceae.

Large nuts, collected at $\mathbf{Y u}$-Shi Liu on O-pie Hisien Shan.

## 128571 to 128585.

From India. Bulbs and seeds collected by Walter Koelz, Bureau of Plant Industry, United States Department of Agriculture. Received April 26, 1938. 128571. Amaryllis sp. Amaryllidaceae.

From Londa, Bombay Presidency, March 5, 1938.
128572 to 128577. Oryza spp. Poaceae.
Rice.
128572. Oryza coarctata Roxb.

A wild rice which is a tall stout perennial grass with leathery, swordshaped leaves 6 to 12 inches long. Native to the delfa of the Ganges.
128573 to 128577 . Oryza sativa L.
128573. Aman Naira. A winter rice.
128574. Aman Khama. A winter rice.
128575. Bora Jabri. A summer rice.
128576. Bora Bati. A summer rice.
128577. Bora Basful. A summer rice.

128578 to 128585 . Zea mays L. Poaceae.
Corn.
128578 and 128579. From the Kanke farm, District Ranchi, Bihar State.
128580 and 128581. From Dumka, District Santalparagnas, Bihar State. 128582 and 128583. From the Sabour farm, District Bhagalpur, Bihar State.
128584. From the Patna farm, District Patna, Bihar State.
128585. From Siwan, District Saran, Bihar State.

## 128586 to 128665.

From Chile and Peru. Seeds collected by H. L. Blood, Agricultural Experiment
Station, Logan, Utah, in cooperation with the Division of Fruit and Vegetable
Crops and Diseases, Bureau of Plant Industry, United States Department
of Agriculture. Received April 20, 1938.
128586 to 128664 . Lrcopersicon spp. Solanaceae.
128586 to 128595. Lrcopersicon esculentum Mill.
Nos. 128586 to 128624. Collected in Chile in March 1938.
128586 to 128588. From a garden in Limache, March 14.
128586. No. 422. Fruit large, fleshy, rose colored.
128587. No. 423. Fruit flat, rough, deeply ribbed.
128588. No. 424. Fruit medium smooth, round, dry, red.

128589 to 128593. From the market at Valparaiso, March 16.
128589. No. 437. Fruit ponderosa type, red; grown at Limache.
128590. No. 438. Fruit flat, odd-shaped, rough, deep red, from Limache.
128591. No. 439. Fruit small, round, smooth, red, $13 / 4$ inches in diameter ; grown at Limache.
128592. No. 440. Fruit large, smooth, pink.
128593. No. 441. Fruit small, rough, red.
128594. No. 442. From the market at El Calisa, March 17. Fruit large, generally rought, all deeply colored.
128595. No. 433. From near Villanar, March 19. Fruit mostly cherry form, grown in a very dry situation.
128596. Lycopersicon esculentum var, cerasiforme (Dun.) A. Gray.

No. 448. From west of Villanar, March 19, 1938. Fruit small, irregular, but of uniform type.
128597 to 128643. Lycopersicon esculentum Mill.
Tomato.
Nos. 128597 to 128603 were from fields near Villanar, Chile, March 19, 1938. 128597. No. 449. Fruit $13 / 4$ to $21 / 4$ inches in diameter, smooth, round, red.
128598. No. 449-A. [Received without notes.]
128599. No. 450. Fruit small, deeply colored, but rough.
128600. No. 451. Fruit very large and very rough, deep red.
128601. No. 452. Fruit large and smooth, tending to be flat.
128602. No. 453. Grown from seed introduced from England; type not seen before on this expedition; fruit long-pointed, resembling the fruit of Cyphomandra.
128603. No. 454. Fruit small, rough, flat, pink.

128604 to 128607. From the market at Copiapó, March 19, 1938.
128604. No. 455. Fruit small, round, light red.
128605. No. 456. Fruit medium-sized, flat.
128606. No. 457. Fruit large and rough, red.
128607. No. 458. Fruit smali, flat, rough.

128608 to 128612. From the market at Antofagasta, Chile, March 20 and 21, 1938, but 128608 to 128610 were shipped in from Valparaiso.
128608. No. 460. Fruit small, flat, cells conspicuous.
128609. No. 461. Fruit small, deep with blossom scar.
128610. No. 462. Fruit large, flat, irregular.

## 128586 to 128665-Continued

128611. No. 463. Locally grown fruit, round, pink with thin greenish stripes from stem to end.
128612. No. 464. Locally grown fruit, small, round, red, with greenish stripes from stem to end.
128613 and 128614. From the market at Iquique, March 23, 1938.
128613. No. 467. Fruit large and very rough. Grown at Sibayo.
128614. No. 468. Fruit large, very rough, red. Grown in Camiña.

128615 to 128617. From the market at Arica, Chile, March 24, 1938.
128615. No. 469. Grown in Aluta. Fruit variable, but quite rough, with a fruit spot not seen before; dark brown to black, with light gray center raised on surface, the center cracked open.
128616. No. 470. Grown in Aluta. Fruit small, slightly variable, some smooth, some tending to roughness.
128617. No. 471. Grown in Rosario. Fruit variable, mostly flat, some inclined to roughness.
128618 to 128624. From the market at Tacna, Chile, March 26, 1938.
128618. No. 501. Grown in Challota. Fruit small to medium, smooth, flat, red.
128619. No. 502. Grown in Challota. Fruit large, rough, deep red.
128620. No. 503. Fruit small, some indicating a wild strain, poorly colored.
128621. No. 504. Fruit large, very rough, red.
128622. No. 505. Fruit small, pink, round and smooth.
128623. No. 506. Fruit large, deep red, and smooth.
128624. No. 507. Fruit small to medium, smooth, flat, red.
128625. No. 520. Collected between Moquegua and Ica, Peru, March 28. Fruit small, red, some distinctly of the wild cherry form.
128626. No. 521. From the market at Ica, Peru, but grown in Moquegua, Peru. Fruit small, rough, red.
128627 to 128639. From the market at Arequipa, Peru, March 30, 1938. 128627. No. 522. Fruit large, pink, smooth and flat.
128628. No. 523. Fruit large, red, smooth, flat; Baltimore type.
128629. No. 524. Fruit large, rough, flat, red.
128630. No. 525. Fruit red, nugget type, $11 / 2$ to 2 inches in diameter.
128631. No. 526. Fruit large, cherry-formed, red.
128632. No. 527. Fruit small, cherry-formed, red.
128633. No. 528. Fruit very small, flat, red.
128634. No. 529. Fruit medium sized, flat, red.
128635. No. 530. Fruit of tear-drop type; pointedness at stem end slight; nugget size, 1 to $11 / 2$ inches in diameter.
128636. No. 531. Fruit large of tear-drop type; tendency to pointedness at stem end not very pronounced.
128637. No. 532. Fruit large, pear-shaped, red.
128638. No. 533. Fruit large, plum-shaped, red.
128639. No. 534. Fruit small, pear-shaped, red.

128640 to 128643. From the market at Lima, Peru, April 4, 1938.
128640. No. 542. Fruit large, very rough, flat, red, 3 inches in diameter.

## 128586 to 128665-Continued

128641. No. 543. Fruit small, smooth, flat, red.
128642. No. 544. Fruit oblong, flat, red.
128643. No. 545. Fruit small, pink.

128644 to 128648. Lycopersicon peruvianum var. dentatum Dun.
128644. No. 516. Collected March 27, 1938, at the base of a mountain about 10 miles east of Moquegua, Peru, in dry gravelly soil along a mud wall. Fruit green, $11 / 3$ inches in diameter.
128645. No. 475. From the Lluta Valley, between Lluta and Arica, Chile, March 24, 1938, between 150 and 200 feet altitude, in moist gravelly soil. Fruit white, tinged faintly with yellow and having a purplish stripe from stem almost to the tip; 2-celled; calyx slender, short, one-half the length of the fruit; maximum size about $1 / 2$ inch in diameter.
128646. No. 476. Lluta Valley, between Lluta and Arica, Chile, March 23, 1938, between 120 and 200 feet altitude. Fruit less than 1 inch in diameter, 2-celled, calyx small, slender.
128647. No. 477. From the Azapa Valley, southeast of Arica, Chile, between 100 and 200 feet altitude, March 24, 1938. Fruit less than $1 / 2$ inch in diameter, white with purplish glow about the stem end, 2 -celled, calyx lobes small.
128648. No. 478. From the Azapa Valley, Chile, March 24, 1938, at about 150 feet altitude. Fruit up to $2 / 3$ inch in diameter, some 3 -celled with a tendency to be flat. Calyx slender, one-half to two-thirds the length of the fruit, which has faint purplish stripes.
128649. Lycopersicon perdvianum (L.) Mill.

No. 479. From the Azapa Valley, southeast of Arica, Chile, March 24, 1938. A prostrate spreading perennial; fruit less than $1 / 2$ inch in diameter; sepals practically as long as the fruit; purplish stripes tending to form a network.
128650 and 128651. Lycopersicon peruvianum var. dentatum Dun.
From the Azapa Valley, east to southeast of Arica, Chile, March 24, 1938, at 150 feet altitude.

For previous introduction see 128648.
128650. No. 480. Fruit less than $1 / 2$ inch in diameter, deep purple, streaked.
128651. No. 481. Fruit about $1 / 2$ inch in diameter, dull dark purple.

## 128652. Lycopersicon sp.

No. 482. From the Azapa Valley, southeast of Arica, Chile, between 150 and 200 feet altitude, March 24, 1938. Fruit white with very faint markings of purple, $1 / 2$ inch in diameter ; 2 -celled ; calyx small.
128653. Lycopersicon peruvianum (L.) Mill.

No. 483. From the Azapa Valley, southeast of Arica, Chile, at 200 feet altitude. Fruit about $1 / 2$ inch in diameter, brilliant yellow to yellowish white, variable; calyx small.

For previous introduction see 128649.
128654 and 128655. Lycopersicon peruvianum var. dentatum Dun.
128654. No. 484. From the Azapa Valley, southeast of Arica, Chile, at 200 feet altitude, in sandy gravelly loam, from the margin of a field.
128655. No. 485. From Chacarilla, Tarapaca Province, Chile, March 25, 1938, southeast of Arica, at 300 feet altitude, in land recently flooded by high water. An unusual type.
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## 128586 to 128665 -Continued

128656. Lycopersicon peruvianum (L.) Mill.

No. 486 and 487. From Chacarilla, Tarapaca Province, Chile, March 25, 1938, southeast of Arica, at 300 feet altitude, in a field recently flooded by high water.
128657 to 128660. Lycopersicon spp.
Collected west of Tacna, Peru, March 26, 1938.
128657. No. 508. Fruit about $1 / 2$ inch in diameter, yellowish white with purple stripe.
128658. No. 509. A prostrate plant with erect floral branches; fruit about $1 / 2$ inch in diameter, dark red, purplish over all except the tip.
128659. No. 510. A prostrate plant with erect floral branches; fruit about $1 / 2$ inch in diameter, yellowish white.
128660. No. 511. A mixed sample from a group of plants.

128661 to 128663 . Lycopersicon peruvianum var. dentatum Dun.
128661. No. 512. Collected east of Tacna, Peru, March 26, 1938, in dry gravelly clay soil. Fruit about $1 / 2$ inch in diameter, blotched with red, with purple red stripes.
128662. No. 513. From the desert between Buena Vista and Tecumba, Peru, March 27, 1938, at 1,000 feet altitude. Plant developing from a woody crown, stems erect; fruit $1 / 2$ inch in diameter.
128663. No. 514. From about 8 miles west of Moquegua, in gravelly soil bordering the desert. Fruit about $1 / 2$ inch in diameter, 2 -celled, with purplish markings.

## 128664. LYCOPERSICON sp.

No. 549. From north of Huacho, Peru, April 4, 1938. Fruit cherry-formed, red, calyx lobes often 6 , long and slender.
128665. Solanum sp. Solanaceae.

No. 411. From the San Cristobal hill, near Santiago, Chile. March 11, 1938. A coarse plant 3 to 7 feet high.

## 128666 to 128668.

From Italy. Seeds presented by Dr. Mario Ercoli, Curator, La Mortola, Ventimiglia. Received April 18, 1938.
128666. Aquilegia vulgaris L. Ranunculaceae. European columbine.

Var. Hybrida. A form with stout lilac-purple spurs as long as the sepals, only slightly incurved. Possibly a hybrid of Aquilegia vulgaris with A. canadensis.
128667. Callistephus chinensis (L.) Nees. Asteraceae.

For previous introduction and description see 128527.
128668. Impatiens roylei Walp. Impatientaceae.

Snapweed.
For previous introduction and description see 128503.
128669. Eragrostis obtusa Munro. Poaceae.

Grass.
From the Union of South Africa. Seeds presented by the Curator, McGregor Museum, Kimberley, Cape Province. Received April 15, 1938.
A densely cespitose perennial grass, native to South Africa, with wiry stems 6 to 18 inches high and linear, long-pointed leaves 2 to 5 inches long.

For previous introduction see 106087 .
128670. Tephrosia sp. Fabaceae.

From the Union of South Africa. Seeds purchased from Miss K. C. Stanford, Stellenbosch. Received April 19, 1938.

## 128671 to 128816.

From China. Plants presented by Dr. F. A. McClure, Lingnan University, Canton. Received April 27, 1938.
128671. Arundinabia sp. Poaceae.

## Bamboo.

No. 1168. Chuk Tsai. From the Teng Oo monastery, Kao-yao District, Kwangtung. A small monopodial, wild bamboo with definite promise as an ornamental. Easily induced to assume a dense dwarfed habit; has fine foliage and is easy to keep under control.
128672. Arundinaria sp. Poaceae.

Bamboo.
No. 1195. Foh Ch'aai Chuk. From the Ch'un Wong Mountains, Ts'ingyuen District, Kwangtung. A small monopodial wild bamboo. A very attractive little plant with graceful habit and slender willowy leaves; promising as an ornamental.
128673. Sinobambusa tootsik (Makino) Makino. Poaceae. Bamboo.

No. 1159. T'ok Chuk; Tsz Chuk. From the Teng Oo monastery, Kao-yao District, Kwangtung. A medium-sized monopodial bamboo, very commonly cultivated in Chinese gardens as an ornamental.
128674. Sinobambusa humilis McClure.

No. 1948-A. From Fei Loi Gorge, North River, Ts'ing-yuen District, Kwangtung. A small wild monopodial species. Vegetative propagation from living type.
128675. Arundinaria sp. Poaceae. Bamboo.

No. 2147. Foo Chuk. From Lung Chi Mountain, Kiangsu.
128676. Arundinaria sp. Poaceae.

Bamboo.
No. 2181. Koon Yam Chuk, Wong Chuk Tsai. From near Shan Ts'in, Chungshan District. A small, wild, monopodial species with straight, thick-walled culms.
128677. Sinobambusa tootsik (Makino) Makino. Poaceae.

Bamboo.
No. 2350. Lei Kaang Ohuk. From Danes Island, P'an-yu District, Kwangtung. A medium-sized monopodial species commonly cultivated as a hedge plant and in gardens as an ornamental.
128678. Indosasa sp. Poaceae.

Bamboo.
No. 2408. To Ch'aap Chuk. From Taai Yung Pin, Loh Fau Mountain, Kwangtung. A very ornamental wild monopodial species.
128679. Arundinaria sp. Poaceae. Bamboo.

No. 2410. Ch'ek Chuk. From So Liu Tung, Loh Fau Mountain, Kwangtung. A small wild monopodial species with thick-walled, straight culms; useful for flower stakes and light picket fences.
126680. Arundinaria sp. Poaceae.

## Bamboo.

No. 2680. A monopodial bamboo with stiffiy upright thick-walled culms which are suitable for flower stakes and small picket fences. Origin unknown. 128681 and 128682. Sinobambusa tootsik (Makino) Makino. Poaceae.

Bamboo.
A medium-sized monopodial bamboo of unknown origin. Promising as an ornamental.
128681. No. 2683. 128682. No. 2684.
128683. Indocalamus herklotsit McClure. Poaceae. Bamboo.

No. 2727. From The Peak, Hong Kong Island. A small monopodial wild bamboo, promising as an ornamental and as a source of garden stakes.
128684. Bambusa sinospinosa McClure. Poaceae.

Bamboo.
No. 1113-B. Taai Lak Chuk. From Tak Hing, Teh-k'ing District, Kwangtung. A large, sympodial, very thorny, cultivated bamboo, used chiefly for village barriers and very rough construction. The shoots are sometimes eaten in the pickled form.

## 128671 to 128816—Continued

128685. Bambusa lapidea McClure. Poaceae.

Bamboo.
No. 1114. Ma T'ai Chuk. From Tak Hing, Teh-k'ing District, Kwangtung. A large sympodial, slightly thorny, cultivated bamboo, used for heavy construction. A very useful species with fine straight culms.
128686. Schizostachyum funghomir McClure. Poaceae.

Bamboo.
No. 1120. Sha Lok Taan Chuk. From Tak Hing, Teh-k'ing, Kwangtung. A cultivated clump bamboo, native to southern China, with erect culms up to 30 feet high and 3 inches in diameter. They are used for making floating piers and, to a certain extent, for making pulp for a cheap grade of paper. The plant is very ornamental.

For previous introduction see 110512.
128687. Sinocalamus latiflorus (Munro) McClure (Dendrocalamus latiflorus Munro). Poaceae.

Bamboo.
No. 1132. Taai T'au Chuk. From Sz-Chim, Yun-fou District, Kwangtung. A large sympodial bamboo of ornamental habit, cultivated for its edible shoots. 128688. Sinocalamus sp. Poaceae.

Bamboo.
No. 1133-A. T'im Chuk. From Sz-Chim, Yun-fou District, Kwangtung. A large sympodial, cultivated bamboo, grown for its edible shoots which are considered to be among the best; hence the name "sweet bamboo."
128689. Sinocalamus sp. Poaceae.

Bamboo.
No. 1133-B. T'im Chuk. From Sz-Chim, Yun-fou District, Kwangtung. This bamboo differs from No. 1133-A (P. I. 128688) in minor characters only. 128690. Bambusa eutuldoides var. basistriata McClure. Poaceae. Bamboo.

No. 1160. Nai Chuk. From the Teng Oo monastery, Kao-yao District, Kwangtung. A large sympodial bamboo, cultivated for its culms, which are commonly used in heavy construction.
128691. Bambusa textilis var. albo-striata McClure. Poaceae. Bamboo.

No. 1177. Wong Chuk. From Shiu Chow, K'uh-Kiang District, Kwangtung. A medium-sized, sympodial bamboo, cultivated chiefly as an ornamental, though it can be used, as the species, as a source of split bamboo for weaving.

## 128692. Bambusa flexuosa Munro. Poaceae.' <br> Bamboo.

No. 1190. Kai Pei Lak Chuk. From near Ts'ing-yuen City, Ts'ing-yuen District, Kwangtung. A very thorny, sympodial bamboo which is sometimes 45 to 50 feet high; cultivated chiefly for use as fences between land holdings and around villages.
128693. Sinocalamus sp. Poaceae.

Bamboo.
No. 1196. Oo Mei Ma Chuk. From Heung Lo Keuk, Ts'ing-yuen District, Kwangtung. A large sympodial bamboo, cultivated for its edible shoots. The culms have little or no value.

## 128694. Sinocalamus latiflorus (Munro) McClure (Dendrocalamus latiflorus

 Munro). Poaceae. Bamboo.No. 1197. Ma Chuk. From Heung Lo Keuk, Ts'nig-yuen District, Kwangtung. A large sympodial bamboo, cultivated for its edible shoots.

For previous introduction and description see 128687.
128695. Bambusa multiplex (Lour.) Raeusch. Poaceae. Hedge bamboo.

No. 1199. Fa Hok Ngau Kan Chuk. From Heung Lo Keuk, Ts'ing-yuen District, Kwangtung. A medium-sized sympodial bamboo, cultivated as an ornamental and as a source of garden stakes and material for picket fences. This is a variety with the internodes of the culms and the sheaths faintly white striate.

For previous introduction see 124734.

## 128671 to 128816-Continued

128696. Bambusa eutuldoides McClure. Poaceae.

## Bamboo.

No. 1200. Taai Ngaan Ohuk. From Heung Lo Keuk, Ts'ing-yuen District, Kwangtung. Vegetative propagation from the living type. A large sympodial bamboo cultivated for its thick-walled, upright culms which are used locally for heavy construction and miscellaneous farm needs.
128697. Sinocalamus sp. Poaceae.

Bamboo.
No. 1201. Tiu Sz Chuk. From Heung Lo Keuk, Ts'ing-yuen District, Kwangtung. A large sympodial bamboo, cultivated partly as an ornamental and partly for its edible shoots. The pale-green culms are strictly erect with long drooping whiplike tips.
128698. Bambusa textilis McClure. Poaceae.

Bamboo.
No. 1202. Wong Chuk. From Heung Lo Keuk, Ts'ing-yuen District, Kwangtung. A medium-sized, thin-walled clump type bamboo.

For previous introduction and description see 80872.
128699. Sinocalamus sp. Poaceae.

Bamboo.
No. 1295. Tiu Sz Taan Ohuk. From Heung Lo Keuk, Ts'ing-yuen District, Kwangtung. A large sympodial species, differing from No. 1201 [P. I. 128697] chiefly in its white-striate culm sheaths. A very ornamental bamboo, grown chiefly for its edible shoots.
128700 to 128708. Bambusa spp. Poaceae.
Bamboo.
128700. Bambusa pervariabilis McClure.

No. 1226. Yau Chuk. From Honam Island, P'an-yu District, Kwangtung. A large, stiffly upright, much-branched sympodial bamboo, cultivated for its thick-walled straight culms which are highly esteemed for heavy construction and punting poles. The wood is very durable.

## 128701. Bambusa lapidea McClure.

No. 1227. Yau Lak Chuk. From Honam Island, P'an-yu District, Kwangtung. A large sympodial slightly spiny bamboo, grown for its thick-walled culms, which are used for heavy construction.
128702. Bambusa multiplex (Lour.) Raeusch.

Hedge bamboo.
No. 1240. Ngau Kan Chuk. From Yau Ue Haang, Kwang-ning District; Kwangtung. A well-known species which attains a height of about 25 feet.

## 128703. Bambusa textilis var. maculata McClure.

No. 1241. Ts'ing P'ei Chuk. From Oo Shek, Hwai-tsih District, Kwangsi. A medium large sympodial bamboo grown for its culms; it differs from the type in having the lower internodes obscurely white-striate and more or less visibly mottled with maroon when young. It is cultivated chiefly as a source of split bamboo for woven work. The smaller culms find a ready market as bean poles, and the tips, discarded from the split-bamboo industry, are used to make pulp for a cheap grade of paper.

## 128704. Bambusa textilis McClure.

No. 1242. Ts'ing P'ei Chuk. From Au Tsai, Hwai-tsih District, Kwangsi. A medium large sympodial bamboo, cultivated chiefly as a source of split bamboo for woven work. The smaller culms find a ready market as bean poles. The tips of the culms, discarded from the split-bamboo industry, are used to make pulp for a cheap grade of paper.
128705. Bambusa lapidea McClure.

## Bamboo.

No. 1245. Ngau Kuen Chuk. From T'ai P'eng Shi, Ts'ing-yuen District, Kwangtung. A large, sympodial, slightly thorny bamboo cultivated for its culms, which are used for heavy construction and for various farm purposes.
128706. Bambusa ventricosa McClure.

Buddha bamboo.
No. 2651. Fat T'o Chuk. From the Fati Gardens, Canton, Kwangtung. A sympodial bamboo grown by the Chinese in pots as an ornamental. Under the conditions of pot culture many if not most of the culms and branches

## 128671 to 128816-Continued

exhibit a more or less marked shortening of the internodes, especially in the lower part of the culm, and hence are dwarfed in stature, with a height of 1 to 3 feet. The abnormal internodes are flask-shaped or pear-shaped. Normal culms sometimes occur under the conditions of pot culture and may attain a height of 6 to 8 feet, the internodes showing little or no departure from the normal cylindrical or terete form. Plants of this species, growing in the open ground at Vero Beach, Fla., have attained a height of about 35 feet and show little tendency to abnormality in the internodes.

For previous introduction see 77013.
Nos. 128707 to 128712 were transferred to the Lingnan University Bamboo Gardens in 1925 from an old bamboo garden on the campus of the College of Forestry, Los Banos, Laguna Province, Philippine Islands.
128707. Bambusa tulda Roxb.

No. 1350. Ma Kaap Chuk. One of the most promising species introduced, though it does not stand much frost. The culms are green and smooth and, under good conditions, may reach a height of 60 to 70 feet and a diameter of 2 to 5 inches. They are nearly solid, extremely tough and strong, split easily and therefore lend themselves to many uses. The plant is quite leafy and proves a beautiful ornamental with its graceful leaning stems and tropical frondage. Native to Bengal, India.

For previous introduction see 74413.
128708. Bambusa multiplex (Lour.) Raeusch.

## Hedge bamboo.

No. 1351. A cultivated variety with dark-green striations against a paler ground on the lower internodes of the culms.
128709. Schiszostachyum lima (Blanco) Merr. Poaceae.

Bamboo.
No. 1354. One of the most valuable species of bamboo in the Philippines, being the source of most of the split bamboo used to make the matting called sawale. A very ornamental species.
128710. Bambusa spinosa Roxb. Poaceae.

Bamboo.
No. 1356. A large, very spiny bamboo whose vegetative characters check with Gamble's illustration of this species of his Bambuseae of India, under the name of B. arundinacea Willd.
128711. Gigantochloa levis. (Blanco) Merr. Poaceae.

Bamboo.
No. 1358. A large sympodial bamboo with culms and culm sheaths densely appressed brown-pubescent. The thick culms are used for heavy construction.
128712 to 128716. Bambusa spp. Poaceae.
Bamboo.
128712. Bambusa vulgaris Schrad.

## Common bamboo.

No. 1359. An Indian bamboo, with bright-green culms 20 to 80 feet high and with numerous branches weighted with dense foliage, the leaves being usually 6 to 10 inches long and $2 / 3$ to $11 / 2$ inches wide. It is propagated differently from the hardy sorts, as new shoots are borne from the base of the culm as well as from the rhizomes.

For previous introduction see 42668.
128713. Bambusa tuldoides Munro.

No. 1475. Nai Chuk. From Shiu Chow, K'uh-kiang District, Kwangtung. A strain characterized principally for its rather long internodes. Cultivated for its culms, which are used principally for structural purposes.

## 128714. Bambusa rutila McClure.

No. 1476. Muk Chuk. From Shiu-Chow, K'uh-kiang District, Kwangtung. A rather large spiny species of no special merit except its tolerance of adverse environmental conditions, notably drought and neglect. Flowering specimens of this species were recently discovered in New Territories, Hong Kong. The plant survived flowering and recovered its vegetative vigor.

## 128671 to 128816-Continued

## 128715. Bambusa textilis McClure

No. 1481. Shaun Taan Chuk. From T’ung Tsz Haang, Lung T'au Mountain, K'uh-kiang District, Kwangtung. A medium-large, sympodial bamboo, apparently spontaneous, perhaps the wild prototype of the cultivated forms. 128716. Bambusa textilis var. gractils McClure.

No. 1487. Koon Yam Chuk. From Lung T'au Mountain, K'uh-kiang District, Kwangtung. A charming ornamental, distinct from the species in its more slender culms, with internodes usually entirely glabrous.
128717. Sinocalamus latiflobus (Munro) McClure (Dendrocalamus latiforus Munro). Poaceae.

Bamboo.
No. 1581. Tiu Sz T'im Chuk (?) From Wuchow, Ts'ang-wu District, Kwangsi. A well-known species cultivated for its edible shoots.
128718 to 128726. Bambusa spp. Poaceae.
Bamboo.
128718. Bambusa gibba McClure.

No. 1669. Nai Chuk. From south of Kanchow (Mandarin), the capital of Kiangsi Province. A medium-sized sympodial bamboo commonly cultivated in Kwangtung as a hedge plant, chiefly on account of its persistent verdure during the dry winter months. The culms are rather crooked and of low economic value.
128719 and 128720. Bambusa tuldoides Munro.
128719. No. 1817. Shui Chuk. From Hong Kong. A medium-large sympodial bamboo with strict habit, cultivated for its culms, which are in demand for structural purposes and punting poles.
128720. No. 1817-A. Division from the same plant as No. 1817 (P. I. 128719).
128721. Bambusa textilis McClure.

No. 1842. Ts'ing P'ei Chuk. From Cheung Kung Tsz, Foh Shaan, Ts'angwu District, Kwangsi. Vegetative propagation from the living type. A sympodial bamboo, cultivated for its culms, which are used for garden stakes and picket fences; a very ornamental plant.
128722. Bambusa multiplex (Lour.) Raeusch.

No. 1854. Yau Ip Wong Chuk. From Ling Moon, Tseng-ch'eng District, Kwangtung. A small graceful willowy variety of the well-known species, cultivated locally as an ornamental.
128723 and 128724. Bambusa pervariabilis McClure.
128723. No. 1862. Paak Mei Chulk. From Pok Ha Ts'uen, Tseng-ch'eng District, Kwangtung.
128724. No. 1862-D. Division from the' same plant as No. 1862 (P. I. 128723).
128725. Bambusa textilis var. glabra McClure.

No. 1865. Wong Chuk. From T'ong T'au Ha, Tung-kwan District. A variety which differs from the species in having culms and culm sheaths glabrous or nearly so.
128726. Bambusa lapidea McClure.

No. 1868. Taai Lak Chuk. From T'ong T’au Ha, Tung-kwan District, Kwangtung.
128727. Sinocalamus sp. Poaceae.

Bamboo.
No. 1887-D. Ts'oi Chuk. From Canton, P'ae-yu District, Kwangtung. A medium-sized bamboo, cultivated for its edible shoots.

## 128671 to 128816-Continued

128728. Schizostachyum dumetorum (Hance) Munro. Poaceae. Bamboo.

No. 1951. Liu Chuk or T'ang Chuk. From New Territories, Hong Kong. A small wild sympodial species with scandent habit. When planted in the open without any support the slender culms bend in a graceful arch, the tips nearly touching the ground. A very charming ornamental with many unusual features. Prefers hillside habitat with good drainage. Base of plant is sold as a drug in Chinese herb shops.

## 128729. Lingnania fimbriligulata McClure. Poaceae. <br> Bamboo.

No. 1984. Kaap Chuk. From Hung Mo Shan, Hainan Island. Vegetative propagation from living type. A heavy sympodial species, attaining a height of 40 feet; cultivated locally for its culms, which are used for various purposes in the domestic economy.

## 128730. Bambusa fecunda McClure. Poaceae. <br> Bamboo.

No. 1989. Ngaang T"au Wong Chuk. From Naam Fung market, Tan District, Hainan Island, Kwangtung. Vegetative propagation from living type. A very prolific sympodial species, cultivated for its culms which are used for picket fences, etc. The culms grow about 10 feet high.
128731. Schizostachyum pseudolima McClure. Poaceae.

Bamboo.
No. 1991. Sha Luk Chuk. From Naam Fung market, Tan District, Hainan Island, Kwangtung. A wild sympodial species of medium stature, promising as an ornamental.
128732 to 128748 . Bambusa spp. Poaceae.
Bamboo.
128732. Bambusa dolichoclada Hayata.

No. 2000. Kaap Chuk. From San Hing, Tan District, Hainan Island, Kwangtung. A medium-sized sympodial bamboo, cultivated for its culms which are put to various farm uses.
128733. Bambusa sp.

No. 2001. Ngaang T'au Wong Chuk. From San Hing, near Nodoa, Tan District, Hainan Island, Kwangtung. A medium-sized, sympodial, cultivated bamboo of limited usefulness.

## 128734. Bambusa multiplex (Lour.) Raeusch. <br> Hedge bamboo.

No. 2002. In T'ung Chuk. From San Hing, near Nodoa, Tan District, Hainan Island, Kwangtung. A wild sympodial species attaining a height of 15 to 20 feet. Culms used as garden poles and for picket fences.
128735. Bambusa sp.

No. 2159. Fa Mei Chuk. From Naam T’aan, Lung-men District, Kwangtung. A small monopodial, cultivated species with strong thick walls and rather crooked culms.
128736. Bambusa sinospinosa McClure.

No. 2170. A large sympodial, very thorny, cultivated bamboo, used chiefly for village barriers and very rough construction. The shoots are sometimes eaten in the pickled form.

## 128737. Bambusa flexuosa Munro.

No. 2177. Lak Chuk. From Honam Island, P'au-yu District, Kwangtung. Small to medium-sized sympodial thorny bamboo, cultivated as hedges and barriers.
128738 and 128739. Bambusa multiplex (Lour.) Raeusch. Hedge bamboo. 128738. No. 2188. Shaan Wong Chut. From Naam Kw'aan K'iu, Lung-men District, Kwangtung. A variety with the internodes of the culms striated with cream-colored stripes.
128739. No. 2278. Shek Tso Chuk. From Uen T’aam Mei, Tseng-ch'eng District, Kwangtung. A variety characterized by ruddy color in the young culm sheaths and yellow color in the internodes of the mature culms.

## 128671 to 128816—Continued

128740. Bambusa textilis var. gradilis McClure.

No. 2279. Wong Chuk. From Uen T’aam Mei, Tseng-ch'eng District, Kwangtung.

For previous introduction and description see 128716.
128741. Bambusa multiplex (Lour.) Raeusch.

No. 2283. From Loh Fau Mountain, Poh-lo District, Kwangtung. A form unique in our collection, characterized by large size, glabrous culms, and conspicuous white striation of the internodes.
128742. Bambusa textilis var. albo-striata McClure.

No. 2286. Luk Lei Chuk. From Maak Ts'uen, Tseng-ch'eng District, Kwangtung. Vegetative propagation from the type plant.

For previous introduction and description see 128691.

## 128743. Bambusa sp.

No. 2288. Paak Mei Chuk. From Loh Fau Mountain, Lung-men District, Kwangtung. A small monopodial, cultivated species with strong thick walls and rather crooked culms.
128744. Bambusa pervariabilis McClure.

No. 2332. Nai Chuk. From Chung Shaan public garden, Hoh Uen City, Ho-yuen District, Kwangtung.
For previous introduction and description see 128700.
128745. Bambusa tuldoides Munro.

No. 2333. Nai Chuk. From Hoh Uen City, Ho-yuen District, Kwangtung. A commonly cultivated structural bamboo.
128746. Bambusa textilis var. fusca McClure.

No. 2335. Luk Chuk. From Hoh Uen City, Ho-yuen District, Kwangtung. Vegetative propagation from the type plant. The variety differs from the species in the very much darker, denser, more persistent appressed pubescence on the culm sheaths. This bamboo is used for the same purposes as the typical form.
128747. Bambusa bashirbuta McClure.

No. 2337. Bin Chul. From Lung Keng, Ho-yuen District, Kwangtung. Vegetative propagation from the type plant. A sympodial bamboo reaching a height of 40 feet, cultivated locally for its culms which are of some value for temporary structural purposes, and for its edible shoots.
128748. Bambusa dissimulator McClure.

No. 2348. Lak Chuk. From the Lingnan University campus near Canton, P'an-yu District, Kwangtung. Vegetative propagation from the type plant. A medium large, somewhat thorny sympodial species, cultivated for its strong, thick-walled culms which are used in heavy construction.
128749. Sinocalamus latiflorus (Munro) McClure (Dendrocalamus latiforus Munro). Poaceae. Bamboo.
No. 2368. T'im Chuk. From the Saam Kong Market, Tseng-ch'eng District,
Kwangtung. A large sympodial species, cultivated for its edible shoots which are counted the best.
128750. Bambusa dissimulator McClure. Poaceae.

Bamboo.
No. 2423. Lak Chuk. From Lingnan University campus, near Canton, P'an-yu District, Kwangtung.

For previous introduction and description see 128748.
128751. Bambusa mutabilis McClure. Poaceae.

Bamboo.
No. 2438. Wong Chuk Tsai. From Ko K'ei, Chow Island, Yai District, Hainan Island, Kwangtung. Vegetative propagation from type plant. A sympodial species reaching a height of about 20 feet, cultivated for its culms which in character and usefulness resemble those of Bambusa textilis.

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## 128671 to 128816-Continued

128752. Bambusa flexuosa Munro. Poaceae. Bamboo.
No. 2443. Lak Chuk. From Paai Poon, Ling-shui District, Hainan Island, Kwangtung.

For previous introduction and description see 128737.
128753. Lingnania fimbriligulata McClure. Poaceae.

Bamboo.
No. 2451. Ngau Ts'oi Chuk. From Fan-Maan, Yai District, Hainan Island, Kwangtung.

For previous introduction and description see 128729.
128754. Bambusa boniopsis McClure. Poaceae.

Bamboo.
No. 2454. Ma Chuk. (Loi : K'au-tin.) From Fan-Maan, Yai District, Hainan Island, Kwangtung. Vegetative propagation from type plant. A wild sympodial species reaching a height of 6 feet or over, promising as an ornamental. The culms are produced abundantly and would serve admirably as garden stakes.
128755. Bambusa sp. Poaceae.

Bamboo.
No. 2649. Chuk Tsai. From Tsai Sin To, T’ung Koo Leng, Wen ch'ang District, Hainan Island, Kwangtung. Seedling plants of a wild sympodial species of, as yet, unknown mature stature.
128756. Sinocalamus sp. Poaceae.

Bamboo.
No. 2664. Tiu Sz K'au Chuk. From the Lingnan University gardens (original source unknown). A medium-large sympodial species, cultivated for its edible shoots.
128757. Bambusa sp. Poaceae.

Bamboo.
No. 2665. Ue T'o Naam Chuk. From the Lingnan University gardens (original source unknown). A medium-large sympodial species, cultivated for its edible shoots.
128758 and 128759. Sinocalamus beechayanus (Munro) McClure. Poaceae. Bamboo.
From the Lingnan University gardens (original source unknown). Large sympodial species, cultivated for their edible shoots.
128758. No. 2666. Ma Mei Chuk.
128759. No. 2667. Taai T'au Tim Chuk.

128760 to 128767 . Bambusa spp. Poaceae.
Bamboo.
128760. Bambusa multtplex (Lour.) Raeusch.

## Hedge bamboo.

No. 2672. Taai Ip Koon Yam Chuk. From the Lingaan University campus (original source unknown). A small sympodial species rather commonly grown here as a hedge plant.
128761. Bambusa textilis McClure.

No. 2674. Ts'ing P'ei Ohuk. From the Lingnan University campus.
For previous introduction and description see 128698.
128762. Bambúsa pervartabilis McClure.

No. 2675. Kwat T'au Ts'ing Chuk. From the Lingnan University campus, Canton, Kwangtung.

For previous introduction and description see 128700.
128763 and 128764. Bambusa textilis var. gracilis McClure.
From the Lingnan University campus, Canton, Kwangtung.
For previous introduction and description see 128716.
128763. No. 2677. Ngai Chau Chuk.
128764. No. 2678. T'ok Chuk. Vegetative propagation from type plant.

## 128671 to 128816-Continued

## 128765. Bambusa textilis var. maculata McClure.

No. 2691. Chue Ts'uen Wong Ohuk. From Chue Ts'uen, Tseng-ch'eng District, Kwangtung.

For previous introduction and description see 128703.
128766 and 128767. Bambusa pervariabilis McClure.
From the Lingnan University campus, Canton, Kwangtung.
For previous introduction and description see 128700.
128766. No. 2719. Fa Mei Chuk.
128767. No. 2720. Yau Chuk.

128768 to 128810. Phyllostachys spp. Poaceae.

## Bamboo.

128768. Phyllostachys sp.

No. 1116-B. P'o Chuk. From Tak Hing, Teh-k'ing District, Kwangtung. A small monopodial, wild bamboo whose shoots are used for food.

## 128769. Phyllostachys nidularia Munro.

No. 1117-1. Kan Chuk. From Tak Hing, Teh-k'ing District, Kwangtung. A small to medium-sized, monopodial, very aggressive wild bamboo whose shoots are used for food. The culms are used for paper making in central China.

## 128770. Phyllostachys sp.

No. 2112. Loh Han Chuk. From I-hsing District, Kiangsu. A monopodial species of medium stature.
128771. Phyllostachys purpurata McClure.

No. 1246. Lai Tsai Chuk. From Koon T'aan Haang, Kwangning District, Kwangtung. Vegetative propagation from type plant. A wild, rampant, monopodial species with weak flexuose culms up to 15 feet high. Promising only as a pioneer plant, it should not be allowed to get out of hand on land intended for cultivation.
128772. Phyllostachys nidularia Munro.

No. 1399. So Pa Chuk. From Kwangtung Province, without locality. A small wild, rampant, monopodial bamboo with edible shoots. Should not be allowed to get out of hand.

## 128773. Phyllostachys sp.

No. 1421. Lei San Chuk. From Tak Hing, Teh-king District, Kwangtung. A medium-sized monopodial bamboo, half-cultivated for its edible shoots and for its culms which are used for temporary fences and for fuel.
128774. Phyllostachys sp.

No. 1424. Kan Chuk. From Wuchow, Ts'ang-su District, Kwangsi. 128775. Phyllostachys bambusoides Sieb. and Zucc.

No. 1662. Kam Chuk. From Chung Tung, Wung-yuen District, Kwangtung. A small monopodial bamboo, cultivated for its edible shoots. This number has been flowering over a period of about 10 years, and for this reason its full stature is not yet known. It is about 7 feet high at present.
128776. Phyllostachys sp.

No. 1831. Chan Chuk. From Ch'eung Chow, T'eng District, Kwangsi. A small wild monopodial bamboo with edible shoots.
128777. Phyllostachys sp.

No. 1841. Taai Chan Chut. From Wuchow, Ts'ang-wu District, Kwangsi. A medium-sized monopodial species cultivated for its edible shoots.

## 128778. Phyllostachys sp.

No. 2007. Fa Chuk. From Ta Tsit, near the Hang Mo Mountains, Tan District, Hainan Island, Kwangtung. A small wild monopodial species, possibly useful as an ornamental.

## 128671 to 128816-Continued

128779. Phyllostachys nidularia Munro.

No. 2102. Kam Sz Chuk. From the Fati Gardens, Canton, P'an-yu District, Kwangtung, where it is cultivated as a potted ornamental.
Nos. 128780 to 128787. From Nanking, Kiangsu.
128780. Phyllostachys sp.

No. 2108. Haak Paan Chuk.
128781. Phyllostachys sp.

No. 2109. Mui Tim Chuk.
128782. Phyllostachys sp.

No. 2114. Mat Chuk.
128783. Phyllostachys sp.

No. 2117. Chau Chuk.
128784. Phyllostachys sp.

No. 2123. T'aam Chuk.
128785. Phyllostachys sp.

No. 2126. Foo Chuk.
128786. Phyllostachys sp.

No. 2128. Sha P'ei Ohuk.
128787. Phyllostachys bambusoides Sieb. and Zucc.

No. 2130. Mui Tim Chuk.
128788. Phyllostachys sp.

No. 2132. Mei Ohuk. From Lung Chi Mountain, Kiangsu.
128789. Phyllostachys sp.

No. 2133. Foo (Wong) Chuk. From I Hing, Kiangsu.
Nos. 128790 to 128796. From Lung Chi Mountain, Kiangsu.
128790. Phyllostachys sp.

No. 2135. Hau Chuk.
128791. Phyllostachys sp.

No. 2140. Tr'o Chuk.
128792. Phyllostachys pubpurata McClure.

No. 2141. Ohung Chuk.
128793. Phyllostachys sp.

No. 2142. Kong Ohul.
128794. Phyllostachys bambusoides var. castilloni (Marl.) H. de Lehaie.

No. 2143. Wong P'ei Kong Chuk.
128795. Phyllostachys sp.

No. 2144. Wong P'ei Kong Chuk.
128796. Phyllostachys sp.

No. 2145. Poon Chuk.
128797. Phyllostachys purpurata McClure.

No. 2151. M'uk Chuk. From I Hing, Kiangsu.
128798. Phyllostachys sp.

No. 2160. Wong Kam Chuk. From Ma Cha, Lung-men District, Kwangtung. A small wild species with edible shoots and some possibilities as an ornamental.

## 128671 to 128816-Continued

## 128799. Phyllostachys sp.

No. 2118. Mui Chuk. From Nanking, Kiangsu.
Nos. 128800 to 128805. From Mo Hong, Ohekiang.
128800. Phyllostachys purpubata Mcolure.

No. 2197. Muk Ohuk.
128801. Phyllostachys sp.

No. 2200. T'oi Ohuk.
128802. Phyllogtachys sp.

No. 2201. Oo Kam Ohuk.
128803. Phyllostachys sp.

No. 2203. Shek Chuk.
128804. Phyllostachys sp.

No. 2206. Tso Uet Chuk.
128805. Phyllostachys sp.

No. 2207. Shui Chuk.
128806. Phyllostachys sp.

No. 2214. From Naam P’o T'o Tsz, Amoy, Fukien.
128807. Phyllostachys sp.

No. 2277. Kam Chuk or Kan Chuk. From near Loh Fau Mountain in Tseng-ch'ang District (?), Kwangtung.
128808. Phyllostachys sp.

No. 2292. Laap P'a Ohuk. From Loh Fau Mountain, Poh-lo District, Kwangtung. A small wild monopodial species used principally for fuel and to make rough brooms.
128809. Phyllostachys sp.

No. 2341. Kam Chuk. From Hoh Uen City, Ho-yuen District, Kwangtung. A medium-sized bamboo, cultivated for its edible shoots.
128810. Phyllostachys sp.

No. 2349. Kam Chuk. From Danes Island, P'an-yu District, Kwangtung. A wild species with edible shoots.
128811. Arundinaria sp. Poaceae. Bamboo.

No. 2644. Chuk Tsai. From T'o Leng Village, Wen-ch'ang District, Hainan Island, Kwangtung.
128812. Phyllostachys nidularia Munro. Poaceae.

Bamboo.
No. 2657. Pat Sun Ohuk. From Honan Island, near Canton, Kwangtung. A bamboo cultivated for its edible shoots. The culms reach a height of 12 to 15 feet, are very flexuous, with large nodes, but are of little use.
128813. Phyllostachys sp. Poaceae.

Bamboo.
No. 2353. From Danes Island, near Canton, Kwangtung.
128814. Arundinaria sp. Poaceae.

Bamboo.
No. 2137. Pat Chuk. From Lung Chi Mountain, Kiangsu. 128815. Indocalamus sinicus (Hance) Nakai. Poaceae. Bamboo.

No. 2726. From Hong Kong Island. A small monopodial, wild bamboo, apparently endemic on Hong Kong Island. Promising as an ornamental.
128816. Sinocalamus sp. Poaceae.

Bamboo.
No. 1580. Tr'ing T'im Chuk. From Wuchow, Ts'ang-wu District. A large attractive sympodial species, cultivated for its edible shoots.

## 128817 to 128824.

From Chile and Peru. Seeds collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received April 20, 1938.
128817. Cestrum parqui L'Her. Solanaceae. ... Chilean cestrum.

No. 412. Collected near Santiago, Chile, March 11, 1938.
For previous introduction see 81148.
128818. Datura stramonium L. Solanaceae.

No. 459. From the Experiment Farm, Copiapó, Chile, March 19, 1938.
128819. Datura stramonium L. Solanaceae.

No. 553. From Huaraz, Peru, April 4, 1938.
128820. Lantana camara L. Verbenaceae.

No. 488. From Arica, Chile, March 25, 1938.
128821. Physalis sp. Solanaceae.

No. 465. Capoli. From a garden at Pica, Chile, March 23, 1938. A large plant, about 5 feet tall.
128822. Physalis sp. Solanaceae.

No. 445. From a garden near Villanar, Chile, March 18, 1938. Fruit small and sticky.
128823. Solanum sp. Solanaceae.

No. 554. Gapichinya. From near Huaraz, Peru, April 4, 1938.
128824. Solanum sp. Solanaceae.

No. 444. From a garden near Villanar, Chile, March 18, 1938. A plant with slender, undulating, obtuse, spiny leaves, light-purple flowers, and small yellow fruits.

## 128825 and 128826.

From the Union of Soviet Socialist Republics. Seeds presented by the Forest Garden Experiment Station, Beshtaugorsky Lesopark, Stanzia Mashuk near Pyatigorsk, Caucasus. Received April 21, 1938.
128825. Juglans regia L. Juglandaceae.

Persian walnut.
128826. Prunus avium L. Amygdalaceae.

## 128827 to 128831. Phleum pratense L. Poaceae.

From Norway. Seeds presented by Dr. H. Wexeksen, Felleskjopets Stamsedgard, Hjellum. Received April 22, 1938.
Improved strains of timothy.
128827. GI 143.
128830. F 80-0.
128828. 412-1.
128831. H 54.
128829. 710-1.

## 128832 to 128836.

From the Netherlands. Seeds presented by the Botanic Garden, Utrecht. Received April 25, 1938.
128832. aquilegia vulgaris L. Ranunculaceae. European columbine.

For previous introduction and description see 128525.
128833. Callistephus chinensis (L.) Nees. Asteraceae.

For previous introduction and description see 128667.
128834. Cannabis sativa L. Moraceae.

Hemp.

## 128832 to 128836-Continued

128835. Impatients parviflora DC. Impatientaceae.

Snapweed.
An annual snapweed with elliptic-ovate leaves and erect clusters of 3 to 10 small yellow flowers. Native to central Asia.
128836. Impatiens scabrida DC. Impatientaceae. Snapweed. For previous introduction and description see 128533.
128837 to 128859. ZeA mays L. Poaceae.
Corn.
From Chile and Peru. Seeds collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received May 2, 1938.
Nos. 128837 to 128847. Collected in Chile in March 1938.
128837. No. 447. From near Villanar, March 18. Plant 8 to 10 feet high; 14 rows on each ear.
128838. No. 474. From the market at Arica, March 24, but grown in Tacna. Kernels with dark red tips.
128839. No. 489. Tilia Saguara. From Arica, March 25. A typically native corn; 15 rows to the ear.
128840. No. 490. Piamontes. From the Valle de Azapa, March 20 ; ears 5 to 6 inches long with 17 rows on each ear.
128841. No. 491. Guancarne. From the Valle de Camarones, March 20; 14 rows to the ear.
128842. No. 492. Argentina. From the Valle de Azapa, March 25; ears 5 to 6 inches long with 12 to 14 rows on each ear.
128843. No. 493. Guancarne. From the Valle de Camarones, March 25. Ears tinted bright red, 12 rows on each ear.
128844. No. 494. Hacienda Camarones. From the Valle de Camarones. Yellow corn with 14 rows on each ear.
128845. No. 495. Esquiña. From the Valle de Camarones, March 25 ; 15 rows to the ear.
128846. No. 496. Guancarne. From the Valle de Camarones, March 25; dark red corn, 12 rows on each ear.
128847. No. 497. Lluta Valle. From Arica, March 25.

Nos. 128848 to 128859. Collected in Peru in 1938.
128848. No. 498. From the market at Tacna, March 26. Yellow corn with brownish red band on the yellow tips: 10 rows on the ear.
128849. No. 499. From the market at Tacna, March 26. Dark yellow corn with red streaks; 14 rows on the ear.
128850. No. 500. From the market at Tacna, March 26. Kernels yellow, tipped red, cloaked with occasional dark red streaks.
128851. No. 518. Negro Arequipa. From a garden east of Moquegua, March 27. Black corn, 10 rows on the small ear.
128852. No. 519. Corillo Maiz de Pachia. From a garden east of Moquegua, March 13. Native white corn that matures in 4 months; 12 rows on the ear.
128853. No. 535. Negro. From the market at Arequipa, March 30; black corn.
128854. No. 536. Plonca. From the market at Arequipa, March 30; large white corn.
128855. No. 555. From Lima, April 4; yellow sweet corn.
128856. No. 556. From Lima, April 4; white corn with large kernels; 8 rows on the ear.
128857. No. 557. From Lima, April 4; yellow corn with large kernels; 8 rows on the ear.

## 128837 to 128859-Continued

128858. No. 558. From Lima, April 4; large yellow kernels with red streaks.
128859. No. 560. From the market at Tacna, March 26 ; yellow corn with red stripes; 12 rows on the ear.

## 128860 to 128863.

From New Zealand. Seeds purchased from Mrs. E. C. Richards, Round Top, Windwhistle, Canterbury. Received April 27, 1938.
128860. Carmichaelia uniflora T. Kirk. Fabaceae.

A dwarf matted shrub with slender, often subterranean stems 1 to 2 inches high, forming large patches, and solitary purplish flowers $1 / 2$ inch long. Native to New Zealand.

## 128861. Dacrydium laxifolium Hook. f. Taxaceae.

A prostrate evergreen shrub with slender branches 3 to 24 inches long. The leaves of young plants are lax, narrow-linear, and up to $1 / 3$ inch long; the leaves of mature plants are broader and thicker. Native to New Zealand.
128862. Hibiscus trionum L. Malvaceae. : Flower-of-the-hour.
128863. Viola filicaunts Hook. f. Violaceae.

A New Zealand violet with many slender prostrate stems sometimes ascending at the tips, cordate leaves, and very pale blue flowers $1 / 2$ inch across.
128864 to 128868. Trifolium spp. Fabaceae.
Clover.
From Sweden. Seeds presented by Dr. Frederik Nilsson, Vasternorrland substation of Sveriges Utsädesforening, Undrom. Received April 28, 1938.
A collection of Angermanland clover strains from northern Sweden.
128864 to 128867. Trifolium pratense L.
Red clover.
128864. Bollsta.
128865. Bredyn.
128868. Trifolium repens L.
01.
128869. Malus sylvestris Mill. Malaceae.

White clover. 128867. Sidensjo.

From Canada. Scions presented by Kenneth McDonald \& Sons, Ltd., Ottawa. Received May 4, 1938.
Peach of Montreal.

## 128870 to 128883.

From Chile. Seeds collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received April 22, 1938.
128870 to 128873 . Alstroemeria spp. Amaryllidaceae.
128870. Alstroemeria ligtu var. pulchra (Sims) Baker.

No. 415. Presented by Augustin Garaventa, Limache, March 14, 1938. A bulbous plant, native to Chile, with thin linear-lanceolate leaves 2 to 3 inches long and a flower stem 2 feet long, bearing a compound umbel of whitish lilac or pale-red flowers 1 to 2 inches long, streaked with purple.

For previous introduction see 92946.
128871. Alstroemeria inodora Herbert.

No. 413. Presented by Augustin Garaventa, Limache, March 14, 1938. An alstroemeria 2 to 3 feet high, with thin lanceolate or oblong leaves narrowed into winged petioles and an umbel of 2 to 6 flowers over 1 inch long. Native to Brazil.

## 128870 to 128883 -Continued

128872. Alstroemeria versicolor var. cummingiana (Herbert) Baker.

No. 431. From Quebrada Salta Mathaei, east of Viña del Mar, March 15, 1938. A Chilean alstroemeria about 12 inches high, with small scattered linear leaves $1 / 2$ inch long and yellow, purple-spotted flowers 1 inch long in small umbels.

## 128873. Alstroemeria sp.

No. 435. Collected along the seaside, north of Viña del Mar, March 15, 1938. 128874. Apium graveolens L. Apiaceae.

Celery.
No. 433. Collected along the ocean north of Salinas, near Viña del Mar, March 15, 1938. A plant with coarse glossy green leaves.
128875. APIUM sp. Apiaceae.

No. 430. From Quebrada Salta Mathaei ; growing on a dry slope among trees, March 15, 1938.
128876. Calandrinia grandiflora Lindl. Portulacaceae.

No. 427. Along the shore on rocks north of Salinas, March 15, 1938. A succulent, shrubby perennial with tortuous stems about 2 feet high, small fleshy rhomboid leaves, and terminal racemes of few large violet flowers. Native to Chile.
128877. Dolia tomentosa (Lindl.) Benth. and Hook. f. Nolanaceae.

No. 436. From along the seaside near Viña del Mar, March 15, 1938. A prostrate shrubby plant with small fleshy linear-oblong leaves and solitary, white or very pale-lilac flowers. Native to Chile.
128878. Escallonia pulverulenta (Ruiz and Pav.) Pers. Escalloniaceae.

No. 419. From Limache, March 14, 1938. A shrub with large, thick, silverygray, oval or elliptic leaves and white flowers in long dense terminal racemes. Native to Chile.

For previous introduction see 78344.
128879. Mutisia sp. Asteraceae.

No. 426. Growing near the coast south of Salta, March 15, 1938. Received without further notes.
128880. Papaver sp. Papaveraceae.

No. 429. From Quebrada Salta Mathaei, east of Viña del Mar, March 15, 1938.
128881. Solanum sp. Solanaceae.

No. 428. Along the shore north of Salinas, March 15, 1938. Fruit small, green, with a violet stripe from stem to blossom end.
128882. Tropaeolum ciliatum Ruiz and Pav. Tropaeolaceae.

No. 417. From Limache, March 14, 1938. A perennial herbaceous twiner with slender stems, lobed peltate leaves, and small yellow flowers. Native to Peru and Chile.
128883. Vestia lyciomes Willd. Solanaceae.

No. 418. From Limache, March 14, 1938. A handsome erect deciduous shrub about 3 feet high, with oblong-oval leaves up to 2 inches long, glossy on the upper surface, and tubular pale-yellow flowers over 1 inch long. Native to Chile. 128884 to 128890. Lfcopersicon esculentum Mill. Solanaceae.

Tomato.
From France. Seeds purchased from Tézier Frères, Valence-sur-Rhone. Received April 22, 1938.
128884. de Marmande.
128885. Mikado Ecarlate.
128886. Merveille des M'archès.
128887. Perfection.

827735-49-5
128888. Reine des Hatives.
128889. Roi Humbert.
128890. Rouge Grosse.

## 128891 to 128893. Trifolium repens L. Fabaceae.

## White clover.

# From New Zealand. Seeds presented by E. Bruce Levy, Director, Grasslands Division, Department of Scientific and Industrial Research, Plant Research Bureau. Received April 26, 1938. 

128891. New Zealand Certified Mother Seed, Ac. 2414.
128892. New Zealand Certified Permanent Pasture, Ac. 2426.
128893. New Zealand Pedigree Seed, Ac. 2419.

## 128894. Glyceria multiflora Steud. Poaceae.

From Chile. Seeds presented by Father Atanasio Hollenmeyer, Mision Quinchilca, through Prof. T. H. Goodspeed, University of California, Berkeley, Calif. Received May 6, 1938.
A perennial grass with stems 3 feet or higher; grows in swamps and on banks near stagnant water; a good grazing grass.
128895 to 128897 . Trifolium spp. Fabaceae.
From Denmark. Seeds presented by the Dänske Landboforeningers Frøforsyning, Taastrup. Received May 6, 1938.
128895 and 128896. Trifolium pratense L. Red clover. 128895. Early Øtofte El 406. 128896. Late Øtofte El 454.
128897. Trifolium repens L.

White clover. Morse $\emptyset_{\text {tofte El }} 407$.

## 128898. Begonia sutherlandi Hook. f. Begoniaceae.

From Pennsylvania. Plants presented by Mrs. J. Norman Henry, Gladwyne. Received May 9, 1938.
A tuberous begonia with slender, bright red-purple stems 1 to 2 feet high, translucent ovate-lanceolate leaves, the blades about 5 inches long, and axillary and terminal cymes of many orange to rose-red flowers, each about 1 inch in diameter. Native to damp, shady places in Natal at altitudes of 3,500 to 5,000 feet.
128899 to 128908. Cucomis melo L. Cucurbitaceae. Muskmelon.
From France. Seeds purchased from Tézier Frères, Valence-sur-Rhone. Received May 22, 1938.
128899. Ananas d'Amérique à Chair Rouge.
128900. Oantaloup d’Alger.
128901. Cantaloup de Bellegarde.
128902. Charentais (choix courant).
128903. de Cavaillon à Chair Rouge.
128904. de Cavaillon à Chair Verte.
128905. Délices de la Table.
128906. Noir des Carmes.
128907. Prescott Fond Blanc Gros.
128908. Sucrin de Tours.

128909 to 128917.
From India. Seeds collected by Walter Koelz, Bureau of Plant Industry, United States Department of Agriculture. Received April 26, 1938.

## 128909. Cicer arietinum L. Fabaceae.

Sabour Type 4. From the Botanical Section, Sabour, District Bhagalpur, Bihar.

## 128909 to 128917—Continued

128910 to 128914. Citrullus vulgaris Schrad. Cucurbitaceae. Watermelon. 128910. From Pakur, District Santalparagnas, Bihar.
128911. From Samastipur, District Darbhanga, Bihar.
128912. From Sabour, District Bhagalpur, Bihar.
128913. From Madhubani, District Darbhanga, Bihar.
128914. From Pusa, District Darbhanga, Bihar.

128915 and 128916. Dolichos lablab L. Fabaceae. Hyacinth-bean.
From the Botanical Section, Sabour, District Bhagalpur, Bihar.
128915. Sabour Type 1. 128916. Sabour Type 2.
128917. Randia sp. Rubiaceae.

From Londa, Bombay Presidency, February 1938. A small tree or shrub.
128918. Stenolobium arequipense Sprague. Bignoniaceae.

From Peru. Seeds collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received May 4, 1938.
No. 517. From Moquegua, Peru, March 27, 1938. An erect shrub up to 6 feet high, with slender 4 -angled branches and pinnate leaves 4 to 5 inches long. The funnel-shaped orange flowers are 2 to 3 inches long and are borne in terminal racemes 4 to 8 inches long. Natiye to Peru.

For previous introduction see 127850 .

## 128919 to 128922. Derris spp. Fabaceae.

From the Federated Malay States. Cuttings presented by the Central Experiment Station, Serdang, through the Royal Botanic Gardens, Kew, Surrey, England. Received May 11, 1938.
128919 to 128922. Derris elliptica (Roxb.) Benth.
128919. Changi 1.
128920. Changi 2.
128921. Changi 3. Serdang. Clone No. 39.
128922. Sarawak Creeping. Clone No. 19
128923. Derris malaccensis var. sarawakensis M. R. Henderson. Fabaceae.
Serdang. Clone No. 5. An erect shrubby plant differing from the type by the larger flowers with a more hairy calyx and silky standard. Native to the Malay Peninsula.

## 128924 to 128984.

From India. Seeds presented by the Lloyd Botanic Garden, Darjeeling. Received May 12, 1938.
128924. Aconitum luridum Hook f. and Thoms. Ranunculaceae. Monkshood.

A perennial herb with simple erect stems 2 to 3 feet high, native to the alpine slopes of the Himalayas in India. The palmately 5 -lobed leaves, 2 to 3 inches across, have crenate margins, and the dull-red flowers, borne in a simple raceme, have a long straight beak and a broad domelike dorsal prominence.

For previous introduction see 122055 .
128925. Actinidia strigosa Hook. f. and Thoms. Dilleniaceae.

A woody vine resembling Actinidia callosa, with strigose-hispid ovate leaves 5 inches long, white flowers nearly 1 inch across in axillary cymes, and ovoid edible fruits. Native to the Sikkim Himalayas at altitudes of $\mathbf{6 , 0 0 0}$ to 8,000 feet.

For previous introduction see 93173.

## 128924 to 128984-Continued

128926. anemone vitifolia DC. Ranunculaceae.

## Grapeleaf anemone.

A stout bushy perennial, 1 to 3 feet high, with large deeply divided leaves 3 to 6 inches across and beautiful white flowers 1 inch or more across in open corymbs. Native to the Himalayas at altitudes of 5,000 to 10,000 feet.

For previous introduction see 114714.
128927. Argyreia wailichit Choisy. Convolvulaceae.

A large woody climber with leathery ovate-cordate leaves 6 to 14 inches long and many white rose-tinged flowers about $11 / 2$ inches long, in dense heads up to 3 inches in diameter. Native to northern India.

## 128928. Arisaema griffithir Schott. Araceae.

A tuberous herb native to the temperate Himalayas in India from 7,000 to 12,000 feet altitude. The 2 leaves are divided into 3 rhombic-orbicular crenate lobes 6 to 10 inches long with faint yellow margins. The tube of the spathe, 2 to 3 inches long, is purple ribbed with white, and the incurved limb, 5 to 8 inches broad, is divided into 2 dull-purple lobes reticulated green and having purple tails 3 inches long. The stout spadix has a tortuous linear purple tail 1 to 3 feet long.

For previous introduction see 102753.
128929. Arisaema tortuosum (Wall.) Schott. Araceae.

A tuberous herb native to the subtropical and temperate Himalayas up to 8,000 feet altitude. The 2 or 3 leaves, on petioles 1 to 3 feet long, have 5 to 20 linear to ovate tailed leaflets 12 to 18 inches long. The flower stalk, 2 to 4 feet high, bears a pale-green or purple spathe 4 to 6 inches long with an incurved boatshaped limb, and the spadix, which resembles a rat tail, is first erect, then recurved, and again erect.

For previous introduction see 102754.
128930. Aster tricephalus Clarke. Asteraceae.

A small vigorous subtropical herbaceous perennial with obovate-spatulate radical leaves and 1 to 3 reddish flower heads about 1 inch in diameter. Native to the Sikkim Himalayas at altitudes of 10,000 to 14,000 feet.

For previous introduction see 122067.
128931. Begonia megaptera A. DC. Begoniaceae.

A begonia with a thick woody rootstock, erect stems up to 18 inches high, and cordate-ovate, undulate leaves 4 to 6 inches long. The large pink flowers are on elongated peduncles, often 8 inches in length, in the upper axils. Native to the Sikkim Himalayas at 2,000 to 8,000 feet altitude.
128932. Begonia sikkimensis A. DC. Begoniaceae.

An erect-stemmed begonia up to 18 inches high, with round-lobed leaves 4 to 6 inches in diameter and medium-sized bright-red flowers. Native to the Sikkim Himalayas between 3,000 and 7,000 feet altitude.
128933. Betula utilis D. Don. Betulaceae.

Birch.
A tree 40 to 60 feet high, with a red-brown trunk and branches and bark which peels off in papery flakes. It is native to subtropical regions of the Himalayas. The oval coarsely-toothed, sharp-pointed leaves, 3 inches long, are dark green above and paler beneath. In winter, the orange-chocolate color of the twigs is very striking.

For previous introduction see 99654.
128934. Bupleurum candollif Wall. Apiaceae.

A perennial herb 1 to 3 feet high, native to the Himalayas up to 12,000 feet altitude. The linear to ovate leaves, 2 to 5 inches long, are entire, and the small yellow flowers are borne in compound umbels.

For previous introduction see 99722.

## 128924 to 128984-Continued

## 128935. Cathcartia villosa Hook. f. Papaveraceae.

A hardy annual or biennial found between 10,000 and 12,000 feet altitude in the Sikkim Himalayas. The abundance of long shaggy fulvous hairs and the large bright-yellow, nodding, glabrous flowers give it a handsome appearance. The cordate radical leaves are long-petioled and palmately 5 -lobed; the stem leaves are sessile and the uppermost ones pinnatifid.
For previous introduction see 102312.
128936. Celastrus paniculatus Willd. Celastraceae.

A climbing shrub native to the Himalayan foothills up to 4,000 feet altitude. The oval-oblong or obovate serrate acuminate leaves are 2 to 5 inches long, and the small yellowish-green flowers are in small terminal panicles. The seeds contain oil that is used chiefly for illumination.
For previous introduction see 47657.
128937. Clintonia alpina (Royle) Kunth. Convallariaceae.

A low perennial native to the temperate slopes of the Himalayas. The lanceolate leaves are 4 to 9 inches long, and the small white funnel-shaped flowers are borne in a loose raceme on a scape 1 to 2 feet high.
For previous introduction see 122074.
128938. Corydauls chaerophylla DC. Papaveraceae.

An upright herbaceous perennial, 2 to 4 feet high, with large decompound leaves 6 to 10 inches long and slender golden yellow flowers $3 / 4$ inch long, in terminal racemes. Native to the temperate Himalayas at altitudes of 6,000 to 10,000 feet.

For previous introduction see 66453.
128939. Cbawfurdia affinis C. B. Clarke. Gentianaceae.

A herbaceous twiner with cordate-lanceolate leaves about 3 inches long and several small white or greenish-yellow flowers in fascicles. Native to the Himalayan region at 5,000 to 6,000 feet altitude.
128940. Crawfurdia speciosa Wall. Gentianaceae.

A herbaceous twiner with elliptic leaves about 3 inches long and showy cymes of 1 to 5 purple flowers. Native to the central and eastern Himalayas at altitudes of 6,000 to 10,000 feet.
128941. Cremanthodium sp. Asteraceae.

Received under the name "uniforum," for which a place of publication has not been found.
128942. Cynoglossum furcatum Wall. Boraginaceae.

An erect perennial with numerous stems from a rosette of lanceolate, softhaired, entire leaves. The small blue flowers are borne in long slender clusters similar to those of the forget-me-not. Native throughout India at altitudes of 4,000 to 9,000 feet.
For previous introduction see 111044.
128943. Daphne involucrata Wall. Thymelaeaceae.

A lax shrub up to 20 feet high, with thin oblong-lanceolate leaves 3 to 6 inches long and silky-white, fragrant flowers in long-stemmed heads. Native to the Sikkim region in India at altitudes of 4,000 to 6,000 feet.
For previous introduction see 124246.

## 128944. Eurya symplocina Blume. Theaceae.

A slender evergreen shrub with oblong-elliptic leaves 3 to 5 inches long and small whitish flowers in rather crowded fascicles. Native to the central and eastern Himalayas at altitudes of 5,000 to $\mathbf{7 , 0 0 0}$ feet.

## 128924 to 128984-Continued

## 128945. Gentiana stylophora C. B. Clarke. Gentianaceae. <br> Gentian.

A stout herbaceous perennial native to the Himalayas in Sikkim between 11,000 and 14,000 feet altitude. The simple stems are 3 to 6 feet high, the lower leaves are elliptic and 12 inches long, and the upper leaves are sessile, about 5 inches long. The widely funnel-shaped solitary flowers are borne on axillary peduncles up to 8 inches long.

For previous introduction see 102316.
128946. Glochidion velutinum Wight. Euphorbiaceae.

An evergreen tree 20 to 30 feet high, with orbicular to ovate-elliptic or oblong leaves 2 to 5 inches long and inconspicuous flowers in clusters. Native to hot valleys of the Himalayas and the Deccan Peninsula.

## 128947. Hemiphragma heterophyllum Wall. Scrophulariaceae.

A prostrate herbaceous perennial with slender loosely tufted, creeping stems 1 to 2 feet long, ovate stem leaves $1 / 3$ to $2 / 3$ of an inch long, smaller needleshaped branch leaves, and very small sessile pink flowers. Native to the temperate Himalayan region at altitudes between 4,000 and 12,000 feet.
128948. Heracleum waluichit DC. Apiaceae.

A stout perennial about 4 feet high, with compound umbels of small yellow flowers. Native to the Himalayas at 10,000 feet altitude.

For previous introduction see 111051.

## 128949. Hymenopogon parasiticus Wall. Rubiaceae.

A small straggling shrub, often epiphytic, with elliptic-lanceolate or oblanceolate leaves 3 to 12 inches long. Native to the temperate Himalayas at altitudes of 3,000 to 8,000 feet.
128950. Hypericum hookerianum Wight and Arn. Hypericaceae.

St. Johnswort.
For previous introduction see 116590.
128951. Hypericum oblongifolium Choisy. Hypericaceae. St. Johnswort.

A shrub 3 to 6 feet high, native to the temperate slopes of the Himalayas at altitudes between 5,000 and 7,000 feet. The sessile ovate-lanceolate leaves are 1 to 3 inches long, and the nodding flowers, 2 inches across, are white on opening, turning light yellow with age.
F.or previous introduction see 102767.
128952. Lactuca macrantha Clarke. Cichoriaceae.

## Lettuce.

A stout perennial lettuce up to 2 feet high, with large pinnatifid leaves and loosely panicled heads of blue flowers. Native to the Sikkim Himalayas at altitudes of 10,000 to 14,000 feet.

For previous introduction see 122101.
128953. Leucosceptrum canum J. E. Smith. Menthaceae.

A stout-branched, densely hairy tree, commonly about 30 feet high, with large narrowly ovate leaves, silvery hairy beneath and at times a foot long. The small white or pinkish flowers are in spikes. Native to temperate regions of the Himalayas at altitudes of 2,000 to 8,000 feet.

For previous introduction see 65260.
128954. Leycesteria belliana W. W. Smith. Caprifoliaceae.

A small graceful shrub with opposite membranous lance-shaped leaves and sessile 2- to 4 -flowered spikes of rosy-white flowers. It is native to the Sikkim Himalayas near the Nepal border at an altitude of about 10,000 feet.

For previous introduction see 61610.

## 128924 to 128984-Continued

128955. Ligustrum confusum Decaisne. Oleaceae.

Privet.
A small tree up to 40 feet high, one of the tropical relatives of the California privet (Ligustrum ovalifolium). The obtuse leathery leaves are about 9 inches long, and the small white flowers are in panicles 1 to 5 inches long. Native to northern India at altitudes of $\mathbf{3 , 0 0 0}$ to 5,500 feet.

For previous introduction see 122103.
128956. Lilium nepalense D. Don. Liliaceae.

Lily.
A showy lily, native to the central Himalayas, with a slender erect stem 2 to 3 feet long, leafy to the inflorescence. The glossy, bright-green leaves, 4 to 6 inches long, are oblong-lanceolate and 5 -ribbed. The flowers, 4 to 5 inches long, are greenish yellow outside and yellow within and flushed, except in the upper third, with purplish black. The oblanceolate segments are reflexed only in the upper half. The purplish-black filaments bear yellow anthers nearly an inch long.
For previous introduction see 115982.
128957. Lobelia pyramidalis Wall. Campanulaceae.

A herbaceous perennial 2 to 7 feet high, found between 3,000 and 9,000 feet altitude in the Himalayas. The linear leaves are glabrous, and the purple-rose or whitish flowers are produced in many-flowered racemes.
For previous introduction see 116596.
128958. Lonicera alabrata Wall. Caprifoliaceae.

## Honeysuckle.

A shrubby climber, native to the temperate Himalayas up to 8,000 feet altitude. The cordate-oblong, leathery leaves are 3 to 5 inches long and the yellow flowers, 1 inch long, are tinged with purple outside and are followed by black fruits.

For previous introduction see 99739.
128959. Lysimachia chenopodiones Hook. f. Primulaceae.

An erect or decumbent herb 1 to $11 / 2$ feet high, with elliptic ovate leaves $1 / 2$ to 1 inch long and small white or pale-pink flowers in the leaf axils. Native to the temperate Himalayas at altitudes of 6,000 to 9,000 feet.

## 128960. Osbeckia nepalensis Hook. Melastomaceae.

An evergreen shrub about 18 inches high, native to the Himalayas at altitudes up to 4,000 feet, with a rough erect stem, opposite, lanceolate rigid leaves, and large purplish-rose or white flowers in terminal and axillary panicles or corymbs.

For previous introduction see 124258.
128961. Oxyspora paniculata (D. Don) DC. Melastomaceae.

A large spreading shrub with drooping branches, opposite ovate leaves 5 inches long, and large loose panicles of rose-purple flowers. Native to the subtropical and temperate Himalayas at altitudes of 3,000 to 7,000 feet.

For previous introduction see 99745.
128962. Pentapterygium serpens (Wight) Klotzsch. Vacciniaceae.

An epiphytic evergreen shrub with slender pendulous branches 2 to 4 feet high, small ovate leaves, and solitary axillary bright-red flowers an inch or over in length. Native to the eastern Himalayas at 3,000 to 8,000 feet altitude.
128963. Phlomis setigera Falcon. Menthaceae.

A tall erect herbaceous perennial, with ovate leaves 4 to 8 inches long and many small white flowers in dense axillary whorls. Native to the temperate Himalayas at altitudes of 10,000 to 12,000 feet.

## 128924 to 128984-Continued

## 128964. Piptanthus nepalensis (Hook.) Sweet. Fabaceae.

A shrub from 2 to 11 feet high, with palmately trifoliolate 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. Native to the temperate Himalayas at altitudes of 7,000 to 9,000 feet.

For previous introduction see 122117.
128965. Polygala arillata Buch.-Ham. Polygalaceae.

An erect shrub 4 to 8 feet high, native to southeastern Asia. The lanceolate to ovate leaves are 4 to 6 inches long and the irregular flowers, $1 / 2$ inch long, in drooping panicles, have red-purple sepals and yellow petals. The broadly reniform, fleshy capsules are nearly 1 inch across.

For previous introduction see 102772.
128966. Polygonum roettleri Roth. Polygonaceae.

A polygonum with slender erect or ascending stems 2 to 3 feet high and lanceolate leaves 2 to 6 inches long. It is allied to Polygonum hydropiper and is native throughout India in wet places, ascending to 4,000 feet in the Himalayas.
128967. Polygonum molle D. Don. Polygonaceae.

A shrubby perennial 2 to 3 feet high, with white flowers in large thyrselike terminal panicles. Allied to Polygonum polystachyum. Native to Nepal, at altitudes of 5,000 to 7,000 feet.

For previous introduction see 122110.

## 128968. Potentilla leuconota D. Don. Rosaceae.

A herbaceous perennial with many oblong leaves 2 to 6 inches long and erect or ascending flower stems with umbellate clusters of small yellow flowers. Native to the alpine Himalayan region at altitudes between 10,000 and 16,000 feet.
128969. Poterium diandrum Hook. f. Rosaceae.

## Burnet.

A glabrous erect perennial herb 2 to 3 feet high, native to the temperate slopes of the Himalayas at altitudes of 10,000 to 13,000 feet. The pinnately compound leaves, 6 to 10 inches long, are made up of crenate cordate leaflets 1 inch long, and the small dark-purple flowers, in heads 1 inch in diameter, are followed by pendulous 4 -winged fruits $1 / 4$ inch long.

For previous introduction see 102323.

## 128970. Primula geranitfolia Hook. f. Primulaceae.

A very slender primula with acutely lobed orbicular leaves 2 to 3 inches in diameter and simple and superimposed whorls of lilac flowers. Native to the Himalayas between Sikkim and Bhotan at an altitude of about 10,000 feet.
128971. Prunus acuminata (Wall.) Hook. f. Amygdalaceae. Cherry-laurel.

A slender-branched tree 30 to 40 feet high, with narrow leaves up to 7 inches long and many-flowered racemes of yellowish-white flowers. The fruit is a small oval drupe. Native to the central and eastern Himalayas at altitudes between 5,000 and 7,000 feet.
For previous introduction see 124755.
128972 to 128976 . Rhododendron spp. Ericaceae.
128972. Rhododendron camelliaeflorum Hook. f.

An often epiphytic evergreen shrub 2 to 3 feet high, with densely scaly branchlets, native to the Himalayas between 9,000 and 11,000 feet altitude. The narrowly oblong, obtusely mucronate leaves, 2 to 4 inches long, are glabrous and reticulate above and densely scaly beneath. The pink-tinged white flowers, an inch across, are fleshy with a short broad tube and a widespreading limb.

For previous introduction see 102777.

## 128924 to 128984-Continued

128973. Rhododendron edgeworthit Hook, f.

A shrub, often epiphytic, 4 to 6 feet high, native to the Himalayas in Sikkim, India, at altitudes of 7,000 to 9,000 feet. The elliptic-ovate leaves, 4 inches long, are strongly bullate above and densely cobwebby-tomentose beneath. The fragrant white or pink-tinged flowers are broadly tubular and 3 or 4 inches long.
For previous introduction see 111076.
128974. Rhododendron grande Wight.

A tree up to 30 feet high, native to the Sikkim Himalayas between 8,000 and 10,000 feet altitude. The elliptic to oblanceolate leaves, 6 to 12 inches long, are shining deep green above and silvery white beneath. The mortarshaped flowers, 2 to 3 inches long, are pale rose in the bud, opening creamy white with basal purple blotches, and are borne in large rounded clusters of 20 to 25.

For previous introduction see 111077.
128975. 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 threes at the ends of the branches. Native to the Himalayas at about 6,000 feet altitude.

For previous introduction see 122129.
128976. Rhododendron vacciniomes Hook. f.

A low shrub 1 to 3 feet high, with densely warty-glandular branchlets, native to the Sikkim Himalayas between 6,000 and 10,000 feet altitude. The scattered emarginate leaves are less than 1 inch long, and the lilac-pink or pink-tinged white campanulate flowers are $1 / 3$ of an inch long.

For previous introduction see 102780.
128977 to 128979. Rubus spp. Rosaceae.
128977. Rubus calycinus Wall.

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

For previous introduction see 58495.
128978. Rubus hookeri Focke.

A low prickly shrub with pinnately foliolate bright-green leaves and large greenish-white flowers, solitary or few in a panicle, followed by fruits $3 / 4$ an inch across. Native to the eastern temperate Himalayas at altitudes of 7,000 to 9,000 feet.

## 128979. Rubus paniculatus J. E. Smith.

A very rambling climber which has all the parts, except the upper surface of the leaves, covered with a dense tomentum. The fruit is a large round black drupe, edible but insipid. Native to the temperate Himalayas from Rajaori to Sikkim, between 3,000 and 8,000 feet altitude.

For previous introduction see 39132.
128980. Saltia campanulata Wall. Menthaceae. Sage.

A stout perennial 2 to 3 feet high, with ascending hirsute stems and ovate cordate-crenate leaves on long petioles. The large flowers, yellow with purple dots, are in axillary or terminal racemes. Native to the Himalayas at altitudes of 9,000 to 13,000 feet.

For previous introduction see 116611.

## 128924 to 128984-Continued

128981. Saurauja napaulensis DC. Dilleniaceae.

A moderate-sized tree with the youngest branches, leaf stems, and midribs covered with rough brown hairs; the narrow, strongly toothed leaves are up to 15 inches in length, the pink flowers are borne in many-flowered panicles, and the edible green fruits have a sweet mealy pulp. The tree is native to the temperate Himalayas at altitudes between 5,000 and 7,000 feet.

For previous introduction see 55703.
128982. Scrophularia elatior Benth. Scrophulariaceae.

A tall stout branching perennial with ovate or lanceolate leaves 5 to 10 inches long and many small flowers in long panicles. Native to the Himalayas at altitudes up to 10,000 feet.
128983. Scrophularia pauciflora Benth. Scrophulariaceae.

A stout herbaceous perennial 2 to 3 feet high, with ovate-cordate leaves about 3 inches long and dense terminal cymes of small yellowish flowers. Native to the Himalayas at altitudes up to 13,000 feet.

## 128984. Lyonia ovallfolia (Wall.) Drude. Ericaceae.

A shrub or small tree with ovate or somewhat oblong leathery leaves 3 to 6 inches long and racemes of white or bluish or sometimes flesh-colored flowers. Native to the temperate Himalayas from 3,000 to 8,000 feet altitude.

For previous introduction see 100103.

## 128985. Citrullus vulgaris Schrad. Cucurbitaceae. Watermelon.

From Cephalonia Island, Greece. Seeds presented through P. Demetratos, Bristol, Va. Received may 7, 1938.
A long watermelon with thin skin which turns yellow when ripe. The flesh is sweet, of delicate flavor, and very aromatic.
128986. Citrus sinensis (L.) Osbeck. Rutaceae. Orange.

From Tunisia. Seeds presented by M. Plessis, Menzel-Bou-Zelfa, through N. Champagne, Ville-Marie, Quebec, Canada. Received May 12, 1938.

## Var. Beldi.

128987. Eranthemum nervosum (Vahl) Roem. and Schult. (Daedalacanthus nervosus T. Anders.). Acanthaceae.
From India. Seeds collected by Walter Koelz, Bureau of Plant Industry, United States Department of Agriculture. Received June 2, 1936. Numbered in May 1938.
No. 508. From Jaipur City, Rajputana, April 10, 1936. A shrub up to 6 feet high, with axillary spikes of scarlet flowers. Native to India.

For previous introduction see 103488.

## 128988. Cannabis sativa L. Moraceae.

Hemp.
From Germany. Seeds presented by Dr. H. Neugebauer, Director, Botanic Garden, Leipzig. Received May 10, 1938.

## 128989. Casuarina sumatrana Jungh. Casuarinaceae.

From the Dutch East Indies. Seeds presented by Walter Baugham, Dolok Merangir, Sumatra, through David Fairchild. Received May 17, 1938.
A handsome shrub, sometimes over 6 feet high, and densely branched. The branches, twigs, and little twigs are 3 -angled, very slender, destitute of leaves, gracefully arched, sometimes pendent, forming by their union plumy masses or a kind of foxtail, the whole a deep shining green.

The plant is widely distributed throughout the East Indies and the Philippine Islands and, in the wild state, it often becomes a tree 50 feet high.

For previous introduction see 92375.

## 128990. Lycopersicon esculentum Mill. Solanaceae.

Tomato.
From Argentina. Seeds collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received May 18, 1938.
San Marzano. From a seed store in Buenos Aires.
128991 to 128995.
From China. Seeds presented by R. C. Ching, Lu-Shan Arboretum and Botanical Garden, Lu-Shan, Kiukiang Province. Received May 5, 1938.
128991. Abies delavayi Franch. Pinaceae.

Fir.
A tall tree, often 100 feet high, native to western China. The slightly grooved branchlets are lustrous red-brown, and the emarginate linear leaves, about 1 inch long, are revolute on the margin, dark green above, and with 2 white bands beneath. The violet-black cylindric to ovoid cones are 2 to 4 inches long.
For previous introduction see 103111.
128992. Davidia involucrata Baill. Cornaceae.

Dovetree.
For previous introduction see 103990.
128993. Juglans cathayensis Dode. Juglandaceae. Chinese walnut.

A deciduous tree, native to central, western, and southwestern China. At low altitudes it forms a small bushy tree 15 to 30 feet high, flowering and fruiting when 8 to 10 feet high. In the woods and forests it occasionally makes a large tree 40 to 70 feet high. The leaves on young plants are often a yard long, rivaling those of Ailanthus and Cedrela. The fruits are produced in clusters of 6 to 10 and are over an inch long. The kernel is sweet and pleasantly flavored.

For previous introduction see 48014.
128994. Quercus vartabilis Blume. Fagaceae.

Oriental oak.
A large oak, up to 80 feet high, forming pure stands between 2,000 and 5,000 feet altitude in central and eastern China. The bark is pale yellowish gray and deeply furrowed; the deep-green, crenately serrate leaves with bristlelike teeth are oblong to oblong-lanceolate, and the roundish acorns are almost sessile.

For previous introduction see 120658.
128995. Quercus sp. Fagaceae.

Collected at Opie Hsien at about 600 feet altitude.
128996. Tephrosia vogelit Hook. f. Fabaceae.

From the Gold Coast, Africa. Seeds presented through the Royal Botanic Gardens, Kew, England. Received May 12, 1938.
For previous introduction see 126550.
128997 to 129000.
Collected by Walter Koelz, Bureau of Plant Industry, United States Department of Agriculture. Received May 14, 1938.
Unless otherwise stated, the material was collected in India as seeds.
128997. Allium cepa L. Liliaceae.

Onion.
No. 4389. Peyaz. Bulbs collected in Bombay, January 1938, but probably grown in Surat. An onion with extraordinary keeping qualities.
128998. Brassica oleracea var. botrytis L. Brassicaceae. Cauliflower.

No. 4390. From Palermo, Sicily, Giardino de Acclimazione, March 1938. A green variety, reported to be superior to American varieties in having a more delicate flavor and less odor while cooking.
128999. Canavalia sp. Fabaceae.

No. 4372. From Sanchi Bhopal, January 2, 1938, at 1,500 feet altitude. A climber 10 feet high, found in a thicket.

## 128997 to 129000 -Continued

129000. Zea mays L. Poaceae.

Corn.
No. 4388. Shatwatsalli (60-day corn). From Kulu, Punjab, January 1938, at 5,000 feet altitude. The earliest corn grown in this district. Cobs smaller than the later corn.

## 129001 to 129004. Ipomoea batatas (L.) Lam. Convolvulaceae. Sweetpotato.

From Puerto Rico. Tubers presented by F. A. López Dominguez, Director, Agricultural Experiment Station of the University of Puerto Rico, Rio Piedras.
129001. Capitaleña.
129002. Don Juan.
129003. New Orleans.
129004. Yuguilla.

## 129005. Peumus boldus Molina. Monimiaceae.

From Chile. Seeds presented by S. M. Arriola, Ranacagua. Received May 17, 1938.
Boldo. A small evergreen tree or large shrub, with opposite, very rough, ovate obtuse leaves. The small white flowers, one-half inch across, not very showy but very attractive to bees, are in small panicles, and the small edible fruits are sweet and aromatic. The exceedingly hard wood is used for tools, and the bark is used for tanning and dyeing. Native to Chile.

For previous introduction see 55871.

## 129006. Gossypium. Malvaceae.

Cotton.
From Mexico. Seeds presented by W. W. Hopps, Tampico, State of Tamaulipas. Received May 10, 1938.

## 129007 to 129010. Gossypiom. Malvaceae.

Cotton.
From Brazil. Seeds presented by Prof. J. B. Griffing, Escola Superior de Agricultura, Viçosa, Minas Geraes. Received May 10, 1938.

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\begin{array}{ll}
\text { 129007. No. } 450 . & \text { 129009. No. } 815 . \\
\text { 129008. No. } 624 . & 129010 . \text { No. } 933 .
\end{array}
$$

## 129011 to 129013.

From Spain. Seeds presented by the Director, Botanic Institute, Barcelona. Received May 18, 1938.
129011. Aquilegia nevadensis Boiss. and Reut. Ranunculaceae.

Received with the varietal name "litardieri," for which a place of publication has not been found.
129012. Nepeta nepetella L. Menthaceae.

A herbaceous perennial about 1 foot high, with whitish, red-spotted flowers. Native to Europe.
129013. Viola catalonica W. Becker. Violaceae.

Violet.
A stemless perennial violet with 5 or 6 round or broadly ovate leaves and white flowers. Allied to Viola adriatica. Native to Catalonia, Spain.

## 129014 to 129017.

From Italy. Seeds presented by the Director, Botanic Garden, Palermo. Received May 19, 1938.
129014 to 129016. Aquilegia spp. Ranunculaceae.
Columbine. 129014. Aquilegia advena Regel.

An aquilegia with blue flowers. Habitat unknown.
129015. Aquilegia glandulosa Fisch.

Altai columbine.
A Siberian columbine about 18 inches high, with nodding lilac-blue flowers up to 3 inches across, the sepals twice the length of the white limb of the petals.
129016. Aquilegia vulgaris L.

European columbine.
For previous introduction and description see 128666.

## 129014 to 129017—Continued

129017. Caluistephus chinensis (L.) Nees. Asteraceae. For previous introduction and description see 128833.

## 129018 to 129165.

From Central and South America. Seeds collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received May 25, 1938.
129018 to 129157. Lycopersicon spp. Solanaceae.
129018 to 129020. Lycopersicon esculentum Mill.
Tomato.
129018. No. 546. From the market at Lima, Peru, April 4, 1938. Fruit small, flat, smooth, red.
129019. No. 547. From the market at Lima, Peru, April 4, 1938. Fruit nugget type, small, round.
129020. No. 562. From Salinas, Ecuador, April 8, 1938.
129021. Lycopersicon esculentum var. cerasiforme (Dun.) A. Gray.

No. 564. From Muey, Ecuador, April 8, 1938. Fruit small, 1 inch in diameter, very rough and flat.
129022 to 129026. Lycopersicon esculentum Mill.
Tomato
From the market at Guayaquil, Ecuador, April 10, 1938.
129022. No. 571. Fruit small, cherry type, red.
129023. No. 572. Fruit small, flat, 4- to 5 -celled, ribbed.
129024. No. 573. Fruit small, flat, very rough, common.
129025. No. 574. Fruit large, flat, very rough.
129026. No. 575. Fruit medium flat, rough, very deep scarlet.
129027. Lycopersicon esculentum var. cerasiforme (Dun.) A. Gray.

No. 593. From a garden in Pasaje, Province of El Ora, Ecuador, April 12, 1938. Fruit large, cherry type.

129028 to 129061. Lycopersicon esculentum Mill.
Tomato.
129028. No. 594. From a garden in Pasaje, Province of El Ora, Ecuador, April 12, 1938.
Nos. 129029 to 129034. From the market at Guayaquil, Ecuador, April 17, 1938.
129029. No. 605. Fruit cherry type; some red, some yellow.
129030. No. 606. Fruit small, 2-celled, red.
129031. No. 607. Fruit 3-celled, flat, red.
129032. No. 608. Fruit 4- to many-celled, flat, red, color deeper in recesses marking the ribs.
129033. No. 609. Fruit small, very rough, flat, many-celled.
129034. No. 610. Fruit large, flat, many-celled, rough, red.

Nos. 129035 to 129041. From the market at Cuenca, Ecuador, April 19, 1938.
129035. No. 611. Fruit large, over 2 inches in diameter, rough and pointed at the top.
129036. No. 612. Fruit small, rough, red, 3- or 4-celled.
129037. No. 613. Fruit large, cherry form, smooth, red.
129038. No. 614. Fruit cherry form and size, but variable; some a little rough.

## 129018 to 129165-Continued

129039. No. 615. Fruit small, square, 4 -celled.
129040. No. 616. Fruit small, red, currant type.
129041. No. 617. Fruit small, red, elongated plum type.

Nos. 129042 to 129050. From the market at Ambato, Ecuador, April 21, 1938.
129042. No. 639. Fruit large, cherry type.
129043. No. 640. Fruit large, very rough, red.
129044. No. 641. Fruit red, elongated plum-shape, flattened on two sides.
129045. No. 642. Fruit red, nugget type.
129046. No. 643. Fruit variable, 2- to 4-celled, flat, red.
129047. No. 644. Fruit small, heart-shaped, red.
129048. No. 645. Fruit small, red, elongated, plum-shape.
129049. No. 646. Fruit elongated cherry type, red.
129050. No. 647. Fruit currant and small cherry type, red.

Nos. 129051 and 129052. From the market at Baños, Ecuador, April 21, 1938.
129051. No. 649. Fruit nugget type, red.
129052. No. 650. Fruit flat, small, red.

Nos. 129053 to 129057. From the market at Quito, Ecuador, April 23, 1938.
129053. No. 654. Fruit small, round, cherry type, red.
129054. No. 655. Fruit large, round, cherry type.
129055. No. 656. Fruit small, flat, cherry type, red.
129056. No. 657. Fruit large, flat, cherry type, red.
129057. No. 658. Fruit small, rough, flat, red.

Nos. 129058 to 129061. From the market at Pasto, Colombia, April 26, 1938.
129058. No. 661. Fruit small, cherry type, red.
129059. No. 662. Fruit large, cherry type, 3- to 4 -celled, slightly flat.
129060. No. 663. Fruit small, flat, smooth, 4- to 6-celled, red.
129061. No. 664. Fruit very rough, flat.
129062. Lycopersicon esculentum var. cerasiforme (Dun.) A. Gray.

No. 671. From Purillo, Colombia, between El Bordo and Dolores, April 27, 1938. Fruit red, elongated, cherry type.

129063 to 129111. Lycopsicon esculentum Mill.
129063. No. 673. From Purillo, Colombia, between El Bordo and Dolores, April 27, 1938. Fruit small, flat, wrinkled.
Nos. 129064 and 129065. From Tulua, Colombia, along the railway, April 29, 1938.
129064. No. 674. Fruit small, round, smooth, red.
129065. No. 675. Fruit small, variable-celled, angular.
129066. No. 676. From Uribe, Colombia, April 29, 1938. Fruit red, cherry type.
Nos. 129067 to 129073. From the market at Bogota, Colombia, May 1, 1938.
129067. No. 677. Fruit large, rough, flat, red.
129068. No. 678. Fruit large, smooth, Baltimore type.

## 129018 to 129165-Continued

129069. No. 679. Fruit medium, nugget type, red.
129070. No. 680. Fruit red, plum-shaped.
129071. No. 681. Fruit red, pear-shaped.
129072. No. 682. Fruit small, flat, rough, red.
129073. No. 683. Fruit small, cherry type, red.
129074. No. 688. From La Mesa, Colombia, between David and Gerardt, May 3, 1938. A wild fruit, small, cherry type, red.
Nos. 129075 to 129082. From the market at Ibague, Colombia, May 4, 1938.
129075. No. 696. Fruit large, very rough, folded, red.
129076. No. 697. Fruit ribbed, but otherwise smooth, flat, red.
129077. No. 698. Fruit small, flat, many-celled, ribbed, red.
129078. No. 699. Fruit small, flat, 4 - to 8 -celled, ribbed, red.
129079. No. 700. Fruit small, flat, currant type, 2- and 4-celled, red.
129080. No. 701. Fruit small, nugget to cherry type, round, red.
129081. No. 702. Fruit cherry type, round, red.
129082. No. 703. Fruit currant type, round, red.

Nos. 129083 and 129084. From the market at Calarca, Colombia, May 4, 1938.
129083. No. 704. Fruit small, flat, 3-celled.
129084. No. 705. Fruit currant type, 2-celled, oval.

Nos. 129085 to 129091. From the market at Armenia, Colombia, May 4, 1938.
129085. No. 706. Fruit medium small, red, very rough, angular, folded type.
129086. No. 707. Fruit nugget type, red.
129087. No. 708. Fruit large, cherry type, 3- and 4-celled, red.
129088. No. 709. Fruit cherry form, red.
129089. No. 710. Fruit currant type, 2-celled, slightly flat.
129090. No. 711. Fruit round, currant type, 2-celled, red.
129091. No. 712. Fruit round, pink, currant type.

Nos. 129092 to 129100. From the market at Manizales, Colombia, May 5, 1938.
129092. No. 715. Fruit yellow, pear-shaped, larger and fuller about the stem than the common type in the United States.
129093. No. 716. Fruit small, round, red, over 1 inch in diameter.
129094. No. 717. Fruit cherry form, red.
129095. No. 718. Fruit small, cherry type, 3- or 4-celled, irregular.
129096. No. 719. Fruit small, pear-shaped, fleshy type, red.
129097. No. 720. Fruit currant type, red, size of small cherries.
129098. No. 721. Fruit currant type, pink, the size of small cherries.
129099. No. 722. Fruit small, red.
129100. No. 723. Fruit yellow, medium size, irregular, but not rough.

Nos. 129101 to 129108. From the market.at Pereira, Colombia, March 5, 1938.
129101. No. 724. Fruit over 1 inch in diameter, rough, ribbed, red.
129102. No. 725. Fruit small, angular, flat, less than 1 inch in diameter.

## 129018 to 129165-Continued

129103. No. 726. Fruit large, cherry type, red.
129104. No. 727. Fruit small, red, pear-shaped.
129105. No. 728. Fruit currant type, red.
129106. No. 729. Fruit cherry type, pink, round.
129107. No. 730. Fruit 3 -cornered (3-celled), cherry type, pink.
129108. No. 731. Fruit currant type, pink.

Nos. 129109 and 129110. From Cartago, Colombia, May 5, 1938.
129109. No. 732. Fruit red, odd-shaped, variable, and irregular.
129110. No. 733. Fruit cherry type, pink.
129111. No. 734. From Tulua, Colombia, May 5, 1938. Fruit cherry type, red, round, smooth.
129112. Lycopersicon esculentum var. cerásiforme (Dun.) A. Gray.

No. 735. From Candelaria, Rio Cauca Valley, Colombia, May 5, 1938. Fruit cherry type, red, some very irregular.
129113 to 129143. Lycopersicon esculentum Mill.
Tomato.
Nos. 129113 to 129123. From the market at Cali, Colombia, May 6, 1938.
129113. No. 736. Fruit 2 to 3 inches in diameter, smooth, deep red, uniform; best type in market.
129114. No. 737. Fruit large, very rough and folded, ripens unevenly, red.
129115. No. 738. Fruit red, rough, flat, medium size, less than 2 inches in diameter.
129116. No. 739. Fruit small, $3 / 4$ to $11 / 4$ inches in diameter, rough, flat, angular, many-celled.
129117. No. 740. Fruit small, 5- to 7-celled, flat, angular, red.
129118. No. 741. Fruit large, cherry type, 3- to 5-celled, round, smooth.
129119. No. 742. Fruit cherry type, 3 - to 5 -celled, round, smooth.
129120. No. 743. Fruit small, cherry type, 2- to 3 -celled, rather deep.
129121. No. 744. Fruit small, 4 -celled, red, tending to flatness.
129122. No. 745. Fruit small, cherry type, 3-celled, round, red.
129123. No. 746. Fruit small, cherry or currant type, 2-celled, round, red.
129124. No. 749. From Cisneros, Colombia, May 7, 1938. Fruit small, red, angular, with tendency to be rough.
129125. No. 750. From the market at Buenaventura, Colombia, May 8, 1938. Fruit red, large, round, smooth, fleshy type.
Nos. 129126 to 129131. From the market at Panama, Panama, May 10, 1938.
129126. No. 751. Fruit red, large, angular, folded type, folds only along side, quite flat.
129127. No. 752. Fruit red, large, very rough, folded type.
129128. No. 753. Fruit red, medium size, flat, variable.
129129. No. 754. Fruit red, medium size, round.
129130. No. 755. Fruit small, flat, rough, pink.
129131. No. 756. Fruit small, round, cherry type, pink.

Nos. 129132 to 129137. From the markets in Buenos Aires, Argentina.
129132. No. 759. Fruit large, smooth, round.
129133. No. 760. Fruit large, irregular, rough, red.
129134. No. 761. Fruit small, flat.

## 129018 to 129165-Continued

129135. No. 762. Fruit large, round, smooth.
129136. No. 763. Fruit large, irregular, malformed.
129137. No. 764. Fruit small, flat.

Nos. 129138 to 129140. From the market at La Plata, Argentina.
129138. No. 765. Fruit large, round, smooth.
129139. No. 766. Fruit large, irregular.
129140. No. 767. Fruit small, flat.
129141. No. 770. From Armenia, Colombia, May 4, 1938. Fruit small, irregular.
129142. No. 771. From Pasaje, Ecuador, April 12, 1938. Fruit said to be yellow when ripe.
129143. No. 548. From La Molina, Peru, April 4, 1938. Fruit small, currant type.
129144 to 129146. Lycopersicon perutianum var. dentatum Dun.
129144. No. 515. East of Moquegua, Peru, March 27, 1938. Fruits small, 1 to $11 / 4$ inches in diameter.
129145. No. 537. From Tambo, Peru, April 1, 1938. Fruit small, greenish white with purple stripings ; calyx lobes long and slender.
129146. No. 539. From Tambo, Peru, April 1, 1938. Fruit not seen.

129147 and 129148. Lycopersicon pimpinellifolium (Jusl.) Mill.
129147. No. 561. From betwen Guayaquil and Salinas, Ecuador, April 8, 1938. Fruit small, currant type.
129148. No. 563. From Muey, Ecuador, April 8, 1938. Fruit small, cherry or currant type.
129149. Lycopersicon esculentum var. cerasiforme (Dun.) A. Gray.

No. 579. From about 15 km . west of Guayaquil, Ecuador, April 10, 1938. Fruit yellowish green; different from the type found in Peru.
129150 to 129152. Lycopersicon spp.
From about 15 km . west of Guayaquil, Ecuador, April 10, 1938. Fruit yellowish green; different from the type found in Peru.
129150. No. 580.
129151. No. 581.
129152. No. 582. A mixed sample of Nos. 579, 580, and 581 (P. I. 129149, 129150, and 129151).
129153. Lycopersicon esculentum var. cerasiforme (Dun.) A. Gray.

No. 587. From Santa Rosa, Province of El Oro, Ecuador, April 12, 1938. Fruit red, cherry type.
129154. Lycopersicon sp.

No. 589. From Santa Rosa, Province of El Oro, Ecuador, April 12, 1938. Fruit red, currant type.
129155 and 129156. Lycopersicon esculentum var. cerasiforme (Dun.) A. Gray.
From Pasaje, Province of El Oro, Ecuador, April 12, 1938.
129155. No. 591. Fruit of small-cherry or large-currant type.
129156. No. 604. Fruit small, smooth, currant type.
129157. Lycopersicon hirsutum f. glabratum.

No. 648. From west of Baños, Ecuador, April 21, 1938. Fruit greenish white with purplish stripes from stem end, 2 -celled.

## 129018 to 129165-Continued

## 129158 to 129165. Zea mays L. Poaceae.

Corn.
Nos. 129158 to 129162. From Cuenca, Ecuador, April 19, 1938. Native Indian corn.
129158. No. $632 . \quad$ 129161. No. 635.
129159. No. $633 . \quad$ 129162. No. 636.
129160. No. 634.

Nos. 129163 to 129165. From the market at Buesaco, Colombia, April 27, 1938.
129163. No. 666. Hard, dark-yellow flint corn, 12 rows.
129164. No. 667. Hard, light-yellow flint corn, 12 rows.
129165. No. 668-A. Light pink, large kernels, 10 rows.

129166 to 129168. Phaseolus lunatus L. Fabaceae.
Lima bean.
From India. Seeds presented by Dr. D. Rhind, Economic Botanist, Burma, Mandalay. Received May 18, 1938.

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129166. Pebyugale.
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129167. Pegya.
129168. Peni.

## 129169 to 129297.

From China. Seeds collected in Szechwan Province and presented by R. C. Ching, Lu-Shan Arboretum and Botanical Garden, Lu-Shan, Kiukiang Province. Received in May and June 1938.
129169. Davidia involucrata Baill. Cornaceae.

Dovetree.
A tree native to central and western China at 1,400 m. altitude.
For previous introduction and description see 128992.
129170. Rehderodendron sp. Styracaceae.
129171. Abies sp. Pinaceae.

Fir.
No. 1358. From O-pie Hsien, October 1937, at $1,900 \mathrm{~m}$. altitude.
129172. Acanthopanax sp. Araliaceae.

No. 1164. From Mount Omei, September 2, 1937, at 2,600 m. altitude.
129173. Acer sp. Araceae.

Maple.
No. 1268. From Mount Omei, October 1937, between 2,000 and $2,300 \mathrm{~m}$. altitude.
129174. Acanthopanax sp. Araliaceae.

No. 1272. From Mount Omei, October 1937, at 600 m . altitude.
129175 to 129181. Acer spp. Aceraceae.
Maple.
129175. Acer sp.

No. 1202. From Mount Omei, September 3, 1937, at 2,300 m. altitude.
129176. AcER sp.

No. 165. From Mount Omei, October 1937, at 2,300 m. altitude. 129177. Acer sp.

No. 1266. From Mount Omei, October 1937, at 2,300 m. altitude. 129178. ACER sp.

No. 1333. From Tien Chuan Hsien, November 1937, between 2,000 and $2,300 \mathrm{~m}$. altitude.
129179. AcER sp.

No. 1366. From Tien Chuan Hsien, November 1937, at 2,500 m. altitude.

## 129169 to 129297-Continued

## 129180. Acer sp.

No. 1367. From Tien Chuan Hsien, November 1937, at $2,800 \mathrm{~m}$. altitude. 129181. ACER sp.

No. 1369. From Tien Chuan Hsien, November 1937, at $2,700 \mathrm{~m}$. altitude. 129182. ACTINIDIA sp. Dilleniaceae.

No. 1355. September 1937. From O-pie Hisien at $1,400 \mathrm{~m}$. altitude.
129183. Albizzia thorelif Pierre. Mimośaceae.

No. 1351. From O-pie Hsien, November 1937, at $1,200 \mathrm{~m}$. altitude. A deciduous tree up to 35 feet high, with feathery, bipinnate leaves 5 to 7 inches long and clusters of many small flowers. Native to Cochin China.
129184. Alnus sp. Betulaceae.

No. 1334. From Tien Chuan Hsien, November 1937, at $3,200 \mathrm{~m}$. altitude. 129185. Anemone sp. Ranunculaceae.

No. 1368. From Tien Chuan Hsien, November 1937, at $2,000 \mathrm{~m}$. altitude. 129186. Antidesma sp. Euphorbiaceae.

No. 1274. From Mount Omei, October 1937, at 600 m . altitude. 129187. Astilbe sp. Saxifragaceae.

No. 1302. From Mount Omei, October 1937, at 3,200 m. altitude.
129188. Baubinia satgonensis Pierre. Caesalpiniaceae.

No. 1352. From O-pie Hsien, November 1937, at $1,200 \mathrm{~m}$. altitude. A vine which climbs by means of tendrils terminating short lateral branches. The firm, roundish leaves, about 2 inches long, are divided to the center into 2 rounded lobes, and the pale-rose flowers, nearly 1 inch long, are in small terminal corymbs. Native to Cochin China.
129189. Bauhinia sp. Caesalpiniaceae.

No. 1354. From O-pie Hsien, October 1937, at $1,500 \mathrm{~m}$. altitude.
129190. Bautinia faberi Oliver. Caesalpiniaceae.

No. 1361. From O-pie Hsien, November 1937, at $1,000 \mathrm{~m}$. altitude. A low shrubby climber with slender blackish branches and spiral tendrils. The membranous leaves, 2 to 3 inches long, are divided to the center into 2 triangular lobes, and the flowers are in racemes 4 inches long. Native to Indochina.
129191. Berberis sp. Berberidaceae.

No. 1341. From Tien Chuan Hsien, November 1937, at between 2,300 and $2,700 \mathrm{~m}$. altitude.
129192. Berberis sp. Berberidaceae.

No. 1380. From Tien Chuan Hsien, November 1937, at $2,000 \mathrm{~m}$. altitude. 129193. Berchemia sp. Rhamnaceae.

No. 1384. From Tien Chuan Hsien, November 1937, at $2,300 \mathrm{~m}$. altitude. 129194 to 129196. Betula spp. Betulaceae.

Birch.

## 129194. Betula sp.

No. 1378. From Tien Chuan Hsien, November 1937, at 3,200 m. altitude.

## 129195. Betula sp.

No. 1300. From Mount Omei, October 1937, at 3,200 m. altitude.
129196. Betula sp.

No. 1386. From Tien Chuan Hsien, November 1937, at 3,200 m. altitude. 129197. Buddleta sp. Loganiaceae.

No. 1314. From Tien Chuan Hsien, November 1937, at 2,300 m. altitude.

## 129169 to 129297-Continued

## 129198. Camellia sp. Theaceae.

No. 1099. From Mount Omei, October 1937, at $1,760 \mathrm{~m}$. altitude.
129199. Cassia mimosoides L. Caesalpiniaceae.

No. 1381. From Tien Chuan Hsien, November 1937, at 500 m . altitude. An herb about 2 feet high with yellow flowers. Native to tropical Asia.
For previous introduction see 114725.
129200. Catalpa sp. Bignoniaceae.

No. 1385. [Received without notes.]
129201. Celastrus sp. Celastraceae.

No. 1319. From Tien Chuan Hsien, November 1937, at between 2,300 and $2,700 \mathrm{~m}$. altitude.
129202 to 129204. Clematis spp. Ranunculaceae.
129202. Clematis sp.

No. 1291. From Mount Omei, October 1937, at 500 m . altitude. 129203. Clematis sp.

No. 1299. From Mount Omei, October 1937, at 3,200 m. altitude.
129204. Clematis sp.

No. 1379. From Tien Chuan Hsien, November 1937, at $2,000 \mathrm{~m}$. altitude. 129205. Clerodendrum sp. Verbenaceae.

No. 1263. From Mount Omei, October 1937, at $2,000 \mathrm{~m}$. altitude. 129206 to 129208. Cornus spp. Cornaceae.
129206. Cornus sp.

No. 1077. From Mount Omei, August 21, 1937, between 600 and $1,100 \mathrm{~m}$. altitude.
129207. Cornus sp.

No. 1270. From Mount Omei, October 1937, betwen 2,000 and $2,300 \mathrm{~m}$. altitude.
129208. Cornus sp.

No. 1322. From Tien Chuan Hsien, November 1937, between 2,300 and $2,700 \mathrm{~m}$. altitude.
129209. Corylopsis sp. Hamamelidaceae.

No. 1304. From Mount Omei, October 1937, at 900 m . altitude.
129210. Corylus sp. Betulaceae.

No. 1251. From Mount Omei, September 3, 1937, at 2,500 m. altitude.
129211 to 129216. Cotoneaster spp. Malaceae.
Collected in Tien Chuan Hsien in November at different altitudes.
129211. No. 1310, at $2,300 \mathrm{~m}$.
129212. No. 1312, at $2,300 \mathrm{~m}$.
129213. No. 1327, at $2,900 \mathrm{~m}$.
129214. No. 1340, at between 2,300 and $2,700 \mathrm{~m}$.
129215. No. 1342, at $2,300 \mathrm{~m}$.
129216. No. 1395, at $2,600 \mathrm{~m}$.
129217. Cudrania sp. Moraceae.

No. 1399. From Mount Omei, November 1937, at 1,800 m. altitude.

## 129169 to 129297-Continued

129218 and 129219. Daphniphyllum spp. Euphorbiaceae.
From Mount Omei, November 1937, at 600 m . altitude.
129218. DapHniphyllum sp.

No. 1365.
129219. Daphniphyleum sp.

No. 1364.
129220. Deutzia sp. Hydrangeaceae.

No. 1326. From Tien Chuan Hsien, November 1937, at $2,300 \mathrm{~m}$. altitude. 129221. Enkianthus sp. Ericaceae.

No. 1375. From Tien Chuan Hsien, November 1937, at $3,200 \mathrm{~m}$. altitude. 129222. Euptelea plemosperma Hook. f. and Thoms. Trochodendraceae.

No. 1267. From Mount Omei, October 1937, at between 2,000 and $2,300 \mathrm{~m}$. altitude. A tree 30 to 40 feet high, native to Tibet and western China, with ovate-crenate leaves which are glaucescent beneath and have very long acuminate tips. The slender-stalked red flowers, in axillary fascicles, appear before the leaves.
For previous introduction see 103425.
129223. Eurya chinensis R. Br. Theaceae.

No. 1275. From Mount Omei, October 1937, at 600 m . An evergreen shrub up to 12 feet high, with obovate leaves over 1 inch long and inconspicuous greenish flowers in small axillary clusters, followed by berrylike fruits.
For previous introduction see 111355.
129224. Euscaphis Japonica (Thunb.) Dipp. Staphyleaceae.

No. 1370. From Mount Omei, October 1937, at $1,300 \mathrm{~m}$. altitude. A shrub or small tree with compound leaves composed of 7 to 11 ovate-lanceolate serrate leaflets 1 to 3 inches long. The small white flowers, in upright panicles, are followed by brown-red pods which open, exposing the steel-blue fruits.
For previous introduction see 116870.
129225. Fraxinus sp. Oleaceae.

Ash.
No. 1294. From Mount Omei, October 1937, at 500 m . altitude.
129226. Gaultheria sp. Ericaceae.

No. 1335. From Tien Chuan Hsien, November 1937, at between 2,300 and $2,700 \mathrm{~m}$. altitude.
129227. Gaultheria yunfanensis (Franch.) Rehd.

No. 1387. From Mount Omei, October 1937, at $1,600 \mathrm{~m}$. altitude.
129228. Gentiana sp. Gentianaceae.

No. 1281. From Mount Omei, October 1937, at 600 m . altitude.
129229. anaphalis pterocaulon (Franch. and Sav.) Maxim. Asteraceae.

No. 1377. From Mount Omei, October 1937, at $3,200 \mathrm{~m}$. altitude. A woolly herbaceous perennial with erect, simple stems over 1 foot high, oblong leaves, and heads of whitish flowers in corymbs. Native to eastern Asia.

## 129230. Hydrangea sp. Hydrangeaceae.

No. 1315. From Tien Chuan Hsien, November 1937, at $2,500 \mathrm{~m}$. altitude.
129231 to 129233. Hypericum spp. Hypericaceae.
129231. Hypericum sp.

No. 1296. From Mount Omei, October 1937, at 1,700 m. altitude.
129232. Hypericum sp.

No. 1317. From Tien Chuan Hsien, November 1937, at $2,300 \mathrm{~m}$. altitude.

## 129169 to 129297-Continued

129233. Hypericum sp.

No. 1403. From Kuan Hsien, October 1937, at $1,000 \mathrm{~m}$. altitude.
129234 to 129240 . Ilex spp. Aquifoliaceae. Holly.
129234. Ilex sp.

No. 1278. From Mount Omei, October 1937, at 600 m . altitude.
129235. Ilex sp.

No. 1285. From Mount Omei, October 1937, at 600 m . altitude.
129236. Ilex sp.

No. 1288. From Mount Omei, October 1937, betwen 900 and $1,000 \mathrm{~m}$. altitude.
129237. Ilex sp.

No. 1313. From Tien Chuan Hsien, November 1937, at $2,300 \mathrm{~m}$. altitude.
129238. ILEX sp.

No. 1349. From O-pie Hsien, November 1937, at $1,700 \mathrm{~m}$. altitude.
129239. Ilex sp.

No. 1373. From Mount Omei, October 1937, at $1,800 \mathrm{~m}$. altitude.
129240. Ilex sp.

No. 1396. From Tien Chuan Hsien, November 1987, at 500 m . altitude.
129241. Juglans sp. Juglandaceae.

Walnut.
No. 1408. From Tien Chuan Hsien, November 1937, at 2,800 m. altitude. 129242. Juniperus sp. Pinaceae.

No. 1339. From Tien Chuan Hsien, November 1937, between 2,300 and 2,700 m . altitude.
129243. Lilum sp. Liliaceae.

Lily.
No. 1389. From Tien Chuan Hsien, November 1937, at $2,000 \mathrm{~m}$. altitude.
129244. Lilium giganteum Wall. Liliaceae.

Giant lily.
No. 1371. From Tien Chuan Hsien, November 1937, at $2,900 \mathrm{~m}$. altitude.
For previous introduction see 11061.
129245. Lonicera sp. Caprifoliaceae.

No. 1229. From Mount Omei, September 3, 1937, at 2,200 m. altitude.
129246. Maess sp. Myrsinaceae.
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No. 1287. From Mount Omei, October 1937, at 600 m . altitude.
129247 to 129252. Malus spp. Malaceae.
129247. Malus sp.

No. 1213. From Mount Omei, September 3, 1937, at $2,200 \mathrm{~m}$. altitude.
Nos. 129248 to 129252. Collected in Tien Chuan Hsien in November 1937, at different altitudes.
129248. Malus sp.

No. 1330. Between 2,300 and $2,700 \mathrm{~m}$.
129249. Malus sp.

No. 1337. Between 2,300 and $2,700 \mathrm{~m}$.
129250. Malus sp.

No. 1372. At 3,200 m.

## 129169 to 129297—Continued

129251. Malus sp.

No. 1383. At $2,600 \mathrm{~m}$.
129252. Malus sp.

No. 1394. At $2,300 \mathrm{~m}$.
129253. Meconopsis sp. Papaveraceae.

No. 1252. From Mount Omei, September 3, 1937, at $2,300 \mathrm{~m}$. altitude.
129254. Melastoma normale D. Don. Melastomaceae.

No. 1025. From Mount Omei, August 17, 1937, at 650 m . altitude. An erect evergreen shrub up to 6 m . high, with hairy branches and pubescent, lanceolate leaves 8 to 12 cm . long. The rose-purple flowers, about 5 cm . across, are in terminal clusters of 3 to 10 , sometimes a few in the upper leaf axils, and are followed by baccate fruits. Originally described from the Himalayan region, where it grows up to $3,000 \mathrm{~m}$. altitude. In western China it is a common shrub on red sandstone hills up to 750 m . altitude.
129255. Melastoma sp. Melastomaceae.

No. 1011. From Mount Omei, August 17, 1937, at 650 m . altitude.
129256. Meliosma sp. Sabiaceae.

No. 1293. From Mount Omei, October 1937, at 550 m . altitude.
129257. Meliosma sp. Sabiaceae.

No. 1199. From Mount Omei, September 3, 1937, at 2,100 m. altitude.
129258. Morus sp. Moraceae.

No. 1139. From Mount Onei, August 27, 1937, at $1,760 \mathrm{~m}$. altitude.
129259. Oxalis sp. Oxalidaceae.

No. 1298.
129260. Pieris sp. Ericaceae.

No. 1336. From Tien Chuan Hsien, November 1937, at $2,300 \mathrm{~m}$. altitude.
129261. Phellodendron sp. Rutaceae.

No. 1400. From Kuan Hsien, September 1937, at 1,000 m. altitude.
129262. Picea sp. Pinaceae. Spruce.

No. 1407. From Tien Chuan Hsien, November 1937, at 3,200 m. altitude.
129263. Pistacia sp. Anacardiaceae.

No. 1374. From Mount Omei, October 1937, at $1,600 \mathrm{~m}$. altitude.
129264. Pittosporum sp. Pittosporaceae.

No. 1047. From Mount Omei, August 20, 1937, at 650 m . altitude.
129265. Primula sp. Primulaceae.

No. 1388. From Mount Omei, October 1937, at $3,100 \mathrm{~m}$. altitude.
129266. Clethra monostachya Rehd. and Wils. Clethraceae.

No. 1329. From Tien Chuan Hsien, November 1937, at $2,300 \mathrm{~m}$. altitude. A shrub or small tree up to 18 feet or more high, with elliptic-oblong to oblonglanceolate, dark-green leaves about 5 inches long and small white flowers in lax terminal racemes 7 or 8 inches long. Native to central China.
129267. Pterocarya sp. Juglandaceae.

No. 1175. From Tien Chuan Hsien, November 1937, at $2,300 \mathrm{~m}$. altitude. 129268. Pyracantha sp. Malaceae.

No. 1276. From Mount Omei, October 1937, at 600 m . altitude.

## 129169 to 129297-Continued

129269 to 129275. RHododendron spp. Ericaceae.
From Tien Chuan Hsien and O-pie Hsien, November 1937, between 2.300 and $2,700 \mathrm{~m}$. altitude.
129269. No. $1309 . \quad$ 129273. No. 1356.
129270. No. 1321. 129274. No. 1393.
129271. No. 1323. 129275. No. 1406.
129272. No. 1344.

129276 and 129277. Ribes spp. Grossulariaceae.
From Tien Chuan Hsien, November 1937, between 2,300 and 2,700 m. altitude. 129276. No. 1311.
129277. No. 1320.

129278 to 129280. Rosa spp. Rosaceae.
129278. Rosa sp.

No. 1002. From Mount Omei, October 1937, at 500 m . altitude.
129279. Rosa sp.

No. 1219. From Mount Omei, September 3, 1937, at 2,200 m. altitude.
129280. Rosa omeiensis Rolfe.

No. 1397. From Mount Omei, October 1937, at 3,200 m. altitude. A shrub 12 to 15 feet high, native to southwestern China, between 3,000 and $4,500 \mathrm{~m}$. altitude. The brush branches from the base, and the young branches, broadly winged, are carmine. The flowers are white.

For previous introduction see 94044.
129281. Rubus sp. Rosaceae.

No. 1390. From Tien Chuan Hsien, November 1937, at $1,500 \mathrm{~m}$. altitude.
128282. Schima sp. Theaceae.

No. 1332. From Tien Chuan Hsien, November 1937, at 2,500 m. altitude.
129283. Sloanea sp. Elaeocarpaceae.

No. 1362. From O-pie Hsien, November 1937.
129284 to 129286. Sorbus spp. Malaceae.
From Tien Chuan Hsien, November 1937, between 2,300 and 2,700 m. altitude.
129284. Sorbus sp.

No. 1331.
129285. Sorbus sp.

No. 1325.
129286. Sorbus sp.

No. 1343.
129287. Spiraea sp. Rosaceae.

No. 1303. From Mount Omei, October 1937, at 3,200 m. altitude.
129288. Stachyurus sp. Stachyuraceae.

No. 1301. From Mount Omei, October 1937, at 1,800 m. altitude.
129289. Styrax sp. Styracaceae.

No. 1269. From Mount Omei, October 1937, at 2,300 m. altitude. 129290. Tilia sp. Tiliaceae.

No. 1392. From Tien Chuan Hsien, November 1937, at $3,000 \mathrm{~m}$. altitude.

## 129169 to 129297-Continued

## 129291. Vacciniom sp. Vacciniaceae.

No. 1318. From Tien Chuan Hsien, November 1937, between 2,300 and 2,700 m. altitude.

129292 to 129296. Viburnum spp. Caprifoliaceae.
From Mount Omei and Tien Chuan Hsien, between 900 and 2,300 m. altitude, from August to October 1937.
129292. No. 1282.129295. No. 1113.
129293. No. $1345 . \quad$ 129296. No. 171.
129294. No. 1290.
1292997. Zanthoxylum sp. Rutaceae.

No. 1308. From Tien Chuan Hsien, November 1937, between 2,300 and 2,700 m. altitude.

129298 and 129299. Gossypiom spp. Malvaceae.
Cotton.
From India. Seeds presented by S. S. Pande, Economic Botanist for Cotton, Nagpur, Central Provinces. Received April 28, 1938.
129298. GOSS YPIUM sp.

Introduced under the specific name of "indicum," a name of uncertain position.
129299. Gossypium obtubifolium Roxb.
129300. Gossypium. Malvaceae.

Cotton.
From Cuba. Seeds presented by the Estacion Experimental Agronomica, Santiago de las Vegas. Received May 25, 1938.

## Marcusci.

## 129301 to 129304.

From England. Plants presented by Sir Arthur W. Hill, Director, Royal Botanic Gardens, Kew, Surrey. Received May 31, 1938.
129301. arundinaria angustifolia (Mitf.) H. de L. Poaceae. Bamboo.

A Japanese running bamboo with slender, erect stems 2 to 6 feet high and smooth brilliant-green narrow leaves $11 / 2$ to 6 inches long.
129302. Sinarundinaria nitida (Mitf.) Nakai. Poaceae.

Bamboo.
A clump-forming, hardy bamboo with slender arching culms up to 9 feet or more long and leaves with purple sheaths and narrow blades up to $31 / 2$ inches long. Native to northwestern China.

For previous introduction see 110336.
129303. arundinaria racemosa Munro. Poaceae.

Bamboo.
An erect clump bamboo up to 15 feet high, with linear-lanceolate leaves 4 to 7 inches long. Native to the Himalayan region at altitudes of 6,000 to 12,000 feet.

For previous introduction see 114414.
129304. Sinobambusa tootsik (Makino) Makino. Poaceae. Bamboo.
129305. Medicago lupulina L. Fabaceae. Black medic.

From Denmark. Seeds presented by the Royal Agricultural Society of Denmark, Copenhagen. Received June 1, 1938.
Roskilde. An early, high-yielding strain.

## 129306 to 129308.

From India. Seeds purchased from the Divisional Forest Officer, Darjeeling, Bengal. Received May 27, 1938.
129306. Abies spectabilis Spach. Pinaceae. Himalayan fir.

A tree, sometimes 150 feet high, native to the Himalayas at altitudes between 7,000 and 13,000 feet. The dark-green leaves are arranged in 2 opposite series so as to leave a $V$-shaped opening along the top; the individual leaves are 1 to 2 inches long. The cones are about 5 inches long, are violet purple at first, later becoming brown.

For previous introduction see 122049.
129307. Prunus napaulensis (Seringe) Steud. Amygdalaceae.

A small tree, native to the temperate Himalayas at altitudes up to 10,000 feet. The lanceolate to oblong-lanceolate, crenate-serrate leaves, 4 to 6 inches long, are glaucous beneath, and the white flowers, in dense racemes, are followed by globose-ovoid blue fruits nearly 1 inch long.

For previous introduction see 102773.
129308. Tsuga dumosa (D. Don) Eichler.

Hemlock.
A handsome forest tree, sometimes 120 feet high, with gracefully drooping branches, native to northwestern India between 8,000 and 10,000 feet altitude. For previous introduction see 122048.

## 129309 and 129310.

From Malta. Seeds presented by the Director, Royal University Botanic Gardens, Floriana. Received June 1, 1938.
129309. Callistephus chinensis (L.) Nees. Asteraceae. China aster. For previous introduction and description see 129017.
129310. Cannabis sativa L. Moraceae.

## Hemp.

## 129311 to 129315.

From Japan. Seeds presented by S. Sakurai, Department of Forestry, Tokyo Imperial University, Tokyo. Received May 24, 1938.
129311 to 129313. Alnus spp. Betulaceae.
Alder. 129311. Alnus pendula Mats.

A graceful shrub or small tree up to 25 feet high, native to Japan. The sharply serrate, dark-green leaves are oblong with long points, and the small conelike fruits are on slender pedicels in pendulous racemes.

For previous introduction see 75699.
129312. Alnus firma Sieb. and Zucc.

A shrub or small tree up to 30 feet high, with long slender branches and handsome foliage remaining green until late in the fall. Native to Japan.

For previous introduction see 10529.
129313. Alnus hirsuta Turcz. Manchurian alder.

A handsome vigorous medium-sized tree, up to 65 feet high, native to Japan and Manchuria. The rounded-elliptic, slightly lobed, dull dark-green leaves, which are reddish-brown hairy beneath, are $2 \frac{1}{2}$ to 8 inches long.

For previous introduction see 127044.
129314. Lespedeza bicolor japonica Nakai. Fabaceae.

A shrub 5 to 8 feet high, with slender, graceful branches and oval to roundedovate leaflets. The small white flowers are in racemes 1 to 4 inches long. Native to Japan.

For previous introduction see 83799.
129315. Zoysia japonica Steud. (Osterdamia japonica Hitchc.). Poaceae.

Japanese lawngrass.
For previous introduction see 106840.

## 129316 to 129319. Lindm dsitatissimum L. Linaceae.

From Argentina. Seeds presented by Dr. José Vallega, Instituto Fitotécnico, Liavollol, Province of Buenos Aires. Received June 3, 1938.
129316. Klein 10e, I. F. 595.
129317. Seleccion Pergamino 6010, I. F. 475 ; flowers white.
129318. Linita 176, I. F. 586.
129319. Klein 10d, I. F. 428.

## 129320 to 129322. Zea mays L. Poaceae.

Corn.
From Chile. Seeds presented by G. Montero, Temuco, at the request of H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received June 8, 1938.
129320. From San Ferria, Chile.
129321. From Concepción, Chile.
129322. From Temuco, Chile.

## 129323 to 129366.

From Central America and South America. Seeds collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received May 26, 1938.
129323. Aristolochia elegans Masters. Aristolochiaceae. Calicoflower.

No. 576. From near Guayaquil, Ecuador, April 10, 1938. A perennial vine with long-stalked, broadly ovate leaves 2 to 3 inches across and solitary flowers with no unpleasant odor, borne on the pendulous young wood. The flowers have a yellow-green tube 2 to 3 inches long, and the cordate-circular limb, 3 inches across, is purple and white blotched, white outside with a yellow eye. It is native to Brazil.

For previous introduction see 122035.
129324 to 129326. Capsicum frutescens L. Solanaceae. Common redpepper. 129324. No. 577. Pepino. From south of Guayaquil, Ecuador, April 10, 1938.
129325. No. 588. From north of Santa Rosa, Province of El Oro, Ecuador, April 12, 1938, in an abandoned field. Fruit small, elongated, orange red.
129326. No. 691. From Buenos Aires, east of Ibaque, Colombia, February 2, 1938. Fruit $11 / 2$ inches long, purplish black, and very hot.
129327. Cordia lutea Lam. Boraginaceae.

No. 565. From Muey, Ecuador, April 8, 1938. An ornamental shrub with clusters of yellow, trumpet-shaped flowers and small fruits which are white at maturity. The fruits are said to be eaten by children. Native to Peru.
129328 and 129329. Cucumis anguria L. Cucurbitaceae West Indian gherkin.
A small fruit resembling a round spiny cucumber, used boiled as a vegetable.
For previous introduction see 117557.
129328. No. 768. From Pasaje, Ecuador.
129329. No. 768-A. From Santa Rosa, Ecuador.
129330. Datura stramonium L. Solanaceae.

No. 472. From Arica, Chile, March 24, 1938. An ornamental plant over 6 feet high, with large, double, yellow flowers.
129331. Datura metel fastuosa (L.) Safford. Solanaceae.

No. 473. From Arica, Chile, March 24, 1938. An ornamental herbaceous annual, common throughout India and the East Indies, which varies in height from 2 to 3 feet. It has entire or deeply-toothed leaves about 4 inches long and flowers 7 or more inches in length, varying in color from white to lavender or rose.

For previous introduction see 122273.

## 129323 to 129366-Continued

## 129332. Galactia sp. Fabaceae.

No. 603. From east of Pasaje, Province of El Oro, Ecuador, April 12, 1938. 129333. Ipomoea sp. Convolvulaceae.

No. 368. From the Cordoba Hills, Sierra Grande, Argentina, February 19, 1938. A vine with large, pink, trumpet-shaped flowers.

129334 and 129335. Juglans australis Griseb. Juglandaceae. Walnut.
A large tree with compound leaves made up of 13 to 21 large, ovate, sharppointed, serrate, viscid-pubescent leaflets and small grooved ovoid nuts about 1 inch in diameter. It is native to Argentina.

For previous introduction see 128210.
129334. No. 665. From the market at Cayambe, Ecuador, April 24, 1938.
129335. No. 630. From the experiment station at Cuenca, Ecuador, April 19, 1938.
129336. Lapageria rosea Ruiz and Pav. Liliaceae. Red Chile-bells.

No. 394. From El Vergel, Angol, Chile, March 7, 1938. Copihue, the national flower of Chile, is an evergreen climber of slow growth, with slender wiry stems, alternate, narrowly ovate leaves, and bright crimson, pendent, tubular flowers about 3 inches long in the axils of the upper leaves or in terminal racemose clusters.

For previous introduction see 98754.
129337. Luffa cylindrica (L.) Roemer. Cucurbitaceae. Suakwa towelgourd.

No. 748. From near Tulua, Colombia, May 5, 1938. Fruit long, green, striped, with a slightly crooked neck.
129338. Lycopersicon sp. Solanaceae.

No. 369. From the Hacienda Chanblay, Argentina, at 3,500 m. altitude.
129339. Lycopersicon sp. Solanaceae.

No. 516. [Received without notes.]
129340. Momordica zeylanica Mill. Cucurbitaceae.

No. 566. Achacho China. From just above the beach at Salinas, Ecuador, April 8, 1938. A herbaceous vine closely related to the balsam-pear (Momordica charantia), but generally smaller, with narrower leaf lobes and shorter fruits armed with rows of sharp spines. Native to the Tropics.

For previous introduction see 43007.
129341. Physalis sp. Solanaceae.

No. 592. From Pasaje, Province of El Oro, Ecuador, April 3, 1938. A plant common in this region.
129342 to 129346. Rubus spp. Rosaceae.
129342. Rubus sp.

No. 684. Moro-Castilla. From Bogotá, Colombia, May 1, 1938. Fruit me-dium-sized, black.
129343. Rubus sp.

No. 685. Mora. From Bogotá, Colombia, May 1, 1938. Fruit small, black. 129344. Rubus sp.

No. 686. Moron. From Bogotá, Colombia, May 1, 1938. Fruit large, black.
129345. Rubus sp.

No. 713. Mora Castilla. From Armenia, Colombia, May 4, 1938. Fruit large, reddish black; grows wild; the fruit is picked and marketed by the natives.

## 129323 to 129366-Continued

129346. Rubus sp.

No. 714. Mora. Along the roadside near Armenia, Colombia, May 4, 1938. Plant small, thorny, shrubby; fruits very small.
129347 to 129363. Solanum spp. Solanaceae.
129347 and 129348. Solanum mammosum L. Nightshade.
A spiny shrub with indigo flowers and yellow fruits, 2 to $21 / 2$ inches wide and 2 to 3 inches long, that have the odor of tomato.
129347. No. 670. Sopomia. Along a mountain side between Patio and El Bordo, Colombia, at 6,500 feet altitude.
129348. Nos. 590 and 590-A. Between Machala and Pasaje, Ecuador, April 13, 1938.
129349 and 129350. Solanum quitoense Lam.
Naranjilla.
An ornamental shrub about 3 feet high, native to Peru; the oblong-ovate, deep-green leaves are soft hairy, and the large white flowers are in short axillary clusters. The aromatic, orange-colored, juicy fruits are nearly spherical and about 2 inches in diameter; they are used in the preparation of refreshing drinks.
For previous introduction see 115289 .
129349. No. 568. From the market at Guayaquil, Ecuador, May 9, 1938.
129350. No. 651. From Rio Verde, Ecuador, April 2, 1938.
129351. Solanum nierum L.

Black nightshade.
No. 596. Yerba Moro. From Pasaje, Ecuador, April 13, 1938. Fruit black.
129352. Solanum sp.

No. 551. Redunto Ojo. From gardens about Huaraz, Peru, April 4, 1938. 129353. Solanum nigrum L.

Black nightshade.
No. 567. From the garden of the hotel at Salinas, Ecuador, April 8, 1938. A dark-green plant with short stem and clusters of red berries.

## 129354. Solandm sp.

No. 567-A. From the hotel garden at Salinas, Ecuador, April 8, 1938. A plant with dark-green leaves and clusters of red berries.
129355. Solanum sp.

No. 583. From west of Guayaquil, Ecuador, April 10, 1938. Fruit blackish green, about the size of a cherry.

## 129356. Solanum sp.

No. 631. From Cuenea, wcuador, April 19, 1938.
129357. Solanum sp.

No. 660. From between Cayambe and Otavalo, Ecuador, April 24, 1938. A large-leaved plant having flowers and fruits in umbellike clusters at the tips of twigs ; fruit yellowish green at maturity.
129358. Solanum sp.

No. 674-A. Quinda. From between Pasto and Bursaco, Colombia, at 4,500 feet altitude, April 27, 1938.
129359. Solanum nigrum L.

Black nightshade.
No. 687. [Received without notes.]
129360. Solanum sp.

No. 690. [Received without notes.]
129361. Solanum sp.

No. 692. [Received without notes.]

## 129323 to 129366-Continued

## 129362. Solanum aculeatissimum Jacq.

No. 757. From Costa Rica, at 5,000 feet altitude, May 10, 1938. 1 to $11 / 4$ inches in diameter, brownish red or burnt orange. A spiny undershrub 1 to 2 feet high, widely distributed in the Tropics. The few-flowered axillary cymes of snow-white flowers, 1 inch across, are followed by globose fruits often 2 inches in diameter.

For previous introduction see 116152.
129363. Solanum sp.

No. 769. From Machale, Ecuador. A vine used as an ornamental.
129364. Tephrosia toxicaria (Swartz) Pers. Fabaceae.

No. 669. Between Mercaderes and Rio Patia, Colombia, April 27, 1938.
129365. Thunbergia fragrans Roxb. Acanthaceae.

No. 595. From near Pasaje, Province of El Oro, Ecuador, April 12, 1938. A slender, somewhat ornamental climbing vine with lanceolate to triangular, cordate leaves, rough on both sides, and white trumpet-shaped flowers with slender tube and limb $11 / 2$ inches across.

For previous introduction see 76749.
129366. (Undetermined.)

No. 672. From Pusillo, Colombia, April 28, 1938. Fruit round and very hard.

## 129367. Tephrosia vogelit Hook. f. Fabaceae.

From Nyasaland, Africa. Seeds presented through the Royal Botanic Gardens, Kew, England. Received June 10, 1938.
For previous introduction see 128996.

## 129368. Amaryllis reginae L. Amaryllidaceae.

From Ecuador. Bulbs collected by H. L. Blood, Agricultural Experiment Station, Logan, Utah, cooperating with the Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, United States Department of Agriculture. Received April 21, 1938.
No. 652. From Rio Verde, April 21, 1938. A tropical American hippeastrum with lorate leaves 2 feet long and 2 inches wide, developed after the flowers. The 2 to 4 flowers, with short tubes and bright red limbs, 4 to 5 inches long, have a whitish star in the throat.

For, previous introduction see 118933.

## 129369 to 129378.

From Africa. Seeds presented by the Director, National Botanic Gardens of South Africa, Kirstenbosch, Newlands, Cape Province. Received June 9, 1938.

A collection of South African succulents.
129369 to 129375. Gasteria spp. Liliaceae.
129369. Gasteria croucheri (Hook. f.) Baker.

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

For previous introduction see 78205.
129370. Gasteria elongata Baker.

A gasteria with a short leafy stem of 6 to 8 thin, rather glossy, lorate leaves 6 to 10 inches long, about 1 inch broad, and many immersed, whitish dots.

## 129369 to 129378-Continued

## 129371. Gasteria nigricans (Haw.) Duval.

A gasteria with a leafy stem 4 or 5 inches long with 10 to 20 crowded, lorate, rigidly leathery glossy dark-green leaves 4 to 8 inches long and $1 / 2$ to 2 inches broad, having many scattered immersed whitish spots.

## 129372. Gasteria nigricans (Haw.) Duval.

Introduced with the varietal name "rufescens," for which a place of publication has not been found.
129373. Gasteria obtusifolia (Salm-Dyck) Haw.

A low fleshy plant with a leafy stem 2 inches high, densely crowded, tongueshaped leaves 4 to 6 inches long, and rosy flowers in a raceme over a foot long.
For previous introduction see 79475.
129374. Gasteria parvifolia Baker.

A gasteria with 10 to 12 lanceolate-deltoid leaves 2 to 3 inches long, in a dense rosette. The leaves, dull-green, changing to purple, have numerous small, whitish, immersed spots forming irregular bands on the face.
129375. Gasteria planifolia Baker.

A gasteria with a short stem and about 12 narrow, ligulate leaves in 2 rows. These are dull green with a slight purplish tinge, mottled with irregular blotches of greenish white. The many lax, drooping flowers on a raceme about 2 feet long are less than 1 inch long and greenish, changing below into pale red.
129376. Hoodia gordoni (Mass.) Sweet. Asclepiadaceae.

A leafless perennial with many spreading and erect, somewhat branching, thick, cylindric, angled and spiny stems up to $11 / 2$ feet long. The large flowers, borne 1 to 3 together, near the summit of the stems, are buff with purplish margins.
129377. Stapelia flavirostris N. E. Brown. Asclepiadaceae.

A dwarf perennial.
For previous introduction see 78229.
129378. Stapelia rufa Mass. Asclepiadaceae.

A stapelia with erect velvety stems 4 to 9 inches high and clusters of 3 to 5 flowers borne at the base or near the middle of the stems. The dark or choco-late-red corolla, $11 / 4$ to 2 inches across, sometimes has dull olive-green lines on the disk and lobes.

## 129379 to 129381.

From Chile. Seeds presented by Dr. D. S. Bullock, El Vergel Escuela Agricola, Angol. Received June 13, 1938.
129379. Nicotiaña sp. Solanaceae.

Collected along the banks of the Rio Malleco at El Vergel, Angol, March 23, 1938.
129380. Solanum sp. Solanaceae.

Natrillo. From Baños, Rio Blanco, Curacautin, March 27, 1938. This may have possibilities as an ornamental shrub.
129381. Solanum sp. Solanaceae.

A wild potato from the mountains southeast of Curacautin, March 30, 1938.

## 129382 to 129533.

From Poland. Seeds presented by Dr. Josef Przyborowski, Department of Plant Breeding, University of Krakow. Received June 18, 1938.
129382 to 129423. avena sativa L. Poaceae.
Oats.
129382. Aldershafer (Biaty Orzel). Originally from Sweden.

## 129382 to 129533—Continued

129383. Antoninski Biaty.
129384. Antoniñski Zótty.
129385. Bensings Findling. Originally from Germany.
129386. Beseler II. Originally from Germany.
129387. Biaty Mazur.
129388. Biaty Orzel. Originally from Sweden.
129389. Detenicky Schlanstedsky. Originally from Bohemia.
129390. Dippes Weisshafer. Originally from Germany.
129391. Dregeruw Zluty. Originally from Bohemia.
129392. Düppawski.
129393. Eckenderfer Frïh "Borriess." Originally from Germany.
129394. Fichtelgebirgshafer. Originally from Germany.
129395. Fischers Wirchenblätter III. Originally from Germany.
129396. Goldkorn. Originally from Germany.
129397. Grzywacz Wolyñski.
129398. Kirsches Gelbhafer. Originally from Germany.
129399. Kolbens Vienauer. Originally from Germany.
129400. Koscielecki.
129401. Krafft's Gelbhafer. Originally from Germany.
129402. Lembkes Baldur. Originally from Germany.
129403. Lischower Frühhafer. Originally from Germany.
129404. Marczak.
129405. Niemierczanski.
129406. Peragis. Originally from Germany.
129407. Podkowa.
129408. Putawski.
129409. Rothenburger Schwarzhafer. Originally from Germany.
129410. Rychlik Oberek.
129411. Selekcni No. 2. Originally from Bohemia.
129412. Solacki.
129413. Sobieszyniski.
129414. Streckenthiner W. H. Originally from Germany.
129415. Strubes Schlandstadter. Originally from Germany.
129416. Tatrzanski.
129417. Teodozja.
129418. Udyez Bialy.
129419. Udyez Zolty.
129420. Valecovsky. Originally from Bohemia.
129421. Zieleniak Zamlicki.
129422. Ztoty Deszez. Originally from Sweden.
129423. Ztoty Lechowa. Originally from Germany.
129424. Hordeum vulgare pallidum Seringe. Poaceae. Six-rowed barley.

## 129382 to 129533-Continued

129425 to 129432. Hordeum distichon palmella Harlan. Poaceae. Two-rowed barley.
129425. Abed Kenia. Originally from Denmark.
129426. Abed Opal. Originally from Denmark.
129427. Ackermanns Bavaria. Originally from Germany.
129428. Ackermanns Danubia. Originally from Germany.
129429. Aokermanns Isaria. Originally from Germany.
129430. Bethges u. Oelzes XIII. Originally from Germany.
129431. Bethges II. Originally from Germany.
129432. Borzymowicki.
129433. Hordeum vulgare pallidum Seringe. Poaceae. Six-rowed barley. Cowra. Originally from Tunis.
129434 to 129436. Hordeum distichon palmella Harlan. Poaceae.
Two-rowed barley.
129434. de Colmar. Originally from France.
129435. de Moravie. Originally from France.
129436. Diosecky 496. Originally from Bohemia.
129437. Hordeum vulgare pallidum Seringe. Poaceae. Six-rowed barley. Dłużewski.
129438 to 129441. Hobdeum distichon palmella Harlan. Poaceae.
Two-rowed barley.
129438. Dobrovicky Staročesky. Originally from Bohemia.
129439. Dornburger Heils Franken. Originally from Germany.
129440. Dubasquier. Originally from France.
129441. Elka.
129442. Hordeum vulgare pallidum Seringe. Poaceae. Six-rowed barley.

Emilio Mariani. Originally from Belgium.
129443 to 129448. Hordgum distichon palmmila Harlan. Poaceae.
Two-rowed barley.
129443. Hadostreng. Originally from Germany.
129444. Halliko. Originally from Finland.
129445. Hanna Hildebranda.
129446. Hanna Kargyn. Originally from Austria.
129447. Hanna Skrzeszowicki.
129448. Hanna z Goli.

129449 and 129450. Hordeum vulaare pallidum Seringe. Poaceae.
Six-rowed barley.
129449. Heines Vierzeilige. Originally from Germany.
129450. Hohenifinower. Originally from Germany.

129451 to 129458. Hordeum distichon palmella Harlan. Poaceae.
Two-rowed barley.
129451. Kazimierski.
129452. Kneifelgerste. Originally from Austria.
129453. Kneifuv P 13. Originally from Bohemia.
129454. Kujawski.
129455. Kutnowski 08.

## 129382 to 129533-Continued

129456. Kutnowski. 18.
129457. Kutnowski 19.
129458. Kutnowski 333.
129459. Hordeum vulgare pallidum Seringe. Poaceae. Six-rowed barley. Lapin. Originally from Finland.
129460. Hordeum distichon palmella Harlan. Poaceae. Two-rowed barley. Landsorte Aus Tirol (Rotholz). Originally from Austria.
129461. Hordeum distichon nudum L. Poáceae. Two-rowed barley. Laschkego Tybetański.
129462. Hordeum distichon palmella Harlan. Poaceae. Two-rowed barley. Louhi. Originally from Finland.
129463 to 129465. Hordeum vulgare pallidúm Seringe. Poaceae.
Six-rowed barley.
129463. 3782 z Mandzurji. Originally from U. S. S. R.
129464. 10342 z Mandzurji. Originally from U. S. S. R.
129465. 10343 z Mandzurji. Originally from U. S. S. R.
129466. Hordeum vulgare nigrum (Willd.) Beaven. Poaceae.

Six-rowed barley.
10345 z Mandzurji. Originally from U. S. S. R.
129467 and 129468. Hordeum vulgare pallidum Seringe. Six-rowed barley. 129467. 10971 z Mandzurji. Originally from U. S. S. R. 129468. Marchijaki.
129469. Hordeum vulgare coeleste L. Poaceae. Six-rowed barley.

Miejscowy z Podhala.
129470 and 129471. Hordeum distichon palmella Harlan. Poaceae.
Two-rowed barley.
129470. Mahndorfer Victoria. Originally from Germany.
129471. Nolc's Imperial. Originally from Germany.

129472 and 129473. Hordeum distichon nudum L. Poaceae.
Two-rowed barley.
129472. 33.
129473. 63. Miejscowy $\approx$ Podhala.

129474 to 129476. Hordeum vulaare coeleste L. Poaceae. Six-rowed barley.
129474. 150. Miejscowy z Podhala.
129475. 151. Miejscowy z Podhala.
129476. 154. Miejscowy z Podhala.
129477. Hordeum distichon nudum L. Poaceae. Two-rowed barley.
156. Miejscowy z Podkarpacia.
129478. Hordeum distichon palmella Harlan. Poaceae. Two-rowed barley. Nolcs Moravia. Originally from Bohemia.
129479 to 129482 . Hordeum vulgare pallidum Seringe. Poaceae.
Six-rowed barley.
129479. Norland. Originally from Germany.
129480. Nr. 4 A. Originally from Tunis.
129481. Olli. Originally from Finland.
129482. Oziery.

## 129382 to 129533-Continued

129483. Hordeum distichon palmella Harlan. Poaceae. Two-rowed barley. Perbete 4. Originally from Bohemia.
129484. Hordeum vulgare pallidum Seringe. Poaceae. Six-rowed barley. Pertu. Originally from Finland.
129485. Hordeum distichon palmella Harlan. Poaceae. Two-rowed barley. Pisarecky R. 31. Originally from Bohemia.
129486. Hordeum vulgare pallidum Seringe. Poaceae. Six-rowed barley. Podhorecki.
129487 to 129490. Hordeum distichon palmella Harlan. Poaceae.
Two-rowed barley.
129487. Postoloprtsky 31. Originally from Bohemia.
129488. Przeworski.
129489. Pulawski.
129490. Putza.

129491 and 129492. Hordeum vulgare pallidum Seringe. Poaceae.
Six-rowed barley.
129491. Nr. 14. Originally from Tunis.
129492. A Six Rang de Chine. Originally from Belgium.

129493 to 129498. Hordeum distichon palmella Harlan. Poaceae.
Two-rowed barley.
129493. Webskys Silesia. Originally from Germany.
129494. Streng's Frankengerste. Originally from Germany.
129495. Sel. Hannacky 2. Originally from Bohemia.
129496. Sel. Hannacky II. Originally from Bohemia.
129497. St. Croix. Originally from France.
129498. Szelejewski.
129499. Hordeum vulgare palilidum Seringe. Poaceae. Six-rowed barley. Sobieszyniski.
129500. Hordeum distichon palmella Harlan. Poaceae. Two-rowed barley. Teresa.
129501. Hordeum vulgare pallidum Seringe. Poaceae. Six-rowed barley. z Urkujska. Originally from the U. S. S. R.
129502. Hordeum distichon palmella Harlan. Poaceae. . Two-rowed barley. Zidlochovicka Hanna $\times$ Kargyn II. Originally from Bohemia.
129503. Hordeum deficiens steudelit (Koern.) Harlan. Poaceae.
129504. Hordeum distichon palmella Harlan. Poaceae. Two-rowed barley. Album.
129505. Hordeum deficiens steudelii (Koern.) Harlan. Poaceae.
129506. Hordeum vulgare aethiops (Koern.) Harlan. Poaceae.
129507. Hordeum deftciens deficiens. (Steud.) Harlan. Poaceae.
129508. Hordeum deficiens tridax (Koern.) Harlan. Poaceae.

129509 to 129533. Triticum aestivum L. Poaceae. Common wheat. 129509. Banatka 7so.
129510. Blondynka.
129511. Bogatka.

129382 to 129533-Continued
129512. Egipcjanka.
129513. Elka.
129514. Grubokiosa Zateskiego.
129515. Halina.
129516. Hanka.
129517. Hatvani 5971.
129518. O. S. Jakowcki.
129519. Jasnocha.
129520. Lebeny X.
129521. Nadwiślanka.
129522. Ostka Krukowska.
129523. Ostka Skomoroska.
129524. Ozorai 195.
129525. Ozorai 1004.
129526. Ozorai 1012.
129527. Podolanka.
129528. Sandomierka.
129529. Superelekta.
129530. 太zekacs 1399. Originally from Austria.
129531. Wegierska 2/II. Originally from Austria.
129532. Zaboreanlea.
129533. Zoska.

## 129534. Phaseolus lunatus L. Fabaceae.

Lima bean.
From Puerto Rico. Seeds presented by Wallace K. Bailey, associate horticulturist, Puerto Rico Agricultural Experiment Station, Mayaguez. Received June 17, 1938.
The native or wild Puerto Rico lima bean, collected in the hills about 4 miles east of San Sebastian.
129535 to 129539 . Capsicum frdtescens L. Solanaceae.
Common redpepper.
From Hungary. Seeds presented by Edmund Mauthner, Budapest. Received June 23, 1938.
A collection of redpepper seed, grown in Bulgaria.
129535. No. 239. Dagger's Shell.
129536. No. 222. Kalinkov, green.
129537. No. 241. Sheep's Horn, green.
129538. No. 235. A tomato-shaped green variety.
129539. No. 223. White of Csaba.

129540 to 129542. Cucurbita spp. Cucurbitaceae.
From New Zealand. Seeds presented by H. R. Wright, Avondale, Auckland. Received June 21, 1938.
129540. Cucurbita maxima Duchesne.

129541 and 129542. Cucurbita pepo L.

## 129543 and 129544.

From Africa. Seeds presented by R. C. Marshall, Conservator of Forests, Akcra, Gold Coast. Received June 17, 1938.
129543. Annona senegalensis Pers. Annonaceae.

A shrub or small tree, sometimes 20 feet high, native to both eastern and western tropical Africa. The oval, blue-green, leathery leaves are up to 5 inches long, and the orange-yellow, edible fruits, over 1 inch in diameter, contain an aromatic dark-red pulp which suggests that of the cherimoya of tropical America.
For previous introduction see 124979.
129544. Malacantha alinffolia (Baker) Pierre. Sapotaceae.

A tropical African shrub or tree with milky juice and leathery, broadly obovate, coarse-veined leaves about 7 inches long. The light-yellow, hard, durable wood is termite-proof and is used in western Africa for veranda posts and tool handles.

## 129545 and 129546. Gossypiom spp. Malvaceae.

From China. Seeds presented by Dr. Yu Chio-Pao, Agricultural College, National Central University, Chungking. Received June 27, 1938.
129545. $V_{2}$ (virescent yellow leaf).
129546. $\mathrm{V}_{1}$ (virescent yellow bud).

129547 to 129568. Gossypidm spp. Malvaceae.
Cotton.
From the British West Indies. Seeds presented by J. B. Hutchinson, Cotton Research Station, Trinidad, through the Empire Cotton Growing Corporation. Received June 16, 1938.

## 129547. Gossypium anomalum Wawra and Peyr.

W. 1. A tropical African shrub up to 10 feet high, with rough branches, reddish flowers, and oval capsules about 1 inch long.
For previous introduction see 77172.
129548 and 129549. Gossypium arboreum L.
129548. A-7. Variety Cernuum.
129549. Humpi. Variety Typicum.

129550 to 129555 . Gossypium barbadense L.
Sea-island cotton.
Seed obtained originally from Piura, Peru.
129550. B. P. 4-2. No. 1. Pardo.
129551. B. P. 4-3. No. 2. Pardo.
129552. B. P. 4-4. No. 3. Pardo.
129553. B. P. 4-5. No. 4. Pardo.
129554. B. P. 4-6. No. 5. Semiaspero.
129555. B. P. 8-2.
129556. Gossypium klotzschianum Anderss.

A cotton related to Gossypium barbadense. Native to the Galápagos Islands. 129557 to 129566. Gossypium reliaiosum L.

A cotton related to Gossypium hirsutum.
129557. R. A. 3-1. Teclstal, British Honduras.
129558. R. A. 8-4. Gambia 10.
129559. R. A. 8-5. Gambia 11.
129560. R. A. 8-6. G. punctatum, French West Africa.
129561. R. A. 8-9. Faran Kada, Nigeria.

## 129547 to 129568-Continued

129562. R. A. 8-11. Bakatuka, Nigeria.
129563. R. A. 8-12. Eritrea.
129564. R. A. 8-13. Zanzibar.
129565. R. A. 8-14. Miadagascar.
129566. R. A. 9-1. Port Essington, Australia.
129567. Gossypium stocksir Masters.

A shrubby tropical Indian cotton, with small yellow flowers, native to the Sind District.

For previous introduction see 124662.
129568. Gossypium taitense Parl.
W. 9-4. A wild cotton, native to Polynesia.

## 129569 to 129571. Macadamia ternifolia F. Muell. Proteaceae. Queensland nut.

From Australia. Seeds presented by W. R. Petrie, Nutland Plantations, Petrie, Queensland. Received June 23, 1938.
An evergreen tree up to 50 feet high, native to eastern Australia. It is cultivated for its edible nuts, which have sweet white flesh with the flavor of chestnuts, incased in a shell which is typically hard.

For previous introduction see 116751.
129569. Eggshell.
129570. G. R. K. (Large rough nuts.)
129571. Comet.

## 129572 to 129586.

From the Union of Soviet Socialist Republics. Seeds presented by the Director, Botanic Garden, Alma-Ata, Kazakhstan. Received June 23, 1938.
129572 to 129575. Aquilegia spp. Ranunculaceae.
Columbine. 129572. Aquilegia chrysantha A. Gray. Colden columbine.
No. 567. For previous introduction see 128520.
129573. Aquilegia glandulosa Fisch.

## Altai columbine.

No. 150. A Siberian columbine about $11 / 2$ feet high, with nodding lilacblue flowers up to 3 inches across; the sepals are twice the length of the white limb of the petals.
129574. Aquilegia karelini Baker.

No. 149. A perennial up to 2 feet high, with membranous, deeply lobed leaves and bright-blue or claret-purple flowers. Native to the Ala Tau Mountains, Turkistan.

For previous introduction see 107889.
129575. Aquilegia sp.

No. 568.
129576. Canna indica L. Cannaceae.

No. 603. A low slender-stemmed tropical American canna 3 to 5 feet high, with green oblong leaves about 1 foot long and simple lax racemes of small flowers. The latter have pale-green narrow petals, a reddish yellow lip, and bright-red upper staminodia.

For previous introduction see 100718.
129577. Impatiens parviflora DC. Impatientaceae.
N. 324. For previous introduction and description see 128835.

## 129572 to 129586-Continued

129578 to 129586. Rosa spp. Rosaceae. Rose.
129578. Rosa beggeriana Schrenk.

No. 84. A dense priekly shrub 4 to 8 feet high, with oval or elliptic, bluish or grayish-green leaflets. The flowers, in large or small corymbs, are white or rarely pink and about 1 inch across; the fruits are very dark red. Native to northern Iran [Persia] and Turkistan.
For previous introduction see 116205.

## 129579. Rosa gebleriana Schrenk.

No. 85. A rose with erect prickly stems, leaves of 9 to 11 ovate-oblong leaflets, and corymbs of white or pale yellow flowers. Allied to Rosa laxa. Native to the Altai region.

## 129580. Rosa persica Michx.

Persian rose.
No. 86. A low straggling shrub 1 to 3 feet high, with simple oval to oblong glaucous leaves and small yellow flowers. It is native to dry clayey ridges and alkaline loess plains from northern Iran [Persia] to Siberia.

For previous introduction see 116203.
129581. Rosa spinosissima L.

Scotch rose.
A low shrub, usually 3 to 4 feet high, with spreading or recurving branches and densely prickly branchlets. It is native to Europe. The compound leaves are made up of 5 to 11 orbicular serrate leaflets about 1 inch long, and the pink, white, or yellow flowers, 2 inches across, are solitary but borne on numerous short branchlets along the stems.

For previous introduction see 116204.
129582. Rosa beggeriana Schrenk.

No. 89.
For previous introduction and description see 129578.
129583. Rosa sp.

No. 90. Introduced under the name "sosnovskiana," for which a place of publication has not been found.
129584. Rosa turkestanica Regel.

No. 91. A tall shrub native to Turkistan, with few prickles, yellow flowers, and bright-red ovoid fruits 1 inch long.

For previous introduction see 54231.
129585. Rosa sp.

No. 92.
129586. Rosa sp.

No. 93.
129587 to 129590.
From the Union of South Africa. Seeds presented by the McGregor Museum, Kimberley. Received June 30, 1938.
129587. Pennisetum ciliare (L.) Link. Poaceae.

Grass.
A perennial grass with ascending stems up to 2 feet long. Native to South Africa.
129588 and 129589. Eragrostis lefmanniana Nees. Poaceae. Grass.
A native South African grass.
For previous introduction see 15343.
129588. The common type.
129589. Variety Robusta.
129590. Tricholaena repens (Willd.) Hitch. Poaceae.

Natal grass.
An annual or short-lived perennial grass with slender stems, often decumbent at the base, about 3 feet high. Native to South Africa.

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[^0]:    ${ }^{1}$ Now Bureau of Plant Industry, Soils, and Agricultural Engineering, Agricultural Research Administration, United States Department of Agriculture.

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