

U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 227.

B. T. GALLOWAY, *Chief of Bureau.*

SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM OCTOBER 1
TO DECEMBER 31, 1910:

INVENTORY No. 25; Nos. 28883 to 29327.

ISSUED NOVEMBER 2, 1911.



WASHINGTON:
GOVERNMENT PRINTING OFFICE.
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BUREAU OF PLANT INDUSTRY.

Chief of Bureau, BEVERLY T. GALLOWAY.

Assistant Chief of Bureau, WILLIAM A. TAYLOR.

Editor, J. E. ROCKWELL.

Chief Clerk, JAMES E. JONES.

FOREIGN SEED AND PLANT INTRODUCTION.

SCIENTIFIC STAFF.

David Fairchild, *Agricultural Explorer in Charge*.

P. H. Dorsett and Peter Bisset, *Expert Plant Introducers*.

George W. Oliver, *Expert Propagator*.

Frank N. Meyer, *Agricultural Explorer*.

Stephen C. Stuntz, *Botanical Assistant*.

H. C. Skeels and R. A. Young, *Scientific Assistants*.

Henry F. Schultz, *Agent, in Charge of Subtropical Introductions*.

E. C. Green, *Pomologist, in Charge of South Texas Plant Introduction Garden, Brownsville, Tex.*

Robert L. Beagles, *Agent, Acting in Charge of Plant Introduction Garden, Chico, Cal.*

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John M. Rankin, *Expert, in Charge of Yarrow Plant Introduction Garden, Rockville, Md.*

Edward Goucher, John H. Allison, and W. H. F. Gomme, *Experts*.

LETTER OF TRANSMITTAL.

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY,
OFFICE OF THE CHIEF,
Washington, D. C., June 16, 1911.

SIR: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 227 of the series of this Bureau the accompanying manuscript, entitled "Seeds and Plants Imported during the Period from October 1 to December 31, 1910: Inventory No. 25; Nos. 28883 to 29327."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction, with a view to publication.

Respectfully,

B. T. GALLOWAY,
Chief of Bureau.

Hon. JAMES WILSON,
Secretary of Agriculture.

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SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM OCTOBER 1 TO DECEMBER 31, 1910: INVENTORY NO. 25; NOS. 28883 TO 29327.

INTRODUCTORY STATEMENT.

The present inventory includes the material collected during the period from June to September, 1910, by Mr. Frank N. Meyer, the only agricultural explorer in the field, who was exploring the region which lies along the Zerafshan Valley and in the vicinity of Samarkand, Tashkend, Old Bokhara, the oasis of Merv, Chartchui, Andijan, Guldscha, Terek-Dawan, Osh, Kostakos, Kizil-Kurgan, and Khokan in Russian Turkestan, and the cities of Kashgar, Kan-Shugan, Ulukshat, and Irkestan in Chinese Turkestan. Although Mr. Meyer was hindered from making several important side trips which had been contemplated, he still secured during his stay in this region 141 different specimens, some of which are of special importance. Among them is a hardy dwarf *Prunus* (Nos. 28943 and 28944) from the mountain slopes near Wishist at an altitude of 3,000 to 7,000 feet, which Mr. Meyer suggests may be of value in the breeding of bushy forms of the almond or as a stock for the almond in dry regions. Possibly the suggestion of an economic bush cherry may be realized by American breeders and Mr. Meyer's *Prunus prostrata* (No. 28945) and *Prunus microcarpa* (No. 28946) be utilized in the creation of such a fruit, while the various forms of *Prunus cerasifera divaricata* (Nos. 28948 to 28951 and No. 29224), called "Alitcha" in Turkestan, may be of distinct value to the plum breeders because of their early-fruited character, their remarkable productiveness, and their resistance to drought and heat.

The apricot growers of Turkestan grow varieties which have sweet instead of bitter kernels, which they use for confectionery purposes just as we do the kernels of the almond. Mr. Meyer has imported 11 varieties of these (Nos. 28953 to 28962 and No. 29223) and recommends that the whole subject of the utilization of apricot kernels be studied. This may resolve itself into a comparison between the price of the kernels as a source of prussic acid and their price as a table delicacy.

Probably there is no work so extensive and successful in the binding of drifting desert sands as that carried on at Chartchui, Turkestan, by the Russian Government. The railroad, which was previously in continual danger of being covered by shifting sand dunes, has been completely protected by the use of certain drought and alkali resistant plants, seeds of which Mr. Meyer secured for similar experiments in this country (Nos. 28973 to 28977).

The oleaster is remarkable for its extreme hardness and resistance to drought, and the importation by Mr. Meyer of a large-fruited form (No. 29225) will interest the horticulturists of the Northwest, who are beginning to see the possibilities of this plant as a hardy fruiting shrub.

The rose breeders will be interested in the wild roses from this region (Nos. 29251 to 29258); the melon growers, in an unusual collection of watermelons and muskmelons; the nut growers, in the almond and Afghanistan pistache; the currant breeders, in the black and red currants which Mr. Meyer has secured.

Of material sent in by correspondents, it is worth while to emphasize a new relative of the guava, *Psidium araca* (No. 28911), from Minas Geraes, which is said to be sweeter in taste than the guava; a new variety of alfalfa, which originated in Norway and which is reported to be hardier and larger than the ordinary types grown there (No. 28919); three distinct varieties of the Chinese jujube (Nos. 28926 to 28928); a remarkable citrus relative which lives on the seashore in mangrove swamps in India (No. 28933); a quantity of the wild wheat of Palestine for use in breeding drought-resistant varieties (No. 29026); a leguminous plant, *Cassia mimosoides*, from Assam, recommended as a cover crop in banana plantations to keep down the weeds (No. 29031); the kameel-doorn of South Africa, an extremely hard-wooded, drought-resistant tree (No. 29046); *Passiflora ligularis* (No. 29090), from Mexico, and a variety from Java (No. 29319), relatives of the southern maypop, for breeding experiments with this fruit; one of the largest of the large-leaved trees of the Chinese forests from Hupeh, central China (No. 29095); a new hybrid of the giant wild rose from Burma, *Rosa gigantea* (No. 29096); the Paraguayan tea plant, from which the maté of South America is made, a drink as highly prized by millions of South Americans as tea is by Europeans (No. 29097); four varieties of Japanese sugar cane for trial as a forage plant in the South (Nos. 29106 to 29109); four species of tropical persimmons, related to the edible oriental species, from the island of Ceylon (Nos. 29111 to 29114), for the breeders of this fruit; the yeheb-nut plant, a newly discovered leguminous shrub which occurs in the poor sandy soils of the dry regions of Italian Somaliland and produces nuts which are so sweet and nutritious that in their season the Somaliland natives live on

them in preference to rice and dates; a spineless lime and a seedless lime from Trinidad (Nos. 29123 and 29124); the Aomori chestnut from Hokushu, Japan (No. 29132); the Sampson tangelo, a hybrid between the pomelo and the tangerine which has been originated by the Office of Crop Physiology and Breeding Investigations (No. 29159); and the Etonia or flowering citrange, a hybrid between the common orange and the hardy Japanese trifoliolate orange which promises to be a remarkable ornamental tree, with its large white blossoms which nearly hide the foliage (No. 29160), also a product of the same office.

This inventory was prepared by Miss Mary A. Austin, and the botanical determinations are those of Mr. H. C. Skeels, working under the supervision of Mr. Frederick V. Coville, of the Office of Taxonomic and Range Investigations.

DAVID FAIRCHILD,
Agricultural Explorer in Charge.

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,
Washington, D. C., May 16, 1911.

INVENTORY.

28883 and 28884.

From Teneriffe, Canary Islands. Procured by Mr. Ross J. Hazeltine, American vice consul, from Señor Luis Diaz. Received October 3, 1910.

Cuttings of the following:

28883. *PRUNUS ARMENIACA* L. Apricot.

Yellow.

28884. *PRUNUS* sp. Plum.

Yellow. "One of the finest I have ever seen." (*Hazeltine.*)

28885. *HORDEUM SPONTANEUM* Koch. Barley.

From Haifa, Palestine. Presented by Mr. Aaron Aaronsohn, director, Jewish Agricultural Experiment Station. Received October 3, 1910.

28886. *SPONDIAS* sp.

From Mauritius. Presented by Mr. G. Regnard, Port Louis, Mauritius. Received October 14, 1910.

"This is much like the species *dulcis* as regards appearance of the tree and fruit, but not the seeds. The only specimen in Mauritius grows at the Botanical Gardens, Pamplemousses; it has not been classified and seems not to have been noticed." (*Regnard.*)

28887. *CARICA PAPAYA* L. Papaya.

From Camp Overton, Mindanao, Philippine Islands. Presented by Maj. Charles H. Muir, Twenty-third Infantry, Fort Clark, Tex., through Mr. E. C. Green, in charge, South Texas Plant Introduction Garden, Brownsville, Tex. Received October 3, 1910.

"This seed is from the best variety of this fruit I have ever met with in either the Philippines or Cuba; it is spoken of as the *Dapitan* by some and as the *Java* by others." (*Muir.*)

28888 to 28893. *VIGNA UNGUICULATA* (L.) Walp. Cowpea.

From the Province of Para, near the town of Bragança, Brazil. Presented by Mr. Walter Fischer, acting director, Campo de Cultura Experimental Paraense, Para, Brazil. Received October 3 and 4, 1910.

Seeds of the following:

28888. Large brown eye.

28889. Pinkish clay-colored seeds.

28890. Brownish clay-colored seeds.

28891. Reddish brown.

28892. Under color brownish clay thickly marked with purplish lines or marblings.

28893. Like the preceding, except that the ground color is almost completely obscured by the purple marblings.

"The two preceding numbers (I believe one of them is a hybrid with some speckled variety) are said to give a luxuriant growth of foliage, but further than this I heard nothing." (*Fischer.*)

28894. RAJANIA PLEIONEURA Griseb. "Waw-waw."

From Dominica, British West Indies. Presented by Mr. J. Jones, curator, Botanic Station. Received October 6, 1910.

"The 'waw-waw' is a native of Dominica. It occurs wild in the forests and does best in the deep shade. It is not cultivated in this island, probably because an abundance of the yam can be obtained by digging in the forest.

"The 'waw-waw' is considered by many people to be superior to the yams produced by the dioscoreas." (*Jones.*)

Distribution.—Common in the woods on the island of Dominica, and in Cuba and Porto Rico.

28895 to 28898. COFFEA ARABICA L. Coffee.

From Reunion Island. Presented by Mr. G. Regnard, Port Louis, Mauritius. Received October 7, 1910.

Seeds of the following:

28895 and 28896. "*Cafe du Pays.*"

28895. From Campon.

28896. From St. Louis.

28897 and 28898. "*Cafe le Roy.*"

28897. From Campon.

28898. From St. Louis.

28899. SOLANUM MURICATUM Ait. Pepino.

From Grand Canary, Canary Islands. Presented by Mr. M. Moniz, American consular agent pro tem., at the request of Mr. Ross J. Hazeltine, American consul, Teneriffe. Received October 8, 1910.

See No. 23650 for description.

28900. DIOSPYROS DISCOLOR Willd. Persimmon.

From Iloilo, Panay, Philippine Islands. Presented by Mr. J. B. O. Colman, Bureau of Public Works. Received October 7, 1910.

"This is a species of persimmon which has a thick and pleasantly flavored meat. The fruits from which these seeds were taken were unusually large and perfect." (*Colman.*)

See No. 26612 for further description.

28901 and 28902. PITTOSPORUM spp.

From Greendale, Canterbury, New Zealand. Presented by Mr. T. W. Adams. Received October 14, 1910.

Seeds of the following:

28901. PITTOSPORUM RALPHII Kirk.

Distribution.—In the Patea district on the southern coast of North Island, and on the Great Barrier Island, off the northern coast of North Island, New Zealand.

28902. PITTOSPORUM TENUIFOLIUM Gaertn.

Distribution.—Along the eastern coasts of the islands of New Zealand extending from the northern island southward to the province of Otago.

"These are small, hardy trees that will bear 20 degrees of frost, but I suppose they will not be hardy at Washington, D. C. (*Adams.*)

28903 to 28905.

The following material presented by Dr. Walter Van Fleet to the Plant Introduction Garden, Chico, Cal., November 30, 1909. Numbered October 17, 1910.

28903. BERBERIS (VULGARIS × THUNBERGII) × STENOPHYLLA. **Barberry.**

"An interesting blend, combining blood of four species: *Berberis stenophylla* Lindl., being a supposed hybrid of *B. empetrifolia* and *B. darwinii*, an evergreen species from southern Chile. One plant has light-purple foliage and the drooping habit of *B. thunbergii*. (P. I. G. No. 8395.)" (*Van Fleet.*)

Plants.

28904. QUAMASIA LEICHTLINII × CUSICKII.

"A fine, vigorous hybrid, intermediate between parent species. These bulbs are six years from seed. Grown at my place in Little Silver, N. J. (P. I. G. No. 6291.)" (*Van Fleet.*)

28905. IRIS ALBOPURPUREA Baker.

"A beautiful large-flowered iris from Japan, allied to *I. laevigata*. Fall petals white, marbled blue. (P. I. G. No. 8394.)" (*Van Fleet.*)

28906. STIZOLOBIUM ATERRIMUM Piper and Tracy. **Mauritius or Bengal bean.**

From Herbert River, Queensland. Presented by Mr. J. H. Maiden, director, Botanic Gardens, Sydney, Australia, who obtained them from the Macknade mill of the Colonial Sugar Refining Co. Received October 15, 1910.

"This species is considerably cultivated in the island of Mauritius, Brazil, New Zealand, and Australia. It much resembles the Florida velvet bean, but the vines grow larger and the seeds mature considerably later. This variety is so late, in fact, that it matures in this country only in the southern half of Florida." (*Piper.*)

28907. SACCHARUM SPONTANEUM L.

From Sibpur, Calcutta, India. Presented by Maj. A. T. Gage, superintendent, Royal Botanic Garden. Received October 17, 1910.

"A coarse perennial grass, with long creeping roots, abundant throughout India and up to 6,000 feet in the Himalayas. This grass is largely used as a thatching material, and the leaves are manufactured into ropes, mats, etc. It is a favorite fodder for buffaloes and is also, when young, given to elephants. Native name, *Kans*." (*C. V. Piper.*)

28908. MEDICAGO SATIVA L. **Alfalfa.**

From Ti-tao, Kansu Province, western China. Presented by Mr. Berthold Laufer, Field Museum, Chicago, Ill., who procured them from Mr. D. P. Ekvall, an American missionary of Ti-tao. Received October 17, 1910.

28909 to 28911. PSIDIUM spp.

From Theophilo Ottoni, Minas Geraes, Brazil. Presented by Mr. Fred Birch. Received October 17, 1910.

Seeds of the following; notes by Mr. Birch:

28909. PSIDIUM GUAJAVA L. **Guava.**

"Seeds from an all-white guava. The tree bears only white fruits, which are about 2 inches in diameter."

28910. PSIDIUM GUAJAVA L. **Guava.**

"Seeds from the largest and finest tasting guava I have ever seen or tried. It was nearly 3 inches in diameter, and the flesh and jelly were pinkish red as in the common varieties. The tree grows by a stream near Theophilo Ottoni, Minas Geraes, and most of the fruits have comparatively few seeds."

28909 to 28911.—Continued.**28911. PSIDIUM ARAÇA Raddi.****Guava.**

"The araca grows to about 15 feet (the size of a hazel), and the very pleasant sweet fruits are about an inch or an inch and a quarter in diameter. With good cultivation I feel sure it could be improved. The fruits are just like small guavas, clear yellow when ripe. They taste sweeter, however, and would make excellent preserves."

See No. 26757 for previous introduction.

28912. IRVINGIA GABONENSIS (Aubry-Lecomte) Baill.**Oba.**

From Victoria, Kamerun, Africa. Presented by Mr. F. A. Deistel, director of the experiment station, at the request of the Imperial Colonial Office at Berlin, Germany. Received October 8, 1910.

This is a tree 30 to 50 feet high, with shining leaves, which produces edible fruit said to be about 2½ inches in diameter. The seeds are the source of "Dika butter." This is called "wild mango" by the English residents of Princes Island, where it grows. It is also reported from the Muni and Kamerun rivers in western Africa.

28913. IPOMOEA TUBERCULATA Ker.

Grown at Brookland, D. C., and presented by Miss Carrie Harrison, of the Bureau of Plant Industry, October, 1910.

"Last spring I purchased in the Center Market of Washington a promising young perennial plant said to be a passion flower. It was planted in a corner with a choice of tumbling over a wall, following wires and climbing a tree, or trailing on the ground; it did all three with a decided preference for trailing. About August it produced a few pinkish-violet, morning-glory blooms with a pansy-purple center, so far as I know the most decorative of the order.

"This species has been in cultivation since 1815, is from the East Indies, and probably reached the market from the Botanical Gardens in Washington, D. C., where they have some plants growing. It belongs to the group which contains the sweet potato.

"It has a large spiral root and sends out about 30 branches, each between 20 and 30 feet long. The enormous growth would make it a desirable forage plant, and as closely related species in India are used for this purpose the presumption is in its favor. The general aspect of leaves and branches is that of *Akebia quinata*. It will have to be grown from cuttings, quite an easy matter, as it roots at the leaf nodes, because it would not bear fruit out of doors north of Washington, D. C." (*Harrison.*)

Cuttings.

28914. LAPAGERIA ROSEA R. and P.**Chilean bellflower.**

From Coquimbo, Chile. Presented by Mr. Andrew Kerr, consular agent. Received October 15, 1910.

See No. 14948 for previous introduction and description.

28915 to 28917. SOLANUM spp.**Wild potato.**

Collected by Mr. J. C. Blumer, Tucson, Ariz. Received October 27, 1910.

Tubers of the following; notes by Mr. Blumer:

28915 and 28916. "Collected October 5, 1910, on the steep northeast slope of the Santa Catalina Mountains, at an elevation of 7,800 feet, under white and Douglas fir, in fine humous loam. Vines fresh, succulent, and fruiting. Slope burned clean in June."

28917. "Collected October 17, 1910, on Rincon Mountains, at Spud Ranch camp site. Since potatoes were once cultivated here these purplish tubers may be escaped from cultivation."

28918 to 28922.

From Christiania, Norway. Presented by Prof. Dr. Wille, director, Botanic Garden. Received October 24 and 25, 1910.

Seeds of the following:

28918. *MEDICAGO FALCATA* L.

28919. *MEDICAGO SATIVA* L.

Alfalfa.

Variety *malthei*. "This is a new variety which has not yet been described and which is larger and much hardier than the main variety. *Medicago sativa* is used very little in Norway for its economic importance, as it is not very hardy. A dealer in dyestuffs, O. Malthe, was very much interested in this question. He experimented and finally succeeded in discovering this variety and endeavored to disseminate it. The farmers, however, did not want to cultivate lucern because they find *Trifolium pratense* and *Phleum pratense* more profitable.

"I wish to call your attention to the fact that the seed of *M. sativa* var. *malthei* may possibly represent crosses with the closely related main variety; however, only to a limited extent. If all the seeds are planted some plants of the pure variety will likely be obtained." (*Wille*.)

28920. *MEDICAGO SATIVA VARIA* (Mart.) Urb.

Sand lucern.

28921. *MELILOTUS SULCATA* Desf.

Distribution.—Throughout the Mediterranean region from Portugal and the Canary Islands to Palestine, and in the oases of the Libyan Desert.

28922. *TRIGONELLA CAERULEA* (L.) Ser.

See No. 27146 for previous introduction.

28923 to 28925. *ASPARAGUS* spp.

Asparagus.

From Tunis, northern Africa. Presented by Mr. L. Guillochon, Jardin d'Essais de Tunis. Received October 27, 1910.

Seeds of the following:

28923. *ASPARAGUS CRISPUS* Lam.

Distribution.—In the coast region of Cape Colony in the vicinities of Hopefield, Table Mountain, Simons Bay, and in British Kaffraria.

28924. *ASPARAGUS OFFICINALIS* L.

28925. *ASPARAGUS SPRENGERI* Regel.

Distribution.—The vicinity of Port Natal in Natal, South Africa. Commonly cultivated in the United States as an ornamental house plant.

28926 to 28928.

From China. Presented by Mr. T. J. League, Tsingtau, China, who obtained them through Rev. G. E. Baker, English Baptist Mission, Tsingchowfu, Shantung, China. Received October 27, 1910.

Cuttings.

NOTE.—Three tubes were received in this shipment, although from Mr. League's letter it would appear that four different lots of material were sent. There were apparently no markings on either tubes or cuttings, so S. P. I. numbers could be assigned only to the three bundles. The notes on this material, furnished by Mr. League, appear on the following page.

28926 to 28928—Continued.*ZIZIPHUS JUJUBA* Miller.

This being an unusual name for the common jujube, the following dates and synonyms are given to avoid confusion:

Ziziphus jujuba Miller 1768. (*Rhamnus zizyphus* L. 1753, *Z. sativa* Gaertn. 1788, *Z. vulgaris* Lam. 1789, not *Z. jujuba* (L.) Lam. 1789.) See No. 28129 for further information.

“*Ch'ang Hung tsao.* (Long red ‘date’ or jujube.)

Yüan Ling tsao. (Foremost honorable ‘date’ or jujube.)

Hsiao tsao. (The small ‘date’ or jujube.)”

DIOSPYROS sp. (?)**Persimmon.**

Juan tsao. “A wild persimmon on which, as a stock, they graft the edible persimmon.”

28929. ARACHIS HYPOGAEA L.**Peanut.**

From Kia-ying chau, China. Presented by Mr. George Campbell. Received November 2, 1910.

“These seem to be more drought resistant than some received from the States. The plants also have a running habit.” (*Campbell.*)

28930 to 28932.

From Costa Rica. Presented by Señor don Anastasio Alfaro, secretary of the Society of Agriculture, San Jose, through Mr. Lyster H. Dewey, Botanist in Charge of Fiber-Plant Investigations. Received October 4, 1910.

Notes on the following by Mr. Dewey:

28930. AGAVE FOURCROYDES Lem.**Henequen.**

“Bulbils and suckers from plants introduced in the garden of the Museum of San Jose, Costa Rica, supposed to have come from Mexico.

“These plants appear to be the same type as those cultivated for fiber production in Yucatan.

“The fiber from the leaves of this plant is called sisal in English-speaking countries. It is used more than all other fibers combined in the manufacture of binder twine. The true sisal plant, *Agave sisalana* Perrine, is a distinct species having a wider range but not so extensively cultivated.”

Distribution.—The provinces of Yucatan and Campeche in Mexico. Cultivated in Tamaulipas, Sinaloa, and Chiapas in Mexico, in Cuba, and in German East Africa.

28931. AGAVE sp.**Agave.**

“Young plants collected on the island in the Gulf of Nicoya on the Pacific coast of Costa Rica.

“These plants belong to the narrow-leaved group of the large agaves and may be useful for the production of fiber.”

28932. FURCRAEA sp.**Cabuya.**

“Bulbils and young plants from the garden of the Museum of San Jose, Costa Rica. Collected by Señor don Adolfo Tonduz.

“This species belongs to the group of *furcraeas* that are being cultivated in Costa Rica for the production of fiber.”

28933. GONOCITRUS ANGULATUS (Willd.) Kurz.

From India. Presented by Maj. A. T. Gage, superintendent, Royal Botanic Garden, Sibpur, Calcutta, India. Received October 31, 1910.

"This is a large shrub or small tree growing on the seashore in mangrove swamps and presumably able to endure a high degree of salinity in the soil. It is armed with ferocious spines half an inch long that usually occur in pairs at the side of the leaves. The fruit is most curious, being angled, and contains a few very large seeds embedded in a gum so sticky that Rumphius compared it to birdlime.

"The fact that this plant grows only along the seashore in mangrove swamps would lead us to believe that it possesses high powers of alkali resistance, since sea water contains over 3 per cent of dissolved salts and the mangrove and other plants growing in the mangrove swamps are able to withstand unusually large amounts of dissolved salts in the soil." (*W. T. Swingle.*)

Distribution.—In the mangrove swamps and tidal forests along the coasts from the mouths of the Ganges south of Calcutta eastward to the Molukka Islands.

28935 to 28939.

From Aintab, Turkey, Asia. Presented by Mr. H. H. Bakkalian, secretary to Mrs. F. A. Shephard. Received October 19, 1910.

Seeds of the following:

- | | |
|---|-------------------|
| 28935. CICER ARIETINUM L. | Chick-pea. |
| 28936. LATHYRUS SATIVUS L. | |
| 28937. LENS ESCULENTA Moench. | Lentil. |
| 28938. MEDICAGO FALCATA L. | |
| 28939. VICIA ERVILIA (L.) Willd. | |

28940 and 28941. MEDICAGO FALCATA L.

From Copenhagen, Denmark. Presented by Mr. Axel Lange, curator, Botanic Garden, Copenhagen University. Received October 31, 1910.

28942 to 29012.

From Turkestan. Received through Mr. Frank N. Meyer, agricultural explorer, October 18, 1910.

Seeds of the following:

- | | |
|--------------------------|--------------------------|
| 28942. PRUNUS sp. | Buckthorn almond. |
|--------------------------|--------------------------|

From Zerafshan Valley, near Sangar, Samarkand, Turkestan. "(No. 1342a, July 14, 1910.) A central Asian form of buckthorn almond, found on stony, sterile, sunburned mountain sides at elevations of 4,000 to 6,000 feet. Of possible value as a stock for almonds and peaches in dry and hot regions. Out of the bitter kernels, collected from the wild trees, the natives of Turkestan produce an oil which, after heating, can be used for culinary purposes." (*Meyer.*)

- | | |
|--|--------------------------|
| 28943. PRUNUS LYCOIDES (Spach) Schneider. | Buckthorn almond. |
|--|--------------------------|

From Zerafshan Valley, near Wishist, Samarkand, Turkestan. "(No. 1343a, July 14, 1910.) A spiny buckthorn almond of shrubby habits growing from 3 to 8 feet in height and found on stony and rocky mountain slopes and in cliffs at elevations of 3,000 to 7,000 feet above sea level. Of possible use in breeding a bushy type of almond or as a stock for almonds and peaches in dry, hot regions. Oil is produced from the kernel of this the same as from No. 28942." (*Meyer.*)

28942 to 29012—Continued.

28944. PRUNUS LYCIOIDES (Spach) Schneider. **Buckthorn almond.**

From Zerafshan Valley, near Wishist, Samarkand, Turkestan. "(No. 1344a, July 14, 1910.) A large-fruited variety of the preceding number, to which the same remarks apply." (Meyer.)

28945. PRUNUS PROSTRATA Labil. **Bush cherry.**

From mountains near Stood and Peki, Samarkand, Turkestan. "(No. 1345a, July 9 to 11, 1910.) A bush cherry found on stony and sterile mountain slopes and in cliffs. Grows from 1 to 8 feet tall and bears multitudes of small red cherries of a sour taste that vary much in flavor and size on different plants. This cherry apparently stands a great deal of cold and drought. After some improvement it might be made into a fruit for the home garden in the more northern sections of the United States. It may possibly be hybridized with the large-fruited sweet and sour cherries and therewith give rise to a race of bush cherries suitable for growing in the drier sections of the United States. It may also be tested as a possible dwarfing stock for cherries in dry and sterile localities." (Meyer.)

See also remarks under No. 1331a (S. P. I. No. 28022).

28946. PRUNUS MICROCARPA C. A. Meyer. **Cherry.**

From mountains near Bacharden, Turkestan. "(No. 1346a, June 5, 1910.) A wild cherry growing into a tall bush up to 10 feet high. Found between stony débris in dry river beds and on rocky mountain sides. Apparently stands great drought. Perhaps of value as a stock for cherries in stony and dry localities." (Meyer.)

See also remarks under Nos. 473 (S. P. I. No. 27303) and 1266a (S. P. I. No. 27337).

28947. PRUNUS sp. **Cherry.**

From Askabad, Turkestan. "(No. 1347a, June 9, 1910.) A small, dark-red, sour cherry, very juicy; said to come from Persia. Used stewed in compotes, and in spirits. To be tried under irrigation in the dry and hot sections of the United States." (Meyer.)

28948. PRUNUS CERASIFERA DIVARICATA (Ledeb.) Schneider. **Plum.**

From Askabad, Turkestan. "(No. 1348a, June 9, 1910.) A small sour plum, round, not larger than a marble, of green color, with red cheek, clingstone. Said to come from Persia. Used stewed in compotes and with meats. Called *Alitcha*. To be tried as a garden fruit under irrigation in the dry and hot sections of the United States." (Meyer.)

28949. PRUNUS CERASIFERA DIVARICATA (Ledeb.) Schneider. **Plum.**

From Askabad, Turkestan. "(No. 1349a, June 9, 1910.) A small sour plum of green color, larger than the preceding number, but otherwise the same remarks apply to it. Called *Alitcha*." (Meyer.)

NOTE.—"These plums are apparently not grafted, but are raised from seed. Although small and sour, their early-fruited capacities recommend them for hybridization work." (Meyer.)

28950. PRUNUS CERASIFERA DIVARICATA (Ledeb.) Schneider. **Plum.**

From Old Bokhara, Turkestan. "(No. 1350a, June 20, 1910.) A small, red, round plum of very sweet taste, called *Alitcha*. Used fresh like ordinary plums. Of value like preceding numbers." (Meyer.)

28942 to 29012—Continued.

28951. PRUNUS CERASIFERA DIVARICATA (Ledeb.) Schneider. **Plum.**

From Zerafshan Valley, near Wishist, Samarkand, Turkestan. "(No. 1351a, July 14, 1910.) A wild plum found sparingly along watercourses at an elevation of about 4,500 feet; grows as a dense shrub or small tree and bears in most remarkable quantities small, round, green plums with a reddish hue. Owing to their great productiveness and their resistance to long periods of drought and heat these plums may prove valuable in hybridizing work." (*Meyer.*)

28952. PRUNUS sp.

From near Kulikalan, Samarkand, Turkestan. "(No. 1352a, July 9, 1910.) An ornamental species of Prunus which grows to be a small tree; it has large light-green leaves and bears long racemes of small, scarlet, oval fruits of a sweet-bitter taste. Found along a watercourse in the mountains, altitude about 6,000 feet. Of value as an ornamental park and garden tree." (*Meyer.*)

28953 to 28962. "The following numbers of apricots should be sown to obtain some superior varieties of apricots with sweet kernels which would bring a much higher price on the market than the present bitter kernels do." (*Meyer.*)

28953. PRUNUS ARMENIACA L. **Apricot.**

From Askabad, Turkestan. "(No. 1353a, June 9, 1910.) A small pale-yellow apricot, flesh rather hard, freestone, kernel large and sweet. Said to come from Persia." (*Meyer.*)

28954. PRUNUS ARMENIACA L. **Apricot.**

From Askabad, Turkestan. "(No. 1354a, June 9, 1910.) A smooth-skinned apricot of pale-yellow color; looks like a nectarine. Said to have come from Geok-tepe, Turkestan." (*Meyer.*)

28955. PRUNUS ARMENIACA L. **Apricot.**

From Askabad, Turkestan. "(No. 1355a, June 9, 1910.) A waxy-white variety of apricot of a very sweet and melting taste; clingstone; sweet kernel. Said to come from northern Persia." (*Meyer.*)

28956. PRUNUS ARMENIACA L. **Apricot.**

From Askabad, Turkestan. "(No. 1356a, June 9, 1910.) A large orange-yellow apricot of a sweet melting taste; somewhat fibrous; semi-clingstone; kernel sweet. Said to come from Persia." (*Meyer.*)

28957. PRUNUS ARMENIACA L. **Apricot.**

From Askabad, Turkestan. "(No. 1357a, June 9, 1910.) A yellow apricot of remarkable clingstone properties." (*Meyer.*)

28958. PRUNUS ARMENIACA L. **Apricot.**

From Old Bokhara, Turkestan. "(No. 1358a, June 20, 1910.) A large pale-yellow apricot of very fine aromatic taste; freestone; kernel large and sweet." (*Meyer.*)

28959. PRUNUS ARMENIACA L. **Apricot.**

From Samarkand, Turkestan. "(No. 1359a, July 3, 1910.) A large smooth-skinned apricot of white color with a red cheek; looks totally unlike an apricot. Flesh melting and sweet." (*Meyer.*)

28960. PRUNUS ARMENIACA L. **Apricot.**

From Dirdar, Zerafshan Valley, Samarkand, Turkestan. "(No. 1360a, July 13, 1910.) A large pale-yellow apricot of melting flavor; flesh firm and sweet; freestone; kernel sweet." (*Meyer.*)

28942 to 29012—Continued.**28953 to 28962**—Continued.

28961. PRUNUS ARMENIACA L. **Apricot.**

From Langar, Zerafshan Valley, Samarkand, Turkestan. "(No. 1361a, July 13, 1910.) An orange-yellow apricot; flesh firm and slightly subacid; kernels sweet. Locally much used dried." (*Meyer.*)

28962. PRUNUS ARMENIACA L. **Apricot.**

From Orono, Zerafshan Valley, Samarkand, Turkestan. "(No. 1362a, July 12, 1910.) A fine variety of apricot of pale-yellow color; flesh firm but sweet and melting; kernels sweet; freestone." (*Meyer.*)

28963. AMYGDALUS PERSICA NECTARINA Ait. **Nectarine.**

From Samarkand, Turkestan. "(No. 1363a, July 4, 1910.) A small nectarine of very firm flesh and of subacid flavor; red throughout; from a distance resembles a crab apple more than anything else. Said to come from Chartchui." (*Meyer.*)

28964. CUCUMIS MELO L. **Muskmelon.**

From Merv, Turkestan. "(No. 1364a, June 13, 1910.) A muskmelon said to be very sweet and early. Obtained from a native dealer in Merv. To be tried under irrigation in the hot and dry sections of the southwestern United States." (*Meyer.*)

28965. CUCUMIS MELO L. **Muskmelon.**

From Merv, Turkestan. "(No. 1365a, June 13, 1910.) A muskmelon said to be very sweet but later than the preceding number, otherwise the same remarks apply to it." (*Meyer.*)

28966. CUCUMIS SATIVUS L. **Cucumber.**

From Askabad, Turkestan. "(No. 1366a, June 7, 1910.) A Persian variety of greenish-yellow, medium-long cucumber, said to be early." (*Meyer.*)

28967. CUCUMIS MELO L. **Muskmelon.**

From Old Bokhara, Turkestan. "(No. 1357a, June 21, 1910.) A fine variety of muskmelon, being early, of greenish-yellow color, small size, and very sweet." (*Meyer.*)

28968. CUCUMIS MELO L. **Muskmelon.**

From Askabad, Turkestan. "(No. 1368a, June 7, 1910.) A muskmelon said to be of very fine quality and very sweet. Obtained from a Persian seed dealer. To be tried like No. 1364a (S. P. I. No. 28964)." (*Meyer.*)

28969 to 28971. CITRULLUS VULGARIS Schrad. **Watermelon.**

From Tarasowka, Podolsk, Russia. "(June, 1910.) The climate of Podolsk is very temperate and as these melons seem to be something out of the ordinary they should be carefully tested in a temperate section of the United States. They were obtained, through correspondence, from a former assistant." (*Meyer.*)

28969. "(No. 1369a.) A small-seeded watermelon, having red flesh and said to be of very fine quality." (*Meyer.*)

28970. "(No. 1370a.) Like the preceding number but with white flesh." (*Meyer.*)

28971. "(No. 1371a.) Like the preceding numbers but with yellow flesh." (*Meyer.*)

28942 to 29012—Continued.

28972. CAPPARIS SPINOSA L.**Caper.**

From near Langar, Zerafshan Valley, Samarkand, Turkestan. "(No. 1372a, July 13, 1910.) The well-known caper plant, growing on the driest of sun-burned mountain slopes and having roots that penetrate yards into the soil and between cracks in rock ledges. Roots sent from the Caucasus under No. 783 (S. P. I. No. 28126), which number see for further remarks." (*Meyer.*)

28973. SALSOLA ARBUSCULA Pallas.

From Chartchui, Turkestan. "(No. 1373a, June 18, 1910.) A shrub of peculiar appearance, having no leaves but instead long, slender, green, drooping branches. Is used with much success in the sand-binding and desert-reclamation work along the central Asian railroads. Recommended for the dry and hot sections of the United States for various purposes: (1) For its sand-binding properties; (2) as an ornamental park and garden shrub; (3) as a fuel supply in desert regions.

"These seeds should be sown out in the fall and kept moist until the young plants appear above ground; after that they should be watered sparingly.

"Obtained from Mr. W. A. Paletsky, in charge of sand-binding operations along the railroads in central Asia." (*Meyer.*)

28974. CALLIGONUM CAPUT-MEDUSAE Schrenk.

From Chartchui, Turkestan. "(No. 1374a, June 18, 1910.) A shrub of very much the same appearance as the preceding number, only flowering quite beautifully toward the end of May and early June. Strongly recommended, therefore, as an ornamental park and garden shrub in desert regions where high summer temperatures prevail, but where the mercury does not drop below zero F. See preceding number for further remarks." (*Meyer.*)

28975. CALLIGONUM APHYLLUM (Pall.) Guerke.

From Chartchui, Turkestan. "(No. 1375a, June 18, 1910.) A tall shrub like the preceding, but of more arborescent growth and somewhat less ornamental; otherwise all remarks made on preceding numbers apply also to this one." (*Meyer.*)

28976. HALOXYLON AMMODENDRON (C. A. Meyer) Bunge.**Saxaul.**

From Chartchui, Turkestan. "(No. 1376a, June 18, 1910.) The famous saxaul tree, one of the chief fuel supplies of the deserts and oases in central Asia. The wood, which is exceedingly heavy and compact, retails at 20 to 25 kopecks a pood (40 pounds). For possible uses and cultural remarks see preceding numbers; see also remarks under No. 1303a (S. P. I. No. 27802)." (*Meyer.*)

28977. CAREX PHYSODES Bieb.

From Chartchui, Turkestan. "(No. 1377a, June 18, 1910.) A rare species of sedge, native of the desert, used in sand-binding work along the central Asian railroads. To be tested for similar purposes in the arid sections of the southwestern United States; also, as a possible lawn sedge in the same regions. Obtained like the preceding numbers." (*Meyer.*)

28978. ROSA XANTHINA Lindl.**Rose.**

From near Kulikalan, Samarkand, Turkestan. "(No. 1378a, July 10, 1910.) A very spiny, shrubby rose, bearing in early summer an abundance of small, deep butter-yellow roses. Found on stony, sterile mountain slopes and in ravines at altitudes of 6,000 to 9,000 feet. Recommended for hybridization work to create perfectly hardy yellow roses and as an ornamental garden shrub for the northern United States." (*Meyer.*)

28942 to 29012—Continued.

- 28979. ROSA XANTHINA** Lindl. **Rose.**
 From near Pasroute, Samarkand, Turkestan. "(No. 1379a, July 11, 1910.) Apparently the same as the preceding, but no flowers could be found. Collected at 6,000 feet elevation." (*Meyer.*)
- 28980. BERBERIS** sp. **Barberry.**
 From near Kulikalan, Samarkand, Turkestan. "(No. 1380a, July 10, 1910.) A tall-growing ornamental barberry found at elevations from 5,000 to 10,000 feet, often on quite sterile places. Bears multitudes of large racemes of yellow flowers. Recommended as an ornamental park and garden shrub in the northern sections of the United States.
 "These are last year's seeds and were collected from old bushes at an altitude of about 10,000 feet. In these regions the snow disappears by about the 15th of May, but returns again the last days of September." (*Meyer.*)
- 28981. LONICERA** sp. **Honeysuckle.**
 From near Kulikalan, Samarkand, Turkestan. "(No. 1381a, July 10, 1910.) A tall bushy honeysuckle growing on dry and rocky places, preferably between boulders. Found at an altitude of about 6,000 feet above sea level. Bears yellow berries. Of value apparently as a park and garden shrub in the northern sections of the United States." (*Meyer.*)
- 28982. LONICERA** sp. **Honeysuckle.**
 From near Kulikalan, Samarkand, Turkestan. "(No. 1382a, July 10, 1910.) A tall bushy honeysuckle sometimes growing into a tree. Bears red berries. Found on dry and rocky places at elevations of 5,000 to 8,000 feet. Recommended like the preceding number." (*Meyer.*)
- 28983. COLUTEA** sp.
 From Zerafshan Valley, near Wishist, Samarkand, Turkestan. "(No. 1383a, July 14, 1910.) A Colutea found on very dry and rocky mountain slopes; bears yellow flowers and a multitude of large inflated pods. Of value as an ornamental garden and park shrub in the dry sections of the United States." (*Meyer.*)
- 28984. COLUTEA** sp.
 From near Bacharden, Turkestan. "(No. 1384a, June 4, 1910.) A Colutea found amidst stony débris and rocks on arid places. Of value like the preceding number." (*Meyer.*)
- 28985. ACACIA** sp.
 From desert near Merv, Turkestan. "(No. 1385a, June 14, 1910.) A spiny weed growing here and there in large quantities in the desert. The pods seem to possess tanning capacities and should be tested for these qualities. If found to be possessed of sufficient tannin, this plant could be grown commercially in large sections of the southwestern United States." (*Meyer.*)
- 28986. MEDICAGO MINIMA** (L.) Grufb.
 From Baku, Caucasus, Russia, "(No. 1386a, May 26, 1910.) A bur clover growing here and there on very dry hill slopes. Recommended as a winter herbage for cattle in the moist mild-winter sections of the United States." (*Meyer.*)
- 28987. TRIGONELLA** sp.
 From near Pasroute, Samarkand, Turkestan. "(No. 1387a, July 11, 1910.) Found along the edge of a wheat field at about 6,000 feet altitude. Of possible value as a fodder herb or as green manure in the mountainous sections of the United States." (*Meyer.*)

28942 to 29012—Continued.**28988. GLAUCIUM sp.**

From near Bacharden, Turkestan. "(No. 1388a, June 5, 1910.) A wild plant with yellow red-spotted flowers. Of possible value as an ornamental garden annual." (*Meyer.*)

28989. DATURA STRAMONIUM L.**Jamestown weed.**

From Langar, Zerafshan Valley, Samarkand, Turkestan. "(No. 1389a, July 13, 1910.) The seeds of this plant are locally used by the Sart population as a remedy against headache, the seeds being heated in oil and pounded together with it into a pulp; this is then applied to the temples and is said to be very efficient." (*Meyer.*)

28990. PAPAVER SOMNIFERUM L.**Poppy.**

From Pendshikent, Samarkand, Turkestan. "(No. 1390a, July 7, 1910.) A pure-white variety of poppy seed, grown locally and used baked on cakes and in pastry; also expressed for the sweet, clear oil it contains, which is used for culinary purposes." (*Meyer.*)

28991. PAPAVER SOMNIFERUM L.**Poppy.**

From Old Bokhara, Turkestan. "(No. 1391a, June 22, 1910.) A white variety of opium poppy used for the same purpose as the preceding number." (*Meyer.*)

28992. PHASEOLUS RADIATUS L.

From Kizil-Arvat, Turkestan. "(No. 1329a, June 2, 1910.) The ordinary gram or mung bean, used by the population in central Asia as a food; boiled in soups, eaten boiled with rice, or ground into flour; mixed with flour of various cereals and baked into small hard cakes. This number is said to have been imported from Persia." (*Meyer.*)

28993. PHASEOLUS RADIATUS L.

From Old Bokhara, Turkestan. "(No. 1393a, June 22, 1910.) A rare local variety of mung bean with yellow seeds; used boiled in soups." (*Meyer.*)

28994. VIGNA UNGUICULATA (L.) Walp.**Cowpea.**

From Old Bokhara, Turkestan. "(No. 1394a, June 22, 1910.) A very large local variety of cowpea, used in soups and stews. To be tried under irrigation in the hot and dry sections of the southwest United States." (*Meyer.*)

28995. ANDROPOGON SORGHUM (L.) Brot.**Durra.**

From Merv, Turkestan. "(No. 1395a, June 13, 1910.) A good quality of djugara used by the native population for making flat loaves; also eaten boiled as a gruel. To be tried under slight irrigation in the hot and dry sections of the United States." (*Meyer.*)

28996. ANDROPOGON SORGHUM (L.) Brot.**Durra.**

From Old Samarkand, Turkestan. "(No. 1396a, June 30, 1910.) A good quality of local djugara used like the preceding number." (*Meyer.*)

"These represent the common djugara of Turkestan, a white durra differing from the ordinary form found in northern Africa and grown in the United States for many years in having a taller, heavier stalk and more compact heads, nearly all of them pendent. It has been introduced several times before." (*Carleton R. Ball.*)

28997. PANICUM MILIACEUM L.**Proso.**

From Old Samarkand, Turkestan. "(No. 1397a, June 30, 1910.) A large white-seeded local variety of proso, grown by the Sart population in the oasis of Samarkand. To be tested like preceding numbers." (*Meyer.*)

28942 to 29012—Continued.

- 28998. PANICUM MILIACEUM L. Proso.**
From Old Samarkand, Turkestan. "(No. 1398a, June 30, 1910.) A large whitish-seeded variety of proso. Other remarks on preceding number apply also to this." (*Meyer.*)
- 28999. PANICUM MILIACEUM L. Proso.**
From Old Samarkand, Turkestan. "(No. 1399a, June 30, 1910.) A large yellow-seeded variety of proso. To be tested like preceding numbers." (*Meyer.*)
- 29000. CHAETOCHELOA ITALICA (L.) Scribn. Italian millet.**
From Old Samarkand, Turkestan. "(No. 1400a, June 30, 1910.) A white variety of millet." (*Meyer.*)
- 29001. CHAETOCHELOA ITALICA (L.) Scribn. Siberian millet.**
From Old Samarkand, Turkestan. "(No. 1401a, June 30, 1910.) A red variety of millet.
"The remarks made on preceding numbers apply also to these." (*Meyer.*)
- 29002. ECHINOCHLOA FRUMENTACEA (Roxb.) Link.**
From Old Samarkand, Turkestan. "(No. 1402a, June 30, 1910.) A local variety of Japanese millet, used as food by the poorest classes. This seed was sifted out of some rice seed and is apparently a weed." (*Meyer.*)
- 29003. HORDEUM VULGARE L. Barley.**
From Merv, Turkestan. "(No. 1403a, June 13, 1910.) Winter barley grown with slight irrigation in the oasis of Merv. To be tested under irrigation in the dry and hot sections of the United States." (*Meyer.*)
- 29004. HORDEUM VULGARE L. Barley.**
From Merv, Turkestan. "(No. 1404a, June 13, 1910.) Summer barley grown under irrigation in the oasis of Merv. To be tried like the preceding number.
"Barley, in central Asia, takes the same place that oats do with us and is fed everywhere to cart and riding horses, which apparently relish the food." (*Meyer.*)
- 29005. TRITICUM DURUM Desf. Wheat.**
From Old Samarkand, Turkestan. "(No. 1405a, July 3, 1910.) A fine variety of winter wheat grown without irrigation in the oasis of Samarkand. Very much in favor with the people for bread making; apparently rich in gluten. To be tried in the drier sections of the United States." (*Meyer.*)
- 29006. TRITICUM sp. Wheat.**
From Old Samarkand, Turkestan. "(No. 1406a, July 3, 1910.) A fine local variety of soft white wheat." (*Meyer.*)
- 29007. TRITICUM sp. Wheat.**
From Old Samarkand, Turkestan. "(No. 1407a, July 3, 1910.) A good local variety of hard white wheat.
"The two preceding numbers should be tested like No. 1405a (S. P. I. No. 29005)." (*Meyer.*)
- 29008. TRITICUM AESTIVUM L. Wheat.**
From Pendshikent, Samarkand, Turkestan. "(No. 1408a, July 7, 1910.) A local variety of dark winter wheat grown on the mountain slopes without irrigation. To be tested in the semiarid sections of the United States." (*Meyer.*)

28942 to 29012—Continued.

29009. TRITICUM sp.

Wheat.

From Pendshikent, Samarkand, Turkestan. "(No. 1409a, July 7, 1910.) A good local variety of hard winter wheat grown on the plains under irrigation." (Meyer.)

29010. TRITICUM sp.

Wheat.

From Merv, Turkestan. "(No. 1410a, June 13, 1910.) A good local variety of winter wheat grown under irrigation in the oasis of Merv." (Meyer.)

29011. TRITICUM sp.

Wheat.

From Old Bokhara, Turkestan. "(No. 1411a, June 22, 1910.) A fine variety of wheat said to come from Katti-Kurgan, Turkestan, which place is known for its good wheat.

"The husks of the Turkestan wheats seem to adhere very firmly to the seed, so that even when left in the field for months the grains do not fall out." (Meyer.)

29012. TRIFOLIUM sp.

From Kazelkovskaia, near Merv, Turkestan. "(No. 1412a, June 14, 1910.) A creeping species of white clover found along irrigation canals and on low places in the desert. Of possible value as a lawn clover, under slight irrigation, in the desert regions of the United States." (Meyer.)

29013. INGA EDULIS Mart.

"Ingá cipó."

From Para, Brazil. Presented by Mr. Walter Fischer, acting director, Campo de Cultura Experimental Paraense. Received November 4, 1910.

"This is a somewhat choicer variety than the one (S. P. I. No. 27798) which I previously transmitted." (Fischer.)

29014. VIGNA UNGUICULATA (L.) Walp.

Cowpea.

From Para, Brazil. Presented by Mr. Walter Fischer, acting director, Campo de Cultura Experimental Paraense. Received November 4, 1910.

"A variety of cowpea known here as *fejão manteiga* (my Macassar No. 2)." (Fischer.)

29015. ALHAGI MAURORUM Medic.

From Cairo, Egypt. Presented by Mr. Abdel Hamid Abaza, secretary general, Khedivial Agricultural Society. Received November 4, 1910.

"A thorny leguminous plant which yields the so-called *Alhagi-manna* or *terend-jebin*. This is a sweet gummy substance which during the heat of the day exudes from the leaves and stems and hardens. It is collected by the Arabs and used as a sugar substitute, and as an ingredient for certain sweetmeats. It is a desert plant, growing spontaneously in South Africa, Egypt, Arabia, Asia Minor, and central India. It is imported into India from Kabul and Kandahar in considerable quantities, and has been valued at 30 shillings per pound. I do not think the plant suitable for southern Florida. If introduced it should be tried in our arid southwestern regions. In the hottest part of the year, when almost all other vegetation is shriveled up, it puts forth its leaves and flowers, which are fed to camels; hence it is sometimes called camel's thorn. In some places no manna is obtained from the plant; in no place is much obtained from a single plant. The gummy-looking substance is shaken off. It occurs in grains varying from the size of a mustard seed to that of a hemp seed, and is of a light-brown color and an agreeable saccharine sennalike smell. This substance if unprotected is probably attacked by weevils or other insects; hence it is said to breed worms." (W. E. Safford.)

29016. OSTERDAMIA MATRELLA (L.) Kuntze.

From Yokohama, Japan. Purchased from the Yokohama Nursery Co. Received November 5, 1910.

A valuable lawn grass.

Distribution.—Sandy shores of tropical Asia from India eastward through China and Japan to Australia.

29017 to 29019.

From Kuling, China. Presented by Mrs. John Berkin. Received November 5, 1910.

Seeds of the following:

29017. ACTINIDIA CHINENSIS Planch. **Yangtaw.**

“With regard to the yangtaw, the natives say they think all vines grow fruit, but a young vine never bears. They are usually 6 to 8 years old before they bear. So possibly these vines in time will produce fruit.” (*Berkin.*)

See No. 21781 for further description.

29018. PRUNUS sp. **Wild cherry.**

29019. VITIS sp. **Wild grape.**

29020 and 29021.

From Mauritius. Presented by Mr. G. Regnard, Port Louis, Mauritius. Received November 4, 1910.

Seeds of the following:

29020. ELAEODENDRON ORIENTALE Jacq.

“*Bois d'olive.* A shrub 10 to 30 feet high, glabrous. Flowers in cymes one-fourth of an inch across. Drupe oblong, the size of a large Spanish olive; edible; seed two celled. Found in Mauritius, Rodriguez, and Madagascar.” (*Regnard.*)

29021. VANGUERIA MADAGASCARIENSIS Gmelin.

“*Vavangue.* A glabrous shrub 10 to 15 feet high, with very large and long leaves; flowers in copious peduncles, greenish yellow, and having an awful odor. Globose drupe 1½ inches thick with five large bony stones. The fruit is eaten only when quite ripe and of a light-brown color; the pulp is brown with a sweet acid flavor. Naturalized over Mauritius and the Indian Ocean islands.” (*Regnard.*)

29022 and 29023. IRIS TENAX Dougl. **Iris.**

From Oregon. Presented by Mr. George R. Schoch, Forest Grove, Oreg. Received November 10, 1910.

Seeds of the following; notes by Mr. Schoch:

29022. “Flowers purple, penciled with yellow. Height of flower stems 6 to 12 inches.”

29023. “Variety *alba.* Height of flower stems 6 to 8 inches.”

“These bloom for about 30 days annually. They should develop attractive flag or carpet effects in extensive grounds, lawns, or parks. The herbage should not be mown, save once in the autumn. The seeds should be forced, as they germinate reluctantly.

“This plant endures the severest droughts; besides, it remains green when not subjected to severe freezes. It should find friends and admirers south of Tennessee.”

29025. IRVINGIA GABONENSIS (Aubry-Lecomte) Baill. Oba.

From Botnaga, Kamerun, western Africa. Presented by Mr. Fred H. Hope.
Received November 17, 1910.

See No. 28912 for description.

29026. TRITICUM DICOCUM DICOCOIDES (Koern.) Asch. and Graebn. Wild wheat.

From Palestine. Presented by Mr. Aaron Aaronsohn, director, Jewish Agricultural Experiment Station, Haifa, Palestine. Received November 3, 1910.

See Bulletin No. 180, Bureau of Plant Industry, for description.

NOTE.—“I believe that you will do well to sow a part of this as winter wheat in the Southwest. The wild wheat sown at Bonn, Germany, last October survived the winter perfectly, as I could see for myself last May when I visited there.” (*Aaronsohn.*)

29027. PASSIFLORA LIGULARIS Juss. Passion flower.

From near Ambato, Ecuador. Presented by Mr. Herman R. Dietrich, American consul general, Guayaquil. Received November 14, 1910.

“This granadilla fruit was grown a short distance from Ambato, Ecuador. It is frequently shipped to Guayaquil, where it is sold to consumers at about 3½ cents a piece, Ecuadorian currency.” (*Dietrich.*)

29028 to 29030. GOSSYPIUM spp. Cotton.

From Marash, Turkey. Presented by Mr. Paul N. Nersessian. Received November 9, 1910.

Seeds of the following; notes by Mr. Nersessian:

29028. GOSSYPIUM HERBACEUM L.

“This branches out more and grows larger than No. 29030, the bolls are larger, and the lint cotton from a given weight of bolls is much more, but the yield of bolls from a given area is much less in this locality than the aforementioned variety. It may yield more bolls in another locality, or the cause of the short yield may be found and remedied; then of course it will be the best of all. This variety we call *Besny* or *Gaga*.”

29029. GOSSYPIUM HIRSUTUM L.

“This variety we call *Constantinople*. It grows larger, branches out more like a tree, requires richer land, is sown about two weeks earlier, and matures earlier. It requires more water for irrigating than the others. The bolls open wide apart and shed out the lint cotton if not picked in time.”

29030. GOSSYPIUM HERBACEUM L.**29031 to 29033.**

From eastern Bengal and Assam, India. Presented by Mr. R. L. Proudlock, arboricultural expert. Received November 19, 1910.

Seeds of the following:

29031. CASSIA MIMOSOIDES L.

“A leguminous plant which is splendid for covering ground and yet easy to root out. It does well in a moist tropical climate and will in my opinion be first-rate for keeping down weeds on rubber plantations.” (*Proudlock.*)

Distribution.—India, extending from the Himalayas, where it grows at an altitude of 6,000 feet, southward to Ceylon; generally naturalized in the Tropics.

29031 to 29033—Continued.

29032. DIOSPYROS PEREGRINA (Gaertn.) Guerk. (?) **Persimmon.**

29033. DIOSPYROS sp. **Persimmon.**

“These two species are grown in this district (Dacca) for their edible fruit. The fruits are rather astringent unless they are allowed to become almost dead ripe before they are eaten.” (*Proudlock.*)

29034 to 29041. PHORMIUM TENAX Forst. New Zealand flax.

From Wellington, New Zealand. Presented by Mr. T. W. Kirk, director, Department of Agriculture. Received September 8, 1910. Numbered November 21, 1910.

Plants of the following varieties:

29034. *Arerowharawahara* from Taupo. **29038.** *Oue.*

29035. *Awanga.* **29039.** *Paretaniwha.*

29036. *Katiraukawa.* **29040.** *Putaiore.*

29037. *Korokihi.* **29041.** *Tihore.*

29042. ARGANIA SPINOSA (L.) Skeels. Argan.

From Safi, Morocco. Procured by Mr. R. L. Sprague, American consul, Gibraltar, Spain. Received November 21, 1910.

See No. 28783 for previous introductions.

29043. COFFEA MACROCARPA Rich. Coffee.

From the island of Mauritius. Presented by Mr. G. Regnard, Port Louis, Mauritius. Received November 21 and 23, 1910.

“A small and very rare shrub of Mauritius, which grows on a soil rather poor, but wet.” (*Regnard.*)

Distribution.—In the woods on the slopes of the Pouce and Savanne mountain ranges in the island of Mauritius.

29044. CITRUS sp. Orange.

From Olokemeji, Western Province, Southern Nigeria. Presented by Mr. A. Harold Unwin, provincial forest officer. Received November 22, 1910.

“An orange, the skin of which remains green even after the fruit ripens.” (*R. L. Beard, Winston Salem, N. C.*)

29045. (Undetermined.)

From Botnaga, Kamerun, western Africa. Presented by Mr. Fred H. Hope. Received November 18, 1910.

“*Mvut*, native name. These seeds are from a tree that grows 30 to 40 feet high and has a rough bark. The fruit is about 1 inch in diameter and 2 inches long. It grows in clusters like the grape and has a fuzz like the peach. The cluster grows out from the trunk of the tree and very often low. Generally found to do best in deep forests.” (*Hope.*)

29046. ACACIA GIRAFFAE Willd.

From South Africa. Presented by Prof. J. Burt Davy, agriculturist and botanist, Department of Agriculture, Pretoria, Transvaal, South Africa. Received November 23, 1910.

“Seeds of the *kameel-doorn*. This is named after the camelopard, or giraffe, which is said to browse on the foliage; the Dutch word for giraffe is *kameel*. This tree used to be plentiful about Kimberley, but it has been largely destroyed for fuel. The wood is hard and heavy and the heartwood dark brown-red in color; Burchell (Travels) states that the Bechuanas used it for spoons, knife handles, etc. By white people

it is chiefly used for fuel, as much as 10,000 tons of fuel, mostly of this species, having been taken to Vryburg alone during some years. Kimberley has also been responsible for the destruction of large quantities. In the early days of mining in Kimberley, when the kameel-doorn was plentiful in the vicinity, the hard heartwood, well oiled, was used as a support for machinery shafts. It is stated by Mr. Senator Marks, one of the old residents of Kimberley, that kameel-doorn, when well oiled, outlasted brass fittings for this purpose.

"This tree grows in a warm, dry, sandy country, with a minimum rainfall of about 15 to 20 inches and a dry winter; its growth is said to be very slow." (*Davy.*)

Distribution.—Dry and sandy deserts in the vicinity of Kimberley, Cape Colony, and northward to Bechuanaland.

29047. OLEA VERRUCOSA (R. and S.) Link.

Wild olive.

From South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Department of Agriculture, Pretoria, Transvaal, South Africa. Received October 31, 1910.

See Nos. 25520 and 25521 for previous introduction and description.

29048. PASSIFLORA LIGULARIS JUSS.

Passion flower.

From Bolivia. Presented by Mr. Alexander Benson, chargé d'affaires ad interim, La Paz, Bolivia. Received November 22, 1910.

"These granadillas were purchased in the open market. As you doubtless are aware, La Paz is surrounded by desert, barren country, and all fruits which are brought to the market are brought in on the backs of donkeys from the Yungas country." (*Benson.*)

29049. SOLANUM sp.

Potato.

Collected on the Morro Solar Mountain near Chorillos, near Lima, at about 200 meters altitude, among the rocks of a talus slope. Presented by Dr. A. Weberbauer, German legation, Lima, Peru. Received November 23, 1910.

"The plant from which these tubers were procured is closely related to *Solanum maglia*, differing from it, however, in that the flowers are not uniformly violet, but often bear violet stripes on a white ground." (*Weberbauer.*)

29050. PYRUS sp.

Pear.

From Manchuria. Purchased from Mr. Edward C. Parker, agriculturist, Bureau of Agriculture, Industry, and Commerce, Mukden, Manchuria. Received November 25, 1910.

"Mixed varieties. Native habitat, Kwangning district, Manchuria, 42° N. lat. These varieties are very resistant to drying winds, sun scald, blight, etc. Valuable in America as hardy grafting stocks." (*Parker.*)

29051 and 29052.

From Russia. Received through Mr. Frank N. Meyer, agricultural explorer, October 18, 1910.

Seeds of the following:

29051. MEDICAGO RIGIDULA MORISIANA (Jord.) Rouy and Fouc. Bur clover.

From near Petrovsk, Daghestan, Caucasus, Russia. "(May 15, 1910.) A small annual bur clover found on level, sandy ground, also on stony slopes along the road. Of small growth. May be of value as a winter-forage plant in regions where the winters are mild and moist, or as a summer-forage plant in the cooler sections of the United States, notably in mountainous regions." (*Meyer.*)

Distribution.—Originally found in the islands of Corsica and Sardinia; apparently occurring with the species throughout southern Europe from Spain to Greece; in Asia Minor, Syria, and Persia; and in Egypt, Algeria, and Morocco.

29051 to 29052—Continued.

29052. *PINUS LARICIO PALLASIANA* (Lamb.) Endl. Pine.

From near Kirikinesh, Crimea, Russia. "(January 16, 1910.) A pine found growing wild along the coasts of the Crimea, occurring sometimes in the rockiest of situations where one would not believe a pine tree would grow. Of value as an ornamental park tree in regions where the winters are not too severe, but the summers hot and dry. Said to be used in reclaiming moving sand wastes in southern Russia." (*Meyer.*)

Distribution.—On the slopes of the mountains in the Crimean Peninsula and the adjacent shores of the Black Sea.

29054 to 29077. *MUSA* spp. Banana.

From Paramaribo, Surinam, South America. Presented by Mr. Goldsmith H. Williams, manager, United Fruit Co. Received November 19, 1910.

Suckers of the following; notes by Mr. Williams:

29054. Apple banana. From Surinam.

29055. Apple banana, large. From Demerara.

29056. Apple banana, large, extra acid. From Demerara.

29057. Apple banana, very long bunches, sweet. From Demerara.

29058. *Braka Bana*, a sort of cross between a plantain and banana. From Surinam.

29059. Fig, or lady's-finger, extra long bunches, usually 10 hands. From Demerara.

29060. Fig, *King of the Prawn*, tasteless but handsome. From New York Botanic Garden.

29061. Fig, *Soekroe*, very small fig banana, but quite sweet. From Surinam.

29062. Horse banana. From Demerara.

29063. Horse banana, *Camboure*, pink fleshed. From Oyapok River, French Guiana.

29064. *Lindo*, tree exactly like the Jamaica banana, but the fruit is not so sweet and resembles slightly a plantain in appearance and flavor. From Costa Rica.

29065. *Martaban Calcutta*, very much like the *Bumulan* from Manila. From Surinam.

29066. Plantain, common. From Surinam.

29067. *Palem Bang*, Malay Archipelago; small fingers, but has a good flavor.

29068. *Pisang Radja*, Siam. From Java.

29069. *Pisang Radja*. From Java.

NOTE.—There is some question as to whether or not this is *Pisang Radja*, as a mistake was made in labeling it.

29070. Plantain, *Vittata*, St. Thomas Island, West Africa.

29071. Red, medium size; light shade of red. From Demerara.

29072. *Uraba*. From Gulf of Darien.

29073. *Uraba No. 2*. From Windward Islands.

29074 to 29077.

NOTE.—These numbers were put on the plants from which the labels had become detached en route. They can not be identified until grown.

29078 to 29081.

From Addis Abeba, Abyssinia. Presented by Mr. Guy R. Love, American vice consul general. Received November 23, 1910.

Seeds of the following:

29078 and 29079. CICER ARIETINUM L.	Chick-pea.
29078. BROWN seeded.	29079. Black seeded.
29080. PISUM ARVENSE L.	Field pea.
29081. PISUM SATIVUM L.	Field pea.

29082 to 29086.

From Lyngby, Denmark. Presented by Mr. E. Lindhard, Experiment Station for Plant Culture, Tystofte Pr. Tjaereby, Denmark, who procured them from Mr. K. Hansen at Lyngby Experiment Station. Received November 26, 1910.

Seeds of the following; quoted notes by Mr. Lindhard:

29082 to 29084. PISUM ARVENSE L.	Field pea.
29082. "Marbled winter variety."	
29083. "Spotted winter variety."	
29084. "Tawny winter variety."	
"Winter varieties of the field pea are cultivated only on very limited areas in this country."	
29085 and 29086. VICIA SATIVA L.	Common vetch.
29085. "Brown."	29086. "Gray."
"Fall field vetches."	

29087 and 29088.

From Gonda, United Provinces, India. Presented by Rev. N. L. Rockey, district superintendent of the missions of the Methodist Episcopal Church. Received November 23, 1910.

Seeds of the following:

29087. ANONA RETICULATA L.	Custard-apple.
29088. CITRUS DECUMANA (L.) Murr.	Pomelo.

29089. BOEHMERIA NIVEA (L.) Gaud. Ramie.

From Chekiang, China. Presented by Mr. R. J. Felgate, Mokanshan, China. Received November 26, 1910.

"This sample grew wild in a garden close by my house." (*Felgate.*)

29090. PASSIFLORA LIGULARIS JUSS. Passion flower.

From Acapulco, Mexico. Presented by Mr. Marion Letcher, American consul. Received November 29, 1910.

"This fruit is sold in season in this market, but is not grown in this immediate locality, being brought from the mountain section of the State. As to the quality of the fruit, I have to say that in my opinion it is inferior in flavor to its congener (maypop) of the cotton fields of the Southern States. The Mexican fruit has the advantage in size and in having smaller seeds. The local name for the fruit is *granada china*. I should judge from the name that it was introduced from China in the earlier days and is not an indigenous fruit, as supposed." (*Letcher.*)

29091. NICOTIANA TABACUM L.**Tobacco.**

Grown on the Santa Maria plantation, 12 miles east of the city of Pinar del Rio, and in the Vuelta Abajo, Cuba. Presented by Mr. H. H. Norton, Consolacion del Sur, Cuba. Received November 28, 1910.

"I believe there is only one variety of tobacco grown in Cuba and that the different types are the results of different soils, climate, and methods of cultivation and curing." (*Norton.*)

29092 and 29093. NICOTIANA TABACUM L.**Tobacco.**

From Cuba. Presented by Mr. Francisco A. Montero, Santa Clara, Cuba. Received November 28, 1910.

Seeds of the following:

29092. Remedios. From the district surrounding the town of this name in the province of Santa Clara.

29093. Yara. From the district in the vicinity of the town of this name in the province of Oriente, 16 miles east-southeast of Manzanillo.

29094 to 29096.

From Orleans, France. Presented by Léon Chenault & Son, nurserymen. Received November 29, 1910.

Plants of the following:

29094. CARRIEREA CALYCINA Franch.

"A deciduous tree 20 to 30 feet (sometimes 40 feet) high with a wide-spreading head of branches." (*Kew Bulletin, No. 9, 1909.*)

Distribution.—Slopes of the mountains in the northeastern part of the province of Szechwan, China, at an elevation of about 4,500 feet.

29095. TETRACENTRON SINENSE Oliv.

"According to Mr. E. H. Wilson this is among the very largest of the broad-leaved trees of the Chinese forests (that is, excluding conifers). It is often 80 feet high and upward, with a trunk 20 feet in circumference. It bears small yellowish flowers in slender spikes about 4 inches long." (*Kew Bulletin, No. 9, 1909.*)

Distribution.—The districts of Chienshih and Fang in the province of Hupeh, central China.

29096. ROSA GIGANTEA × (?).

Rose.

"*Étoile du Portugal*, the new hybrid of *Rosa gigantea*. As this variety has not yet proved to be quite hardy it would be preferable to plant it in a cool greenhouse or in a conservatory, where it would grow beautifully." (*Chenault.*)

29097. ILEX PARAGUARIENSIS St. Hil.**Yerba maté.**

Grown near the boundary line of Brazil and Paraguay. Presented by Mr. C. F. Mead, Cahi Puente, Paraguay. Received November 30, 1910.

"This plant is known here as *yerba*, and the forests where it is found are called *yerbales*. There are many varieties hereabout, but I was lucky enough to be able to purchase seed of the best kind. I am sending the entire fruit. To get out the seed it must be soaked for 24 hours in warm water at about 45° C., or better still put in an incubator where a steady temperature can be maintained. There are five or six seeds to each fruit. The seed when planted will take three months to germinate, but if the

whole fruit is planted, three years are necessary. Plant in the nursery first; then transplant, spacing 10 feet apart for square method. When full grown the tree is from 30 to 40 feet high. The yerba is the leaf, cut and prepared about once every three years if you own the tree, once every two years if you rent the yerbal. The extra year acts the same on the life of the tree as proper or improper pruning does on fruit trees. The general method here is to rent two or three yerbales and harvest one each year, the picking season of Paraguay being from June 15 to the end of August.

"As near as I can find out, the method of preparing for market is to pick the leaves, partly dry by a fire, finish drying in the sun, and then break up fine with a kind of flail, when it is ready to sack and market. The flavor of yerba is regulated by variety; the strength, by years of growth and methods of preparation. The yield of yerba is about 3 kilos per tree when three years old, 6 kilos per tree the second crop, and a gradual increase then until full grown, when you can cut 80 to 100 kilos (this is probably incorrect as most authorities agree that only 25 to 35 kilos can be cut every three years).

"Maté, or, yerba takes the place of tea and coffee south of Brazil, and its use is being widely extended. There are already companies in Britain for exploiting it, and the export to Mediterranean countries has attained some volume. It has the general reputation of being far less injurious than tea or coffee. When used constantly, however, you have the same craving as with the others, and the majority even go so far as to endow the use of yerba, especially 'amargo' (without sugar), with medicinal qualities, though experiments carried on in Buenos Aires go to prove that such claims are greatly exaggerated, and the 'cup of maté was not so good for Mary Anne' as the Buenos Aires Standard expressed it.

"Yerba is the name of the herb, but the tea is always spoken of as maté. Maté cocido is boiled yerba; this taken the same way as tea or coffee in cups is the 'gringo' style. For peons, a tin cup of maté and six small biscuits keep their speck of life until noontime. The general method of serving, however, is with maté and bombilla, the word 'maté' here meaning the small gourd used to hold yerba and the 'bombilla' the thin tube through which maté is sucked. The maté is about the size of a small cup. The yerba is placed inside and the resultant tea sucked out through the bombilla. The use of sugar is optional. On emptying the maté cup hot water is poured in again and it is passed to the next member of the ring around the fire; a very unsatisfactory and unsanitary method, to say the least, but the only way according to the natives, even though it is necessary to repeat the operation for about two hours to get enough. Maté cocido would be the only method for white people. Yerba sells in Buenos Aires for \$1.15 in silver (about 50 cents in gold) per kilo." (Mead.)

See No. 25529 for previous introduction.

29098. *POPULUS TREMULA* L.

Poplar.

From Tiflis, Caucasus, Russia. Presented by the Tiflis Botanic Garden. Received December 5, 1910.

"The wood of this tree is used almost exclusively in the match industry of Sweden. Undoubtedly the other species of *Populus*, i. e., *P. alba* and *P. canescens*, could be used to advantage for the same purpose but for the fact that the latter are not so abundant as *P. tremula*. *P. tremula* does not appear to have been noticed by botanists in America, although it is frequently found planted in our parks. It is readily recognized by its large dark-brown buds, 1 centimeter long and half as wide. These are rather blunt and not pointed, as in the case of the Lombardy and Carolina poplars. *P. tremula* was in all probability introduced into Maryland by the early settlers, as it and other species are frequently found about the old mansions." (Extract from letter of Mr. I. Tidestrom, of the Bureau of Plant Industry, September 17, 1910.)

29099. STIZOLOBIUM ATERRIMUM Piper and Tracy. **Mauritius or Bengal bean.**

From the State of Minas Geraes, Brazil. Presented by Mr. Walter Fischer, acting director, Campo de Cultura Experimental Paraense. Received November 26, 1910.

See No. 28906 for description.

29100. MELINIS MINUTIFLORA Beauv.

From Brazil. Presented by Dr. Orville A. Derby, Servico Geologico e Mineralogico do Brazil, Rio de Janeiro, Brazil. Received December 2, 1910.

"The species of grass named *Panicum melinis* (*Melinis minutiflora*) occurs in at least two distinct varieties: *Capim catingueiro roxo* and *Catingueiro claro*. The *Melinis minutiflora* is certainly but a synonym of the *Panicum melinis* and no distinct species. A variety has been found at Petropolis, but as I had no opportunity to see this variety, I think it is an adaptation to the different conditions of humidity in the mountains." (*Alberto Löfgren, director, Botanic Garden, Sao Paulo, Brazil.*)

29101 to 29105.

From China. Presented by Mr. T. M. Wilkinson, Foochow, China. Received November 28, 1910.

Seeds of the following; notes by Mr. Wilkinson:

29101. CITRUS DECUMANA (L.) Murr. **Pomelo.**

"This tree grows 200 miles north of Foochow. It is much like the orange, but coarser. The fruit weighs from 2 to 3 pounds; the casings of the pulp are very bitter; the skin is very thick in the large fruits, nearly half an inch. All casing and rind must be carefully removed before eating. It is semitart and of fine flavor. Grows on any good land. Season, September 15 to April."

29102. DIOSPYROS KAKI L. f. **Persimmon.**

"I am told that this tree grows as far north as Shanghai. The fruits are large, many of them being 2 inches in diameter; skin and pulp red; sweet and fine flavored. Grows from valley to mountain side."

29103. CRATAEGUS PINNATIFIDA Bunge. **Hawthorn.**

"*San cha*. In habit this fruit tree is very much like the American thorn-apple or hawthorn, but the fruit is much larger, being 1 to 1½ inches in diameter. It is semitart and makes delicious sauce and preserves."

29104. (Undetermined.)

"Yellow bullet. This tree in habit and appearance is like litchi and linging. The fruit is russet in color, with skin like a grape and a translucent, semitart pulp. Season, August 10 to September 20."

29105. (Undetermined.)

"A doctor who lives 200 miles in the interior gave me the fruit this seed came from and said it seemed to grow wild. In appearance it was very much like a pawpaw, but the flavor was semitart; he was unable to learn the native name. Where this came from there is some snow in winter."

29106 to 29109. SACCHARUM OFFICINARUM L. Sugar cane.

From Japan. Purchased from the Yokohama Nursery Co., Yokohama, Japan.
Received December 3, 1910.

Cuttings of the following:

29106. "*Chikusho*. Early variety."

29107. "Earliest variety from Kagawa Ken."

29108. "*Kikaigashima*. Early variety from Kagoshima Ken."

29109. "*Oshima*. Early variety from Kagoshima Ken."

See No. 28193 for purpose for which introduced.

29110. CITRUS LIMETTA Risso. Lime.

From Seharunpur, India. Received through Mr. R. S. Woglum, of the United States Department of Agriculture, December 5, 1910.

Sylhet.

29111 to 29115.

From Peradeniya, Ceylon. Presented by Dr. John C. Willis, director, Royal Botanic Gardens. Received December 5, 1910.

Seeds of the following:

29111. DIOSPYROS AFFINIS Thwaites.

Distribution.—Known only from the island of Ceylon.

29112. DIOSPYROS ATTENUATA Thwaites.

Distribution.—Known only from the island of Ceylon.

29113. DIOSPYROS INSIGNIS Thwaites.

Distribution.—In the damp forests on the slopes of the mountains of Ceylon up to an elevation of 2,000 feet, and on the Anamually Hills in southern India, to an elevation of 2,000 to 3,000 feet.

29114. DIOSPYROS MOONII Thwaites.

Distribution.—Known only from the island of Ceylon.

29115. MABA OBLONGIFOLIA Hiern.

A small tree closely allied to Diospyros.

Distribution.—Low moist regions up to an elevation of 1,000 feet in the island of Ceylon.

29116. DIOSPYROS sp. Persimmon.

From China. Presented by Mr. E. T. Williams, a member of the Division of Far Eastern Affairs, Department of State, through Dr. R. H. True. Received December 5, 1910.

"Some years since, when Mr. Frank Meyer was in China, he asked me to obtain for him if possible some seeds of the Chinese persimmon, which is for the most part seedless. I mentioned it at the time to a friend, who is now in Nanking and who has sent me these seeds just found in a persimmon. If he had sent a larger quantity an interesting experiment might have been made, since all Chinese persimmons are propagated by grafting upon the wild stock." (*Extract from letter of Mr. E. T. Williams, Dec. 1, 1910, to Dr. True.*)

29117 to 29121. ASPARAGUS spp.

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received December 5, 1910.

Seeds of the following climbing varieties:

29117. ASPARAGUS BLAMPEDII Hort.

29118. ASPARAGUS CRISPUS Lam.

See No. 28923 for previous introduction.

29119. ASPARAGUS COMORENSIS Hort.

29120. ASPARAGUS SCANDENS DEFLEXUS Baker.

Distribution.—In woods on the lower slopes of the mountains in the Somerset division of the central region of Cape Colony and in the vicinity of Cape Town.

29121. ASPARAGUS VERTICILLATUS L.

“Fruit red. Height 3 to 4 meters. Foliage ornamental from April to October.”

Distribution.—Southeastern Europe and western Asia, extending from Turkey through the Caucasus region to the southern part of Siberia and northern Persia.

29122. CORDEAUXIA EDULIS Hemsl.**Yeheb nut.**

From Kew, England. Presented by Dr. David Prain, director, Royal Botanic Gardens. Received December 2, 1910.

“The yeheb plant grows in poor sandy soil in the dry regions of Italian Somaliland. The underground soil is said to be somewhat moist and at certain seasons of the year there are regular and plentiful rains in the localities where the plant grows.

“The yeheb forms an evergreen bush about 4 to 6 feet high and the seeds are an important article of food among the Somalis.

“Its seeds, called nuts, have a high food value, containing 21 per cent of cane sugar, 2 per cent of reducing sugars, 13 per cent of proteids, and 37 per cent of carbohydrates. They form an article of commerce and are brought to the coast by caravans. They are eaten by the native Dolbahanta Somalis in preference to rice and dates. Though the climate of Somaliland is not well known, the indications are that where this plant grows long periods of drought occur, but rains are abundant and regular at certain seasons of the year. Winter temperatures probably do not go below freezing. The plant quickly forms a long taproot, bears when only 4 feet high, has evergreen leaves which if crushed stain the fingers a magenta color, and grows into a large tree.

“At Kew seedlings have been raised without difficulty under moist tropical conditions, but it is hoped that it may be possible to establish the plant in dry regions where the soil is poor and the conditions are similar to those of its native country.” (See Kew Bulletin, 1908, No. 1, pp. 36-44, and No. 3, p. 141.)

“I doubt very much if Florida will suit this plant, but the southern part of California seems more hopeful. It is evident, however, from its behavior with us that it is one of those desert plants which insist on having desert conditions so far at least as the surface is concerned, though I suspect it likes to be able to tap a deep supply of water. Perhaps a sand draw, provided such can be found in a region sufficiently hot, would be the ideal locality for it.” (Prain.)

29123 and 29124. CITRUS LIMETTA Risso.**Lime.**

From Trinidad, British West Indies. Collected and presented by Mr. G. P. Wilder, of Hawaii. Received December 7, 1910.

Cuttings of the following; notes by Mr. Wilder:

29123. “Spineless lime, from St. Clair Experiment Station, Port of Spain.

This lime had few seeds, juice was of fine quality, shape roundish and depressed. There are about 6 to 8 trees, very healthy and robust. The entire wood is free from thorns.”

29123 and 29124. CITRUS LIMETTA Risso—Continued.

29124. "Potter seedless lime, from Tree River Estate, La Brea, Pitch Lake. These limes were excellent. I sampled over two dozen and did not find any signs of seeds. Skin greenish; rind thick, but as the location of the tree was a low, damp, fertile valley I am led to believe it would not produce such coarse-skinned fruits under different circumstances."

29125. NICOTIANA TABACUM L.**Tobacco.**

From Cuba. Presented by Mr. F. L. Cervantes, Havana, Cuba. Received December 8, 1910.

San Juan y Martines.

29126. NICOTIANA TABACUM L.**Tobacco.**

From Pinar del Rio, Cuba. Presented by Mr. Francisco A. Montero, Santa Clara, Cuba. Received December 12, 1910.

Vuelta.

29127 and 29128. NICOTIANA TABACUM L.**Tobacco.**

From Cuba. Presented by Mr. Robert M. Grey, superintendent, Harvard Botanical Experiment Station, Cienfuegos, Cuba. Received December 5, 1910.

Seeds of the following:

29127. *Remedios.* Grown one year in Manicaragua, the chief tobacco district in Santa Clara Province.

29128. *Vuelta.* From the city of Pinar del Rio, Vuelta Abajo district.

29129. RAJANIA PLEIONEURA Griseb.**"Waw-waw."**

From Cuba. Presented by Mr. Robert M. Grey, superintendent, Harvard Botanical Experiment Station, Cienfuegos, Cuba. Received December 8, 1910.

"A large tuber that was brought in by one of the Guajiros from the hills under the name '*Guagua ñame.*' It is also known here under the name of '*Alambrillo.*'" (*Grey.*)

See No. 28894 for previous introduction.

29130 and 29131. SACCHARUM OFFICINARUM L.**Sugar cane.**

From Cuba. Presented by Mr. Robert M. Grey, superintendent, Harvard Botanical Experiment Station, Cienfuegos, Cuba. Received December 8, 1910.

Cuttings of the following:

29130. *Caledonia Queen.*

29131. *Louisiana Purple.*

29132. CASTANEA CRENATA S. and Z.**Chestnut.**

From Japan. Presented by Prof. T. Minami, Agricultural College, Tokoku Imperial University, Hokushu, Japan. Received December 10, 1910.

Aomori. A variety of chestnut which is said to occur in the northern part of the north island of Japan.

29133. PHYTOLACCA ACINOSA Roxb.

From Japan. Purchased from the Yokohama Nursery Co., Yokohama, Japan. Received December 10, 1910.

Variety *esculenta.* "This is a perennial found wild only in moist mountain-forest undergrowth. The leaves are eaten boiled in miso soup by rural people; the root is somewhat poisonous and is used as a drug by the herb medical school; the berries are not edible." (*Yokohama Nursery Co.*)

Distribution.—Southeastern Asia, extending from northern India eastward through China to Japan.

29134. ILEX PARAGUARIENSIS St. Hil. Yerba maté.

From Paraguay. Presented by Mr. C. F. Mead, Cahi Puente, Paraguay.
Received December 10, 1910.

"Crop of 1910."

See No. 29097 for description.

29137. PERSEA AMERICANA Miller 1768. Avocado.

(*Persea gratissima* Gaertn. f. 1805.)

Material growing at the Subtropical Garden, Miami, Fla. Numbered December, 1910.

"Bud wood furnished by Mr. Andrew Hardie, Coconut Grove, Fla., who mailed a specimen of fruit to this office. The tree is a seedling of the *Trapp* variety, but differs from this sort in the shape of the fruit, which is slightly ovoid and of a very attractive purplish-red color. It is said to be quite prolific and promises to be one of the most valuable accessions to our avocado collection, not so much on account of superior quality but for its unusually attractive appearance and the fact that it ripens late, about Christmas. The fruit is medium to large size, possesses a very thick skin, and the meat is medium thick, yellow, and very tender. The seed is comparatively large but firmly inclosed by the meat." (*H. F. Schultz.*)

29138 to 29140. MEDICAGO spp.

From India. Presented by Mr. F. Booth Tucker, Salvation Army, Simla, India.
Received December 14, 1910.

Seeds of the following; notes by Mr. Tucker:

29138. MEDICAGO HISPIDA APICULATA (Willd.) Urban.

From the Punjab Agricultural College (irrigated colonies). "This is known here as *Maina*. The Director of Agriculture tells me that this is an excellent fodder for cattle, and especially for milch cows, but that it is not suitable for horses."

28139. MEDICAGO FALCATA L.

From Lahul, in the heart of the Himalayas, near Kashmir. "Lahul is a valley 10,000 to 11,000 feet above the sea, surrounded by glaciers and snowy mountains and covered with snow during the winter months."

29140. MEDICAGO SATIVA L.

Alfalfa.

From the Punjab Agricultural College (irrigated colonies). "The ordinary *Medicago sativa* as grown in the Punjab by horse breeders."

29141 to 29150.

Received through Mr. Frank N. Meyer, agricultural explorer, December 10, 1910.

Cuttings of the following:

29141. RIBES sp.

Red currant.

From near Guldscha, Russian Turkestan. "(No. 791, October 10, 1910.) Found growing on a dry mountain side at an elevation of about 6,000 feet. Of vigorous growth, the tallest stems being 8 feet long. Of value in hybridization experiments and, when somewhat improved, as a hardy garden fruit for the northern sections of the United States." (*Meyer.*)

29142. RIBES NIGRUM L.

Black currant.

From near Terek-Dawan, Russian Turkestan. "(No. 792, October 13, 1910.) Found growing in a cold, stony canyon at an elevation of over 9,000 feet above sea level. The Russians who live here and there in the mountains make a very palatable preserve from the ripe berries. This shrub may be of value as a garden fruit in the most northern sections of the United States." (*Meyer.*)

29141 to 29150—Continued.

29143. *SALIX* sp.

Willow.

From Guldscha, Russian Turkestan. "(No. 793, October 11, 1910.) A willow found on sandy alkaline flats; has long, very narrow leaves, and reddish twigs. The trunk, when getting old, assumes a black color and is often twisted and gnarled. The wood is harder than any other willow I ever saw. The trees grow only to a moderate size and may be of value as ornamental garden and park trees and as windbreaks in alkaline sections of the United States. The young twigs are very pliable and may be employed as a tying material." (*Meyer.*)

29144. *SALIX* sp.

Willow.

From Chinese Turkestan, near Irkestan. "(No. 794, October 15, 1910.) A shrubby willow with reddish twigs and very lanceolate leaves, found growing on very sandy and alkaline places. It has sand-binding qualities, while the young twigs are fit for tying purposes and for basket material. Of value in sandy and alkaline sections of the United States as a hedge plant and an arrester of moving sands." (*Meyer.*)

29145. *SALIX* sp.

Willow.

From Chinese Turkestan, near Irkestan. "(No. 795, October 15, 1910.) A tall shrubby willow having reddish young twigs, while the stems become quite white when older. Growing on alkaline flats on wind-swept places. Of value as a windbreak and hedge plant in alkaline sections of the northern United States." (*Meyer.*)

29146. *LONICERA* sp.

Honeysuckle.

From Chinese Turkestan, near Irkestan. "(No. 796, October 15, 1910.) A shrubby honeysuckle, growing on remarkably dry, stony, and wind-swept places at altitudes often over 9,000 feet above the sea. It has small, somewhat downy leaves and bears yellow berries. Recommended as an ornamental garden shrub and as a possible hedge plant in the dry, cold sections of the United States." (*Meyer.*)

29147. *REAUMURIA* sp.

From Chinese Turkestan, near Irkestan. "(No. 797, October 15, 1910.) A Tamarix-like shrub found on very sandy and alkaline flats at elevations of 8,000 feet and less. Recommended as a sand binder in sandy sections of the northern United States." (*Meyer.*)

29148. *POPULUS* sp.

Poplar.

From Chinese Turkestan, near Irkestan. "(No. 798, October 15, 1910.) A poplar found here and there in clumps on sandy flats and on alkaline places. Leaves round, elliptical. Color of trunk and twigs gray white. The trees apparently do not grow very large. They may prove of value as shade trees and as windbreaks around gardens in alkaline sections of the northern United States." (*Meyer.*)

29149. *TAMARIX* sp.

Tamarisk.

From near Ulukshat, Chinese Turkestan. "(No. 799, October 16, 1910.) A low-growing tamarisk found on sandy and alkaline level places at elevations of 7,000 and 8,000 feet above sea level. Arrests blowing sands quite well and is recommended for this purpose in the colder sections of the United States." (*Meyer.*)

29150. *CRATAEGUS* sp.

Hawthorn.

From near Kan-Shugan, Chinese Turkestan. "(No. 800, October 17, 1910.) A hawthorn of dense growth, reaching the size of a small tree. Leaves large and deeply lobed; berries pale yellow. Found on stony places along water-courses at elevations of 7,000 and 8,000 feet above sea level. Of value as an ornamental park and garden tree in the northern sections of the United States." (*Meyer.*)

29151. EUPHORBIA CANARIENSIS L.

From Teneriffe, Canary Islands. Presented by Mr. R. J. Hazeltine, American vice consul. Received November 10, 1910.

See Nos. 3031 and 10693 for previous introductions.

Distribution.—A shrub or tree 12 to 20 feet high with 4 to 6 angled branches, native of the Canary Islands.

29152 and 29153.

From island of Mauritius. Presented by Mr. G. Regnard, Port Louis. Received December 9, 1910.

Seeds of the following:

29152. NORTHEA SEYCHELLANA Hook. f. Capucin.

This is a tree 60 to 80 feet high, with thick coriaceous leaves 5 to 9 inches long, and bearing inconspicuous flowers in small axillary clusters which produce large fruits with a seed the size of a hen's egg. It is a native of Three Brothers Island in the Seychelles Archipelago.

29153. STADMANNIA OPPOSITIFOLIA Lam.

"*Bois de fer.*—This tree is scarce in our forests; it produces bunches of a fruit resembling *Nephelium longan* which are devastated before ripening by monkeys and bats. The pulp of these fruits makes excellent jelly and jam which recall those of quince. The tree is fine and its wood of an extreme tenacity." (*Regnard.*)

Distribution.—Found occasionally in the forests in the island of Mauritius.

29154 to 29160.

The following plants propagated by Mr. G. L. Taber, Glen St. Mary Nursery Co., Glen St. Mary, Fla., for distribution by the Office of Crop Physiology and Breeding Investigations. Numbered December 16, 1910.

Seedling plants as follows:

29154 to 29158. CITRUS TRIFOLIATA × AURANTIUM. Citrange.

29154. Colman. See No. 19609.

29155. Morton. See No. 16872.

29156. Rusk. See No. 13002.

29157. Rusk. Budded on sour stock.

29158. Colman. Budded on sour stock.

29159. CITRUS DECUMANA × NOBILIS. Tangelo.

Sampson. "This is a hybrid between the ordinary grapefruit or pomelo (female parent) and the *Dancey* tangerine (male parent). The color of the fruit is much like that of an orange. Its size is midway between the pomelo and tangerine. In flavor it is sprightly acid, but rather sweeter than the pomelo. Its most pronounced characters, however, are the looseness of the rind and the ease with which the segments can be separated; in these qualities it partakes of the nature of the tangerine. In short, the fruit is much like a high-flavored orange, but has a trace of the sprightly flavor of the grapefruit. The tree is an early and abundant bearer. The *Sampson* tangelo is of course no hardier than either parent and can be grown only in the orange belts of Florida and California." (*W. T. Swingle.*)

NOTE.—This *Sampson* tangelo is exactly the same as Nos. 13004 and 21596, except that it is grafted on *Citrus trifoliata* stock.

29154 to 29160—Continued.**29160.** CITRUS TRIFOLIATA × AURANTIUM.**Citrange.**

Etonia or flowering citrange. "This is a hybrid between the common orange and the trifoliata, having the same parents as the *Colman*, *Morton*, and other standard citranges. So far it has borne almost no fruit. On the other hand, it flowers profusely in early spring and the flowers are very large in size, larger than those of either parent. They appear with the leaves and are often so abundant as almost to hide the foliage. This variety is being distributed on a small scale for trial in cities for dooryard planting, where an ornamental rather than a fruit tree is desired." (*W. T. Swingle.*)

29161. PERSEA AMERICANA Miller.**Avocado.**

From Barbados, British West Indies. Presented by Mr. A. S. Archer, Antigua, British West Indies. Received December 16, 1910.

"The fruits from which I obtained these seeds were purple and each weighed from 2 pounds 10 ounces up to 3 pounds 2 ounces; nothing better could have been desired. The seed cavity was small." (*Archer.*)

29162. ANONA RETICULATA L.**Custard-apple.**

From Cairns, North Queensland, Australia. Presented by Prof. Howard Newport, instructor in tropical agriculture and manager of the Kamerunga State Nursery, Department of Agriculture. Received December 15, 1910.

Cuttings.

29163. NICOTIANA TABACUM L.**Tobacco.**

From the district of Mascota, in the State of Jalisco, on the west coast of Mexico. Presented by Dr. Pehr Olsson-Seffer, editor, American Review of Tropical Agriculture, Mexico City, Mexico. Received December 10, 1910.

"This seed is from the variety which supplies the cigar leaf of the locally well-known Mascota cigars, and is considered one of the best in this country." (*Olsson-Seffer.*)

29164. AGAVE sp.**Agave.**

From Costa Rica. Presented by Mr. Carlos Wercklé, through Prof. H. Pittier. Received December 15, 1910.

"These plants are of no value for the production of fiber, but the character of the leaves indicates that they are likely to be very attractive ornamentals and I suggest that they be distributed either to botanical gardens or to growers of succulent plants." (*L. H. Dewey.*)

29165. CITRUS sp.**Orange.**

From Bahia, Brazil. Presented by Mr. Southard P. Warner, American consul. Received December 10, 1910.

"*Laranja da terra.*" Used as a stock. For description, see No. 30605.

29166. ANDROPOGON SORGHUM (L.) Brot.**Kowliang (?)**

From Chillicothe, Tex. Grown by Mr. A. B. Conner, in charge of the Department experiment farm. Received December 12, 1910.

"Grown from No. 27764 which was secured from Mr. J. K. Freed, Scott City, Kans. This variety came from Mr. Freed as White Amber sorgo, but it is evidently a kowliang. It gives considerable promise, because of its earliness, as both a grain and a forage crop." (*Conner.*)

29167. ZEA MAYS L.**Corn.**

From near Ciudad del Maiz, State of San Luis Potosi, Mexico, the latitude being approximately 22° 20' and the longitude being approximately 20 miles west of the line which runs exactly north and south through Mexico City. The elevation of the ranch is approximately 1,000 meters. Presented by Mr. Wilbert L. Bonney, American consul, San Luis Potosi, Mexico. Received December 16, 1910.

"This corn was grown by an American ranchman who selects his seed corn carefully, and this sample may be regarded as representing the best corn now grown in this State." (*Bonney.*)

29169 and 29170.

From Seharunpur, India. Received through Mr. R. S. Woglum, of the United States Department of Agriculture, December 20, 1910.

Seeds of the following:

29169. BAMBOS sp.**Bamboo.**

"Said to be seed of a bamboo which grows wild around Seharunpur." (*Woglum.*)

29170. LIMONIA ACIDISSIMA L.

"I found one tree of this species in the Botanical Garden at Seharunpur. Tree 25 to 30 feet tall and very healthy. Fruit ripening at this time of year (November 15). A small blackish fruit, almost half an inch in diameter, containing a small pit of roundish form." (*Woglum.*)

See No. 26496 for previous introduction.

29171. DIOSPYROS sp.**Persimmon.**

From Tampico, Mexico. Presented by Mr. Clarence A. Miller, American consul, who procured them from Mr. Mordelo Vincent. Received December 17, 1910.

"The fruits from which this seed was taken are not very large. They have green skins and black meat and resemble in contour the Japanese persimmon. They are very sweet but insipid and full of seed." (*Miller.*)

29172. NICOTIANA TRIGONOPHYLLA Dunal.**Wild tobacco.**

From the neighborhood of San Pedro de Ocampo, Mexico. Presented by Dr. Elsworth Chaffey, Cerros, Mazapil, Zacatecas, Mexico. Received December 19, 1910. *Cimarron.*

Distribution.—In sandy soil, Texas to California and southward to the vicinity of Coahuila in central Mexico.

29173. ZIZANIA LATIFOLIA (Griseb.) Stapf.**Wild rice.**

From Canton, China. Presented by Mr. G. W. Groff, Canton Christian College. Received December 20, 1910.

"*Woo kau or kau sun.*"

See No. 26760 for previous introduction.

29174 and 29175.

From Mexico. Secured by the Supervisor of Forests, Tucson, Ariz., from the Director General of Agriculture of Mexico. Received December 20, 1910.

Seeds of the following:

29174. CUPRESSUS THURIFERA H. B. K. **Cypress.**

Distribution.—Wooded slopes of the mountains in the vicinity of Tasco and Orizaba, Mexico, at an elevation of 5,000 to 7,000 feet.

29175. PINUS MONTEZUMAE Lamb. **Pine.**

Distribution.—Mountain slopes at an elevation of 3,500 to 12,000 feet from Chihuahua southward to the vicinity of Orizaba, Mexico.

29176 to 29197.

From Philippine Islands. Presented by Mr. H. M. Curran, Forest Service, Manila, P. I. Received December 12, 1910.

Seeds of the following; notes by Mr. Curran:

29176. CLITORIA TERNATEA L.

Calocanting (Tagalog). Rapid-growing vine with ornamental foliage and large, blue solitary flowers. Commonly cultivated in the Philippines."

29177. (Undetermined.) (Fabaceae.)

"A vine found commonly by roadsides, ornamental."

29178. CASUARINA EQUISETIFOLIA Stickman.

Agoho (Tagalog). A rapid-growing ornamental timber tree, suitable for planting on sandy exposed beaches."

29179. CARICA PAPAYA L.

Papaya.

"Edible fruit, good flavor; cultivated and wild."

29180. DIDYMOSPERMA sp.

Pugaham (Tagalog). A large, rapid-growing, very ornamental palm."

29181. INTSIA sp.

Ipil (Tagalog). Large, rapid-growing, ornamental timber tree. Wood very durable. Grows near tidewater. Purple and white flowers."

29182. CASSIA FISTULA L.

Cana fistula (Tagalog). An ornamental rapid-growing timber tree; wood durable. Bears large clusters of yellow flowers, very showy. Fruit is used for medicine."

29183. OROXYLON INDICUM (L.) Vent.

Pincapinchan (Tagalog). Ornamental medium-sized tree. Very rapid growing. Wood used for matches. Large purple flowers and conspicuous fruit."

Distribution.—Throughout India from the Himalayas, where it reaches an altitude of 3,000 feet, southward to Ceylon and Burma, and in Cochin China and the Malay Archipelago.

29184. MEZONEURON GLABRUM Desf.

Cabit-cabag (Tagalog). A rapid-growing vine, bearing ornamental fruit."

Distribution.—The Province of Tenasserim in southern Burma, the island of Timor, and in the Philippines.

29185. CASSIA sp.

Balacbac (Tagalog). A low-growing shrub with conspicuous ornamental yellow flowers."

29176 to 29197—Continued.

29186. (Undetermined.) (Fabaceæ.)

“*Tagum* (Tagalog). A small tree, wood hard and durable, bears spikes of purple flowers.”

29187. *ERYTHRINA INDICA* Lam.

“*Dap-dap* (Tagalog). Ornamental seaside tree with conspicuous masses of showy red flowers which appear before the leaves. Plant deciduous during dry season.”

See No. 26499 for previous introduction.

29188. *WALLICHIA TREMULA* (Bl.) Mart.

“*Dumayuca* (Tagalog). An ornamental low-growing palm. Midrib used for making brooms.”

Distribution.—Known only from the Philippines.

29189. (Undetermined.)

“*Antipolo* (Tagalog). A large rapid-growing timber tree. Tree yields abundant white latex, used for birdlime. Immature fruit reported edible when cooked.”

29190. *ALBIZZIA* sp.

“*Malasampaloc* (Tagalog). An ornamental medium-sized timber tree; durable wood. Tree resembles *Tamarindus indica*.”

29191. *PITHECOLOBIUM ACLE* (Bl.) Vidal.

“*Acle* (Tagalog). An ornamental timber tree. Mimosa-like white flowers; conspicuous fruits.”

29192. (Undetermined.) (Asclepiadaceæ.)

“Ornamental vine. Large fruits; possible source of rubber. Abundant fiber, with seeds; possibly of commercial importance.”

29193. *VIGNA UNGUICULATA* L.

Cowpea.

“*Setar* (Tagalog). Cowpea cultivated by Negritos of Zambales.”

29194. *TOONA CALANTAS* Merrill and Rolfe.

“*Calantas* (Tagalog). An ornamental timber tree furnishing the cigar-box cedar.”

Distribution.—The islands of Luzon and Mindoro, in the Philippines.

29195. *DIOSPYROS KAKI* L. f.

Persimmon.

“Chinese persimmon sold on the Manila market. Large red fruits, good flavor.”

29196. (Undetermined.) (Apocynaceæ.)

“An ornamental vine, copious latex, possible source of rubber and fiber.”

29197. *MESPILUS GERMANICA* L.

Medlar.

“Medlar pear, sold on the markets of eastern Europe. Flesh soft, with much the color and taste of decayed apples.”

29198 to 29203.

From Argentina. Procured by Prof. F. Lamson-Scribner from Mr. Carlos Girola, secretary of the Society Rural, Buenos Aires. Received October 17, 1910.

Seeds of the following:

29198. *CUCUMIS MELO* L.

Muskmelon.

From the American consul, Buenos Aires.

29198 to 29203—Continued.

- 29199.** ORYZA SATIVA L. **Rice.**
 "Bolita." From Tucuman Province.
- 29200.** ORYZA SATIVA L. **Rice.**
 "Negro." From Misiones Province.
- 29201.** TRITICUM DURUM Desf. **Wheat.**
 "Anchuelo." From Entre Rios Province.
- 29202.** TRITICUM TURGIDUM L. **Wheat.**
 "Medeah." From Jujuy Province.
- 29203.** TRITICUM DURUM Desf. **Wheat.**
 "Candel." From central part of La Pampa Province.

29206 to 29208. CHAYOTA EDULIS Jacq. **Chayote.**

From Kingston, Jamaica. Presented by Mr. William Harris, Superintendent of Public Gardens, Department of Agriculture. Received December 22, 1910.

Seeds of the following:

- 29206.** Black (not black, however, but a dark green).
- 29207.** Green (a light green).
- 29208.** White (milky white).

29209. CUCURBITA PEPO L. **Pumpkin.**

From Florida. Presented by Mr. Lorenzo D. Creel, United States Indian Service, Fort Myers, Fla. Received December 22, 1910.

"Seeds of a pumpkin I found the Seminole Indians in the Everglades were growing and probably have been growing for a very long time. It is remarkable for its sweetness and good keeping quality." (Creel.)

29210. HIBISCUS SABDARIFFA L. **Roselle.**

From Mayaguez, Porto Rico. Presented by Mr. C. F. Kinman, horticulturist, Porto Rico Agricultural Experiment Station. Received December 29, 1910.

"Roselle does exceeding well here. The plants when set 3 or 4 feet apart branch freely, grow to be 6 to 9 feet tall, and produce 200 or more fruits. The fruit makes a delicious sauce which by one not familiar with roselle is mistaken for cranberry. At Thanksgiving the fruit is in demand here by Americans, but I am surprised at the little care they have for it except on that date. The Porto Ricans do not care for so tart a fruit, so the market for it here will continue to be very limited. The plants require so little attention and are so prolific that quantities of it would be raised were there any demand. It can be dried easily, and some experiments indicate that it will keep well, making it possible to supply a market at any time of the year.

"I can only guess as to the value of this plant in the Southern States where the soil is quite sandy and in some places dry, as my experience in growing roselle is limited to Porto Rico and Cuba, where the soil is a heavy clay and where the plants do well." (Kinman.)

29211. ANANAS SATIVUS Schult. f. **Pineapple.**

From Tjiomas, Java. Presented by the Director of Agriculture, Buitenzorg, Java. Received December 29, 1910.

"A large pineapple, mandaloeng, from Tjiomas. This is less fragrant than the common *anas Bogor*, also from Tjiomas." (*Trysmannia*, vol. 21, no. 3, 1910.)

29213 to 29270.

Received through Mr. Frank N. Meyer, agricultural explorer, December 20, 1910.

Seeds of the following:

29213. AMYGDALUS COMMUNIS L. Almond.

From Khokan, Russian Turkestan. "(No. 1413a, September 28, 1910.) *Astachan badam*. A large thin-shelled variety of almond cultivated around Khokan and considered to be fine. As the climate around Khokan is semi-arid with long, hot summers and medium-cold winters, while the soil is decidedly alkaline, these almonds may prove hardier and more alkali resistant than the varieties coming from southern Europe." (Meyer.)

29214. AMYGDALUS COMMUNIS L. Almond.

From Khokan, Russian Turkestan. "(No. 1414a, September 28, 1910.) *Kasan badam*. A large, medium, thin-shelled almond cultivated around Khokan, considered to be a fine variety. For further remarks see preceding number." (Meyer.)

29215. AMYGDALUS COMMUNIS L. Almond.

From Khokan, Russian Turkestan. "(No. 1415a, September 28, 1910.) *Khandak badam*. A small, round, semihard-shelled almond grown around Khokan. For climatological remarks see No. 1413a (S. P. I. No. 29213)." (Meyer.)

29216. AMYGDALUS COMMUNIS L. Almond.

From Khokan, Russian Turkestan. "(No. 1416a, September 28, 1910.) *Khandak badam*. A small soft-shelled variety of almond grown around Khokan. See No. 1413a (S. P. I. No. 29213) for further remarks." (Meyer.)

29217. AMYGDALUS COMMUNIS L. Almond.

From Khokan, Russian Turkestan. "(No. 1417a, September 28, 1910.) *Khandak badam*. A small soft-shelled variety of almond grown around Khokan. See No. 1413a (S. P. I. No. 29213) for further remarks." (Meyer.)

29218. AMYGDALUS COMMUNIS L. Almond.

From Khokan, Russian Turkestan. "(No. 1418a, September 28, 1910.) *Tash badam*. A medium-sized hard-shelled variety of almond grown around Khokan. See No. 1413a (S. P. I. No. 29213) for further remarks." (Meyer.)

29219. PISTACIA VERA L. Pistache.

From Khokan, Russian Turkestan. "(No. 1419a, September 28, 1910.) A good variety of pistache nut coming from northern Afghanistan." (Meyer.)

29220. PRUNUS ARMENIACA L. Apricot.

From Khokan, Russian Turkestan. "(No. 1420a, September 28, 1910.) *Khandak uruk*. A small variety of apricot, exceedingly sweet, having a thin-shelled stone and sweet kernel, cultivated around Khokan." (Meyer.)

29221. PRUNUS ARMENIACA L. Apricot.

From Khokan, Russian Turkestan. "(No. 1421a, September 28, 1910.) *Mirshan djali uruk*. A large variety of apricot of very sweet taste. Stone large; kernel sweet. Cultivated around Khokan." (Meyer.)

29222. PRUNUS ARMENIACA L. Apricot.

From Khokan, Russian Turkestan. "(No. 1422a, September 28, 1910.) A large apricot of good quality, obtained in Khokan." (Meyer.)

29213 to 29270—Continued.**29223. PRUNUS ARMENIACA L.****Apricot.**

From Kashgar, Chinese Turkestan. "(No. 1423a, October 27, 1910.) Sweetkerneled apricot stones sold on fruit stands in Kashgar. Eaten like almonds; also much used in cakes." (*Meyer.*)

29224. PRUNUS CERASIFERA DIVARICATA (Ledeb.) Schneider (?). Plum.

From Khokan, Russian Turkestan. "(No. 1424a, September 28, 1910.) *Alitcha*. A small, very sour variety of plum of reddish or yellow color. Used by the native population in meat stews, making tough meat more digestible. May be of value as a stock for plums in semiarid regions where high summer temperatures and medium-cold winters prevail." (*Meyer.*)

29225. ELAEAGNUS ANGUSTIFOLIA L.**Oleaster.**

From Andijan, Russian Turkestan. "(No. 1425a, October 4, 1910.) *Djigda*. A large-fruited variety sold on the market in Andijan and eaten as sweetmeats. Of value as an ornamental small tree and as a windbreak in alkaline sections in the mild-wintered semiarid parts of the United States." (*Meyer.*)

29226. PRUNUS DOMESTICA L.**Plum.**

From Kashgar, Chinese Turkestan. "(No. 1426a, October 27, 1910.) A blue plum much grown around Kashgar. Sold fresh and dried. Makes a fair preserve. Apparently the ordinary European prune. To be sown for identification purposes." (*Meyer.*)

29227. AMYGDALUS PERSICA NECTARINA Ait.**Nectarine.**

From Samarkand, Russian Turkestan. "(No. 1427a, July 27, 1910.) A yellow clingstone nectarine of medium size; meat very firm and of medium-sweet taste, not melting. A rare variety." (*Meyer.*)

29228. AMYGDALUS sp.**Peach.**

From Tashkend, Russian Turkestan. "(No. 1428a, September 10, 1910.) A large flat peach having white meat, very juicy and sweet." (*Meyer.*)

29229. RIBES sp.**Red currant.**

From near Guldsha, Russian Turkestan. "(No. 1429a, October 10, 1910.) Found growing on a dry mountain side at an elevation of about 6,000 feet above sea level. For further remarks see No. 791 (S. P. I. No. 29141), under which cuttings were sent." (*Meyer.*)

29230. RIBES NIGRUM L.**Black currant.**

From near Terek-Dawan, Russian Turkestan. "(No. 1430a, October 13, 1910.) Found growing in a cold stony canyon at an elevation of over 9,000 feet above sea level. For further remarks see No. 792 (S. P. I. No. 29142), under which cuttings were sent." (*Meyer.*)

29231. CUCUMIS MELO L.**Muskmelon.**

From Samarkand, Russian Turkestan. "(No. 1431a, July 22, 1910.) A fine muskmelon of round shape; rind drab-green; flesh yellowish colored, of very sweet and aromatic taste. To be tested under irrigation in the dry and hot sections of the southwestern United States." (*Meyer.*)

29232. CUCUMIS MELO L.**Muskmelon.**

From Samarkand, Russian Turkestan. "(No. 1432a, July 23, 1910.) A muskmelon of round shape; medium size; rind greenish yellow; flesh of deep-green color and of very spicy flavor. To be tested like preceding number." (*Meyer.*)

29213 to 29270—Continued.

29233. CUCUMIS MELO L.

Muskmelon.

From Samarkand, Russian Turkestan. "(No. 1433a, July 28, 1910.) A fine muskmelon of flat-round shape; rind yellowish; flesh of rosy-green color; very sweet and aromatic. To be tested like No. 29231." (*Meyer.*)

29234. CUCUMIS MELO L.

Muskmelon.

From Tashkend, Russian Turkestan. "(No. 1434a, August 11, 1910.) A melon of oval shape; rind drab green; flesh thick and green; of delicious sweet taste and long-keeping qualities. To be tested like No. 29231." (*Meyer.*)

29235. CUCUMIS MELO L.

Muskmelon.

From near Tashkend, Russian Turkestan. "(No. 1435a, September 20, 1910.) A melon of oval form; greenish rind; salmon-red flesh; of fresh, sweet taste; has remarkably few seeds; possesses long-keeping qualities. Curiously called 'Amerikanski' melon and believed to have come from America. To be tested like No. 29231." (*Meyer.*)

29236. CUCUMIS MELO L.

Muskmelon.

From Kostakos, Russian Turkestan. "(No. 1436a, September 24, 1910.) A melon of oblong shape; rind greenish; flesh white, very juicy, sweet, and aromatic. To be tested like No. 29231." (*Meyer.*)

29237. CUCUMIS MELO L.

Muskmelon.

From Tashkend, Russian Turkestan. "(No. 1437a, August 14, 1910.) A melon of round-oblong shape; rind golden yellow, slightly ribbed; flesh whitish and of remarkably sweet and aromatic flavor. To be tested like No. 29231." (*Meyer.*)

29238. CUCUMIS MELO L.

Muskmelon.

From Andijan, Russian Turkestan. "(No. 1438a, October 4, 1910.) A small very oblong-pointed melon; rind green; flesh of rosy color; taste fresh, sweet. A so-called winter melon; can be kept until New Year's Day. To be tested like No. 29231." (*Meyer.*)

29239. CUCUMIS MELO L.

Muskmelon.

From Andijan, Russian Turkestan. "(No. 1439a, October 4, 1910.) A melon of oval shape; rind greenish yellow, netted; flesh white, melting, and very sweet. Can be kept for several weeks. To be tested like No. 29231." (*Meyer.*)

29240. CUCUMIS MELO L.

Muskmelon.

From Andijan, Russian Turkestan. "(No. 1440a, October 4, 1910.) A melon of oblong-pointed form; rind drab green; flesh white and very firm. Can be kept for several months. Probably a good variety from which to make preserves. To be tested like No. 29231." (*Meyer.*)

29241. CUCUMIS MELO L.

Muskmelon.

From Osh, Russian Turkestan. "(No. 1441a, October 9, 1910.) A melon of large size and oval shape; rind yellow with green veins; flesh pale yellow, of a fine, fresh, sweet, and aromatic flavor. To be tested in somewhat cooler regions than No. 29231, as Osh is over 4,000 feet altitude." (*Meyer.*)

29242. CITRULLUS VULGARIS Schrad.

Watermelon.

From Samarkand, Russian Turkestan. "(No. 1442a, July 27, 1910.) A small watermelon having light-green rind, while the flesh is salmon red; taste fresh, sweet. Has small seeds and is an early ripener. To be tested like No. 29231." (*Meyer.*)

29213 to 29270—Continued.

29243. *CITRULLUS VULGARIS* Schrad. **Watermelon.**

From Tashkend, Russian Turkestan. "(No. 1443a, August 2, 1910.) A small watermelon; rind light green; flesh salmon red, sweet and very juicy. To be tested like No. 29231." (*Meyer.*)

29244. *CITRULLUS VULGARIS* Schrad. **Watermelon.**

From Tashkend, Russian Turkestan. "(No. 1444a, August 24, 1910.) A small-sized watermelon; rind dark green with light-green patches; flesh pale red, of fresh, sweet taste. To be tested like No. 29231." (*Meyer.*)

29245. *ACER* sp. **Maple.**

From near Kizil-Kurgan, Russian Turkestan. "(No. 1445a, October 11, 1910.) A maple of small size found on dry and stony mountain sides at elevations of 5,000 feet and over. Bears small leaves which vary much in shape, being found in all forms between trilobed and entire. Of value as a small ornamental tree in the drier sections of the United States." (*Meyer.*)

29246. *JUNIPERUS FOETIDISSIMA* Willd. **Juniper.**

From near Guldscha, Russian Turkestan. "(No. 1446a, October 10, 1910.) Found on very sterile and stony mountain sides at high altitudes. Generally of very gnarled and twisted shapes. Much used in the mountains for building purposes and for fuel. Native name, *Artchak*. To be tested in the intermountain sections of the United States." (*Meyer.*)

29247. *BERBERIS* sp. **Barberry.**

From near Kan-Shugan, Chinese Turkestan. "(No. 1447a, October 17, 1910.) A very spiny barberry having dentate, somewhat undulate leaves and bearing racemes of coral-red berries. Found on sandy and sterile level places at elevations of about 8,000 feet above sea level. Of value as an ornamental garden and park shrub in the northern sections of the United States." (*Meyer.*)

29248. *BERBERIS* sp. **Barberry.**

From near Guldscha, Russian Turkestan. "(No. 1448a, October 10, 1910.) A tall-growing barberry found on dry, sandy, and sterile places; bears blue berries. Of value like the preceding number." (*Meyer.*)

29249. *COTONEASTER* sp.

From near Guldscha, Russian Turkestan. "(No. 1449a, October 10, 1910.) Found growing on dry and sterile locations at altitudes of 5,000 feet above sea level. Of value like preceding numbers." (*Meyer.*)

29250. *NITRARIA SCHOBERI* L. **Desert currant.**

From near Ulukshat, Chinese Turkestan. "(No. 1450a, October 15, 1910.) A spiny shrub found on alkaline and sandy places at elevations of 6,000 to 8,000 feet above sea level. It grows from 3 to 7 feet high and has small white foliage and erect racemes of small juicy black-violet berries. These are edible and of sweet saline taste, but this rather high alkaline property leaves an unpleasant aftertaste in one's mouth, while one's throat also feels the sharpness of the salt. The seeds occupy too much of the berry and the fruits have no value to the white races of men. This desert currant possesses great sand-binding qualities, however, and deserves to be tested for this purpose in the elevated and cool arid and semiarid regions of the United States." (*Meyer.*)

Distribution.—Southeastern Europe and central Asia, extending from the Caucasus region eastward through southern Siberia, northern Persia, and Mongolia to China.

29213 to 29270—Continued.

29251. ROSA sp.**Rose.**

From near Osh, Russian Turkestan. "(No. 1451a, October 9, 1910.) A small, shrubby wild rose, growing in stony and pebbly banks in a semiarid region. Apparently has red flowers. Of possible value as a garden and park shrub in the northern and in the semiarid sections of the United States." (*Meyer.*)

29252. ROSA sp.**Rose.**

From near Guldscha, Russian Turkestan. "(No. 1452a, October 11, 1910.) A wild rose, rather spiny, found on dry stony places. Apparently has reddish flowers. Of value possibly like the preceding number." (*Meyer.*)

29253. ROSA sp.**Rose.**

From near Guldscha, Russian Turkestan. "(No. 1453a, October 10, 1910.) A wild rose of spreading habits, found on dry and sandy places. Apparently has yellow flowers. Possibly of value like the preceding numbers." (*Meyer.*)

29254. ROSA sp.**Rose.**

From near Langar, Russian Turkestan. "(No. 1454a, October 9, 1910.) A wild rose, apparently bearing white flowers, found in rather sterile places. Is armed with an abundance of white spines. Of value possibly like the preceding numbers." (*Meyer.*)

29255. ROSA sp.**Rose.**

From near Terek-Dawan, Russian Turkestan. "(No. 1455a, October 13, 1910.) A wild rose found in a bleak, rocky, and dry canyon at an elevation of over 9,000 feet above sea level. Of possible value like the preceding numbers." (*Meyer.*)

29256. ROSA sp.**Rose.**

From near Irkestan in Chinese Turkestan. "(No. 1456a, October 15, 1910.) A wild shrubby rose found on dry stony banks along a watercourse. Altitude about 9,000 feet. Of value possibly like the preceding numbers." (*Meyer.*)

29257. ROSA sp.**Rose.**

From near Kok-su, Russian Turkestan. "(No. 1457a, October 14, 1910.) A wild rose found in sterile soil along a mountain stream at about 8,000 feet altitude. Of value possibly like the preceding numbers." (*Meyer.*)

29258. ROSA sp.**Rose.**

From near Kan-Shugan, Chinese Turkestan. "(No. 1458a, October 18, 1910.) A shrubby wild rose found in stony places. Has very large white spines. Of possible value like the preceding numbers." (*Meyer.*)

29259. CRATAEGUS sp.**Hawthorn.**

From near Kan-Shugan, Chinese Turkestan. "(No. 1459a, October 17, 1910.) A hawthorn of dense growth. For further remarks see No. 800 (S. P. I. No. 29150), under which cuttings were sent." (*Meyer.*)

29260. MEDICAGO SATIVA L.**Alfalfa.**

From near Kizil-Kurgan, Russian Turkestan. "(No. 1460a, October 11, 1910.) An alfalfa found in dry decomposed rock banks at an elevation of between 5,000 and 7,000 feet above sea level. Apparently the genuine wild form of the cultivated lucern." (*Meyer.*)

29261. KNAUTIA sp.

From near Guldscha, Russian Turkestan. "(No. 1461a, October 10, 1910.) An ornamental dipsaceous perennial plant, growing from 2 to 4 feet high and bearing large flower heads of a purplish-blue color on stiff, erect stems. Found on a dry, fertile hill slope. Of value apparently as a garden perennial for the northern sections of the United States." (*Meyer.*)

29213 to 29270—Continued.**29262. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Khojend, Russian Turkestan. "(No. 1462a, September 28, 1910.) A large variety of cowpea used locally as a food for man and beast. Deserves to be tested under irrigation in the hot and dry sections of the United States." (Meyer.)

29263. TRIFOLIUM FRAGIFERUM L.**Clover.**

From near Kok-su, Russian Turkestan. "(No. 1463a, October 14, 1910.) A creeping perennial clover found along a watercourse on clayey alkaline soil at an altitude of 9,000 feet. Possibly of value as a forage and lawn plant in the cooler and intermountain sections of the United States." (Meyer.)

29264. IRIS sp.**Iris.**

From near Kan-Shugan, Chinese Turkestan. "(No. 1464a, October 18, 1910.) An iris growing in enormous quantities on alkaline plains at elevations of 6,000 feet above sea level. The plants are a conspicuous feature of the landscape. Said to produce masses of light-blue flowers in early summer. Possibly of value as a ground cover in alkaline sections of the United States." (Meyer.)

29265. GLAUCIUM sp.

From near Ulukshat, Chinese Turkestan. "(No. 1465a, October 15, 1910.) Found on dry stony mountain slopes at elevations of over 9,000 feet above sea level. Of possible use as an ornamental garden plant in the colder sections of the United States." (Meyer.)

29266. STATICE sp.

From near Kostakos, Russian Turkestan. "(No. 1466a, September 24, 1910.) A remarkable perennial having very finely divided foliage and producing masses of flowers of a beautiful metallic-blue color. Found in alkaline places in the desert. Of decided value as a cut flower and as an ornamental garden plant in alkaline sections of the United States." (Meyer.)

29267. VIGNA SESQUIPEDALIS (L.) W. F. Wight.

From Kashgar, Chinese Turkestan. "(No. 1467a, October 23, 1910.) A very long bean used by the local population as a green vegetable. Can also be dried and kept for winter uses. Able to withstand considerable alkali in the soil. Of value as a garden vegetable under irrigation in alkaline sections in the hot and dry parts of the United States." (Meyer.)

29268. CUCUMIS SATIVUS L.**Cucumber.**

From Kashgar, Chinese Turkestan. "(No. 1468a, October 29, 1910.) A Chinese variety of cucumber, called *Huang kua*, of medium size; green color; good for pickling purposes. Able to withstand considerable alkali and may be tested like the preceding number." (Meyer.)

29269. BRASSICA PEKINENSIS (Lour.) Skeels.**Cabbage.**

From Kashgar, Chinese Turkestan. "(No. 1469a, October 23, 1910.) A Chinese variety of autumn cabbage called *Ghai pai tsai*. Looking somewhat like Swiss chard. Leaves of dark green, having a very broad, white midrib. The plants do not make any head. They are able to withstand considerable alkali and deserve to be tested like preceding numbers." (Meyer.)

29270. BRASSICA PEKINENSIS (Lour.) Skeels.**Cabbage.**

From Kashgar, Chinese Turkestan. "(No. 1470a, October 23, 1910.) A large variety of Chinese winter cabbage called *Tung pai tsai*. Of fine quality but requires a long season. Able to grow in quite alkaline soil and deserves to be tested like preceding numbers." (Meyer.)

29271 to 29310.

The following list represents some promising varieties of cowpeas grown at the Arlington Experimental Farm in 1910. Numbered in December, 1910.

Notes on the following by Prof. C. V. Piper:

29271 to 29275. *VIGNA CATJANG* (Burm.) Walp. **Catjang.**

29271. Originally found growing in No. 21569A at the Arlington Experimental Farm. A buff-seeded catjang of very peculiar habit and possibly a distinct species.

29272. Found mixed with guar, No. 18648, from Surat, India, and grown under temporary No. 0336. A catjang with brown-eyed yellowish seeds. A peculiar variety, but not of much agricultural value.

29273. Found mixed with adzuki bean, No. 17321, from Hankow, China, and grown under temporary No. 0927. A distinct variety of catjang, with pale-buff seeds marbled with dark brown. A prolific but not a tall variety.

29274. A single plant found at Arlington, Va., in 1909, in No. 21603 and grown under temporary No. 01446. A catjang with marbled seeds.

29275. Found growing in adzuki bean, No. 17321, from Hankow, China, and grown under temporary No. 0931. Seeds pink buff. A prolific catjang of good habit.

29276 to 29302. *VIGNA UNGUICULATA* (L.) Walp. **Cowpea.**

29276. From the Public Gardens, Jamaica. Grown under temporary No. 0145. A cowpea with black-eyed white seeds; prolific and of good habit.

29277. From Nairobi, British East Africa. Grown under temporary No. 0509. A peculiar variety of cowpea with small pods which tend to spread out horizontally. The seeds are buff, mostly clouded with purple. A prolific variety, but does not grow very large.

29278. From the Botanic Gardens, Tokyo, Japan; received under the name *Vigna sinensis* var. *bicontorta*. Grown under temporary No. 0511. A curious cowpea with curved or coiled pods and buff-colored seeds.

29279. From the Missouri Botanical Garden, St. Louis. Grown under temporary No. 0531. A cowpea with small buff seeds; quite prolific.

29280. From Livorno, Italy. Grown under temporary No. 0536A. An early cowpea with black-and-white seeds, similar to *Holstein*, No. 17327.

29281. From the same source as the preceding (No. 29280). Grown under temporary No. 0536B. Seeds white, splotched with red.

29282. From the same source as No. 29280. Originally grown from a single seed under temporary No. 0536J. The earliest cowpea yet grown at the Arlington Experimental Farm, maturing at least 10 days in advance of any other variety. The seeds are buff or pinkish buff. The variety is very prolific and will probably be of value for growing northward.

29283. From the same source as No. 29280. Grown under temporary No. 0536K. A prolific early variety, with buff-pink seeds, but too small to be of great value.

29271 to 29310—Continued.

29276 to 29302. VIGNA UNGUICULATA—Continued.

29284. From J. W. Trinkle, Madison, Ind. Grown under temporary No. 0554H. This variety is very similar to *Brown Coffee*, No. 17404, but has much broader pods and is earlier. It is a derivative of a hybrid between *Black* and *Taylor*.

29285. From the same source as the preceding. Grown under temporary No. 0562. This is a prolific variety with very small, globose black seeds. It apparently originated as a natural hybrid between *Lady* and *Black*.

29286. *Red Yellow-Hull*. From the Arkansas Agricultural Experiment Station, 1903. Grown under temporary No. 0590. A prolific, vigorous variety. It is probably the best cowpea with maroon-colored seeds grown at Arlington Experimental Farm.

29287. *Self-Seeding Clay*. From the same source as the preceding. Grown under temporary No. 0593. A variety with buff seeds; of rather low habit.

29288. *Mountain Crowder*. From the same source as No. 29286. Grown under temporary No. 0594. This has buff-colored seeds and is very similar to *Michigan Favorite*, maturing in the same time.

29289. From Mr. W. S. O'Bier, Seaford, Del. Grown under temporary No. 0598. A maroon-colored cowpea of good habit and medium early.

29290. *Red Sport*. From the same source as No. 29286. Grown under temporary No. 0604. A very distinct variety with reddish seeds.

29291. *Cotton Patch*. From Mr. J. R. Register, Lamar, S. C. Grown under temporary No. 0814. This variety has pinkish-buff seeds and is very similar to *Clay*, No. 17340. It is, however, very prolific and quite early.

29292. From the Amzi Godden Seed Co., Birmingham, Ala. Grown for several years under temporary No. 0897. This is an excellent cowpea with black seeds.

29293. From the Arkansas Agricultural Experiment Station, through Prof. C. L. Newman. Grown under temporary No. 0905. This has white seeds with the *New Era* color about the eye. It is prolific and of fairly good habit.

29294. From Mr. P. L. Sigman, Alexis, N. C. Grown under temporary No. 0978. A very distinct cowpea with white seeds blotched with red.

29295. From Mr. A. D. McLeon, Red Springs, N. C. Grown under temporary No. 01014. This is undoubtedly a hybrid between *Whippoorwill* and *Taylor*, having the combined markings of both. The variety is very similar to *Taylor* in all respects except seed.

29296. From Mr. J. W. Markham, Guin, Ala. Grown under temporary No. 01017. This is a variety with seeds practically indistinguishable from *New Era*, but quite different in habit.

29297. From Mr. J. L. Forelines, Millard, Ark. Grown under temporary No. 01361. A variety with red-and-white blotched seed, of medium value.

29271 to 29310—Continued.

29276 to 29302. *VIGNA UNGUICULATA*—Continued.

29298. From Mr. J. D. McLouth, Muskegon, Mich. Grown under temporary No. 01363. A moderately early bushy variety with red-and-white blotched seeds.

29299. *White Giant*. From the Kansas Agricultural Experiment Station (Kansas No. 121). Grown under temporary No. 01375. A black-eyed cowpea very similar to No. 22050.

29300. From T. W. Wood & Sons, Richmond, Va., received under the name *Rice*. Grown under temporary No. 01380. This is a white-seeded cowpea very distinct from any other variety grown.

29301. *Miller*. From the N. L. Willet Seed Co., Augusta, Ga. Grown under temporary No. 01400. The seed of the Miller cowpea occurring on the market is a mixture of several varieties. This cowpea has buff seeds. It is very much like No. 17340 and not superior.

29302. From the same source as the preceding. Grown under temporary No. 01402. It is very vigorous and different from any other grown.

29303. *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

From Tehwa, China. Grown under temporary No. 01421. A very distinct cowpea with kidney-shaped seeds, pink excepting one end, which is white.

29304. *VIGNA UNGUICULATA* (L.) Walp.

Cowpea.

From a single plant found at the Arlington Experimental Farm in 1909 and grown under temporary No. 01508. Seeds white, with the *Whippoorwill* color around the eye. In all probability this is a hybrid between *Whippoorwill* and *Blackeye*. It is a variety of moderate value.

29305. *VIGNA CATJANG* (Burm.) Walp.

From the Botanical Gardens, Madrid, Spain, received as *Dolichos tranquebaricus*. Grown three years under temporary No. 0409. Seeds cream buff. An interesting variety which makes but a small growth.

29306 to 29310. *VIGNA UNGUICULATA* (L.) Walp.

Cowpea.

29306. From Mississippi, 1910. A buff-colored cowpea very similar to *Unknown*, but with very flat pale seeds. Grown under temporary No. 01331.

29307. From Mr. C. E. Fant, Chester, S. C., 1909. Grown under temporary No. 01281. A variety with maroon kidney-shaped seeds. It is much later than *Red Ripper*, bearing the same relation to it that *Unknown* does to *Clay*.

29308. From Mr. G. W. Duren, Booneville, Ark. Grown under temporary No. 01023. A white-seeded table cowpea having the same habits as *Clay*, No. 17359, but producing very large kidney-shaped white seeds.

29309. *Trinkle's Holstein*. A variety that originated with Mr. J. W. Trinkle, Madison, Ind. Grown for two years under temporary No. 0917. It is considerably superior to ordinary *Holstein*, No. 17327.

29310. From a single plant found at the Arlington Experimental Farm, 1909, and grown under temporary No. 01507. A cowpea with seeds like *New Era*, and like that variety growing erect, but producing slender viny branches having small leaflets.

29311 to 29314. CHAYOTA EDULIS Jacq. Chayote.

From San Salvador, Central America. Presented by Mr. Francisco G. du Cachon, Director General of Agriculture. Received December 21 and 27, 1910.

Seeds of the following:

29311. Small, white.

29312. Small, light green.

29313. Medium to large, smooth, light green.

29314. Medium to large, more or less spiny, dark green.

29315. NICOTIANA TABACUM L. Tobacco.

From the Compostela region, Territory of Tepic, Mexico. Presented by Mr. Alfred Lonergan, Ixtlan del Rio, Tepic, Mexico. Received December 28, 1910.

"This is generally conceded to be the best tobacco grown on this western coast of the Pacific slope in Mexico." (*Lonergan.*)

29316. ANONA CHERIMOLA Miller. Cherimoya.

From Oaxaca, Mexico. Presented by Prof. Felix Foex. Received December 27, 1910.

"These seeds came from a very interesting fruit of good size, good shape, pretty appearance, second quality, and having large seeds; the skin is as thick as the shell of a coconut, but not so hard. It resists well a pretty hard shock and pressure and would be very good for shipping." (*Foex.*)

29317. ZEA MAYS L. Corn.

From Quito, Ecuador. Presented by Mr. C. de San Juan, Barcelona, Spain, who procured them from Mr. Carlos Tobar, of Quito. Received December 28, 1910.

"Seed of a curious corn that in Ecuador gives great results. I gave some to my friends and everywhere it grew extraordinarily, from 3 to 4 meters high, but did not produce seed, I suppose for want of temperature. The stalks were so high and thick that they looked like bamboos." (*San Juan.*)

29318. BELOU MARMELOS (L.) W. F. Wight. Bael.

From Philippine Islands. Presented by Mr. William S. Lyon, Manila. Received December 29, 1910.

"Some of these fruits were from a tree producing fruits nearly spherical. This, however, I judge to be merely a variation from the type." (*Lyon.*)

29319. PASSIFLORA sp. Passion flower.

From Buitenzorg, Java. Presented by the director, Department of Agriculture. Received December 29, 1910.

Variety *Perbawati*.

29320. FURCRAEA sp.

From Nice, France. Presented by Dr. A. Robertson-Proschowsky. Received November 2, 1910.

"The plant from which these bulbs were obtained has formed no trunk and is evidently dying off after having produced its offspring. Leaves are, when mature, about 2 meters long by 15 to 20 centimeters broad. I do not know whether it is a species of industrial value. Here in my garden the leaves have proved very durable and strong for tying, for making mats to cover delicate plants, etc., just like the leaves of *Cordyline (australis Hook.?) (indivisa Hort.)*" (*Proschowsky.*)

29321. NICOTIANA TABACUM L.**Tobacco.**

From the Vuelta Abajò district immediately west of Pinar del Rio, Cuba.
Presented by Mr. K. E. Reineman, Academia Raja Yoga, Pinar del Rio, at the
request of Mr. H. S. Turner, Santiago de Cuba. Received December 31, 1910.

29322. MEDICAGO SATIVA L.**Alfalfa.**

From Quetta, British India. Presented by Mr. F. Booth Tucker, Salvation
Army, Simla, India, who procured it from the Military Farm Department at
Quetta. Received December 31, 1910.

29326 and 29327. COLOCASIA spp.

From Canton, China. Presented by Mr. G. W. Groff, Canton Christian College.
Received December 20, 1910.

Tubers of the following:

29326. "*Kao tsao fu.*"

29327. "*Pat long fu.*"

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