



NO. 58.

## BULLETIN OF FOREIGN PLANT INTRODUCTIONS.

February 15 to 28, 1911.

## NEW PLANT IMMIGRANTS.

(NOTE: Applications for material listed in this bulletin may be made at any time to this Office. As they are received they are filed and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show they are prepared to care for it, as well as to others selected because of their special fitness to experiment with the particular plants imported.)

**ATALANTIA GLAUCA.** (Rutaceae.) 29660. Seeds of the Australian desert kumquat from the Condamine River, 12 miles from Chinchilla railroad station, distant from Sunnybank 220 miles. Presented by Mr. John Williams, Sunnybank, near Brisbane, Australia. "These trees do not grow in swamp but on nice, sweet soil, near the river, and frosts are sharp. They grow where the orange tree would get frozen in winter." For fuller description and photograph of fruits (Plant introduction No. 29537) see Bulletin Plant Immigrants, No. 57. For distribution later. See photograph of seedlings.

**CARICA PAPAYA.** (Papayaceae.) 29832. Seeds of papaya from Monghai, Southern Shan States, Burma, India. Collected by Rev. H. C. Gibbens, M. D. American Baptist Shan Mission. Presented by Mr. Oglesby Paul, Fairmount Park, Philadelphia. "This fruit grows everywhere in Burma and is very wholesome and pleasant. These seeds were from fairly large and good tasting fruits raised in Monghai." (Gibbens.) For distribution later.

**CITRUS SP.** (Rutaceae.) 29640. Seeds of an orange from Villa Encarnacion, Paraguay. Presented by Mr. C. F. Mead. "'Naranga imberni', sometimes called 'naranga sin tiempo', or in English, 'orange without time or season'. This is distinctive in that the fruit ripens in all times of the year, in some parts early and other parts late. In this section, Villa Encarnacion, the oranges are ripe now, (January 2) whereas the regular orange season here is from May to December, though few good oranges are found after December." (Mead.) For distribution later.

**COLOCASIA SP.** (Araceae.) 29840. Tubers of taro from Hilo, Hawaii. Presented by Mr. F. A. Clowes, Superintendent Hilo and Olaa Substations, Hawaii Agricultural Experiment Station. "'Royal Black', or 'Lehua Ele-Ele'. The term 'Royal taro' should, I believe, be applied to a class of taros and not to any one variety.

All the dark-fleshed taros were, I am told, taboo to the common people and were only eaten by, and grown for, the chiefs. The 'Lehuas', of which there are two, the 'black' or 'Ele ele', and the 'white' or 'Keo keo', are only two of this class. I understand that the distinctive mark of the 'Lehua' is the dark purple ring at the junction of the corm and the leaf stalk." (Clowes.) For distribution later.

CYTISUS SP. (Fabaceae.) 29641. Seeds of a species of broom from the Island of Palma. Presented by Dr. V. Perez, Puerto Orotava, Teneriffe. "A native fodder shrub of great value and at the same time a very ornamental plant. It comes from the same Island of Palma as the tagasaste (*Cytisus proliferus* L. Plant Introduction No. 28827) does, and from time immemorial both have been used there for the rearing of cattle and horses. I venture to suggest to you sowing a plot in a suitable climate like California or Florida and keeping the plants for the supply of seeds which are difficult to procure. The mistake made about these cytisi when grown for forage is that they are allowed to grow to the size of large bushes or small trees whereas they ought to be cut back when they will pollard two or three times in the course of a year. They are both quite as nutritious as lucerne and very drought resistant. In these islands they grow best at an altitude of from 2,000 to 4,000 feet, but they will also grow by the coast. It ought to have a great future in California." (Perez). For distribution later.

DIOSCOREA SP. (Dioscoreaceae.) 29539. Tubers of the Yampie yam from Gatun, Canal Zone, Panama. Presented by Lieut. Col. William F. Sibert. "The pink-fleshed Yampie yam of Panama is considered by the natives as one of the choice tuberous-rooted vegetables. The growing plant resembles in general appearance the ordinary white yams of the tropics, but it is not of as vigorous growth as these. Some of the tubers will be grown at the Plant Introduction Garden at Brooksville, Florida." (H. F. Schultz.) For distribution later.

DIOSCOREA SP. (Dioscoreaceae.) 29540. Tubers of the Yampie yam from Culebra, Canal Zone, Panama. Presented by Mr. Alfred D. Dyer. "This is the pink skinned Yampie yam which differs in appearance of both tubers and foliage from the pink-fleshed variety. (Plant Introduction No. 29539.) It is grown quite extensively throughout Central America and forms a very appetizing dish prepared in many ways similar to the ordinary white potato, which it is generally conceded by Americans and Europeans to excel in flavor. The same disposition has been made of these tubers as of the preceding number. (H. F. Schultz.) For distribution later.

ERYTHRINA SP. (Fabaceae.) 29655. Seeds of ceibo from Cahi Puente, Paraguay. Presented by Mr. C. F. Mead. "This plant is called ceibo in Spanish. It may be of some use as an ornamental

shrub or small tree. Its usual habit of growth is as a shrub, but by pruning it can be trained into a tree growing to a height of 5 meters. It is a deciduous perennial, flowering every spring, flowers being large spike clusters from 10 to 18 inches long and of a rich dark red color. It flowers very profusely and is to my idea very beautiful. The branches are very pithy and the pith is used to some extent as a substitute for cork. The roots are also pithy and it is from them that the 'genuine Paraguay razor hones' are made. It will stand frost equal to tomato vines." (Mead.) For distribution later.

GOSSYPIUM SP. (Malvaceae.) 29910. Seed of cotton from Hwai Yuan, China. Presented by Mr. Samuel Cochran, American Presbyterian Mission. Mr. Cochran says this cotton, which was introduced for breeding purposes, is not good for anything, either in quality or quantity.

MAGNOLIA CAMPBELLII. (Magnoliaceae.) 29725-726. Seeds of magnolia from Sibpur, Calcutta, India. Presented by Maj. A. T. Gage, Superintendent, Royal Botanic Garden. 29725. Seed from tree bearing red flowers. 29726. Seed from tree bearing white flowers. For distribution later.

MEDICAGO SPP. (Fabaceae.) 29911-917. Seed of seven species of Medicagos from Palestine. Presented by Mr. John E. Dinsmore, The American Colony, Jerusalem. For distribution later.

PASSIFLORA DICTAMO. (Passifloraceae.) 29657. Seeds of a passion fruit from Mexico. Procured by Mr. Clarence A. Miller, American Consul, Tampico, Mexico, from Mr. G. F. Preston, Tamos, Vera Cruz, who obtained them from Mr. F. Foex, Director of the Estacion Agricola Experimental, Oaxaca, Mexico. "The Itamo real is not an edible Passiflora but in Mexico is valued very highly for its medicinal qualities. Its fruit is small, juicy, of dark brown nearly black color, and full of small seed. The flowers are small and not very pretty but the leaves are noted for their sloping form or shape and for the glands with which they are provided." (Foex.) For distribution later.

PISTACIA CHINENSIS. (Anacardiaceae.) 29499. Seed of pistache from China. Purchased through Mr. J. C. McNally, American Consul, and Mr. Egdar Kopp, Vice Consul, Tsingtau, China, from Mr. Henry Cousins, Weihsien, China. Introduced because of its great promise as a shade and ornamental tree for the Southwest and as probably the best and hardiest stock for the true pistache, which may, according to Mr. Swingle, materially extend the range of culture of this important nut tree. It promises to be hardy as far north as Washington City and its foliage colors up beautifully in autumn. For distribution later. See photograph.

QUERCUS SUBER. (Fagaceae.) 29658-659. Seeds of a cork oak from Lisbon, Portugal. Presented by Company das Lezirias do Tejo

and Sado. 29658. "Bastao. Seeds of the preceding year, developing on the tree throughout a whole year, and which are generally thought to be more productive." (Company das Lezirias do Tejo and Sado.) 29659. "Lande. Acorns of ordinary production, of this year's fruit, also of very good quality, and of great reproductive value." (Company das Lezirias do Tejo and Sado.) Both for distribution later through Forest Service.

VITIS SP. (Vitaceae.) 29839. Seed of wild grape from Mokanshan, China. Presented by Mrs. Annie Andersen, Mokanshan, via Shanghai, China, at the request of Rev. Alex. Kennedy, Dongsi, China. "Seed from wild grapevines transplanted into my own garden." (Mrs. Andersen.) For distribution later.

VITIS VINIFERA. (Vitaceae.) 29653. Cuttings of grape from Kia-ying chau, China. Presented by Mr. George Campbell. "Cuttings of the alleged seedless grape. About a year ago I obtained a very dubious looking piece of the vine which I cut up and planted. I got one good vigorous vine out of the lot and took from it this week the cuttings I sent you. It has been difficult to find out about this vine. I could not get any of the fruit this year and do not know how valuable it may be. Some say it is seedless and others that it has very few seeds. It has a reputation locally and for some reason it is hard to get cuttings from it. I am not even sure that my cuttings came from the vine described." (Campbell.) For distribution later.

XANTHOSOMA SP. (Araceae.) 29833. Tubers of yautia from Estero, Florida. Presented by the Koreshan Unity. "Received under the name, 'Cuban malanga'. The tubers are of good size, weighing as much as 3 to 4 ounces. When baked, the flesh is very white and mealy, and of excellent flavor." (R. A. Young.) For distribution later.

ZEA MAYS. (Poaceae.) 29908. Corn from Kwei Chow, West China. Presented by Rev. J. M. W. Farnham, Shanghai. "This seems a small variety suitable for New England. I am not aware that it possesses any special advantage over other varieties." (Farnham.) For distribution later.

#### NOTES FROM FOREIGN CORRESPONDENTS.

ALGERIA, Algiers. Dr. L. Trabut, one of the collaborators of this Office, writes February 10 that he is sending us some chayotes, the large green variety which is the commonest form grown there. He also says, "In a crossing of the great agave of San Luis Potosi with sisal I have obtained forms very interesting as textiles. The plants being bulbiferous, it was very easy to fix the best variations obtained. The hybrids are very much more resistant to cold than the sisal. The fibers are more brilliant, finer and more abundant." He will send us seeds and cuttings.

BRAZIL, Theophilo Ottoni. Mr. Fred Birch writes December 25 that he has learned of a new variety of aracá (*Psidium araca*) of a long pear shape, which he will send when ripe if he remains in that locality.

BURMA, Rangoon. Mr. George Forrest, who has just finished a collecting trip in western China, writes January 25 that he is returning to Scotland, having completed his work in that region for the present at least.

CHINA, Shanghai. From here Mr. F. Kingdon Ward writes January 11 that he has been asked by an English firm to collect alpinas in the mountains of Western Yunnan, China, and has accepted for at least a year.

CHINESE TURKESTAN, Kashgar. The latest information from Mr. Frank N. Meyer is that after shipping the winter's collections of seeds and cuttings, amounting to over half a ton, he has left for Kuldscha by the Mussart Pass across the Tian-Schan Mountains, proceeding from there to Chuguchak, in Chinese Turkestan, where he expects to arrive April 15. At that place he will be but eight days journey from Omsk on the Trans-Siberian railway. His further plans are not yet determined. From Kuldscha he may get into the Issyk-kul region, or from Chuguchak he may go on into the Altai Mountains and Dzungaria.

CHINA, Szechuan, Yachow. Mr. Edgar T. Shields writes Jan. 1 that the vines which he secured for us this last summer in the mountains have nearly all perished from delay in transportation to Yachow. He will try again next year. "I have asked one of my friends to buy for me if possible some of the bitter orange trees. They are very hard to grow and slow; the Chinese have most ingeniously used the following scheme to procure new trees. They split a limb part way, beginning from the trunk, and going toward the tip of the limb, bind the end of the limb up in a bundle of earth. Thus it receives sap from the parent tree while it is becoming rooted in the earth. After it is thoroughly rooted it is completely severed and transplanted." (Shields.) (This is of course merely a method of layering where the bundle of earth takes the place of the natural soil, and could only be used in a very moist climate such as Yachow has.)

COCHIN CHINA, Saigon. M. Lan, Local director of Agricultural and Commercial services, writes January 17 that they are at present unable to supply seed of *Amygdalus Cochinchinensis*, the tropical sweet almond, but will try to get them for us.

HAWAII, Honolulu. From Yokohama, Mr. C. V. Piper, agrostologist in charge of Forage Crop Investigations, now studying forage crop conditions in the Philippines for the War Department, writes January 17, "A particularly interesting thing is the way our American mesquite thrives at Honolulu. It was introduced many years

ago and spreads much as in Texas. The trunks however are much larger, the largest being four times as big as any I ever saw in the States, the trunks two feet in diameter and 60 feet or more tall. They produce two crops of pods a year which after falling are gathered at a cost of \$8.50 a ton! It is claimed that by grinding, which makes the seeds digestible, the feeding value increases \$10 per ton at a cost of \$5. In a general way the feed value is said to be about equal to barley - a matter which I think needs more careful study. Horses and cows can be fed it almost with impunity. There is not a single carob at Honolulu, therefore no comparison is possible, but as the mesquite succeeds so well, it seems to me the carob ought to also. At any rate I think the mesquite and the carob are likely possibilities in the Philippines to solve, in part at any rate, the grain ration problem. Para grass has been grown very successfully at Honolulu for about seven years and the trial plots of Rhodes grass are fine. Both of these are away ahead of Guinea grass. Alfalfa too is grown successfully; as well as cowpeas, soybeans, velvet beans and Jack bean (Canavali). The latter is very bitter but cows can be taught to eat it, and it is claimed thrive upon it well."

INDIA, United Provinces, Gonda. Rev. N. L. Rockey under date Jan. 30 writes that he has put the matter of the native Medicagos into the hands of the Government officials of various sections of northern India, who have promised to send the material as soon as possible. He himself will send cuttings of the Doob grass (*Cynodon dactylon*) as soon as he can obtain them.

JAPAN, Sapporo. Mr. K. Hashimoto writes that he will secure seed of the Aomori chestnut for us in the coming autumn.

NATAL, Pietermaritzburg. Mr. W. J. Newberry, Curator of the Botanic Society at that place, in a recent undated letter, offers us a subtropical apple of good quality locally known as the Wainwright and will also send us cuttings of the Methlen plum in June when the trees are in their dormant stage.

NYASALAND, Zomba. Mr. E. W. Davy, Agriculturist, writes December 28, 1910, that he does not know *Cassia bearama*, nor was he able to find it in a trip just completed around the southern end of Lake Nyasa, but he thinks it more likely to be found in the coastal belt, and has therefore written Professor Zimmerman, at Amani, Tanga, German East Africa Protectorate, asking him to send us the seeds of this plant if procurable in his region. Mr. Davy is leaving for England shortly on leave of absence.

PORTUGAL, Lisbon. Mr. C. H. de Navel, Inspector of the Lisbon Botanical Garden, writes February 9 that he will secure for us the acorns of *Quercus occidentalis* (cork-oak) the coming season.

SOCIETY ISLANDS, Tahiti. Mr. North Winship, American Consul, writes Jan. 15, that in May he will send us grafted plants of three of the finest varieties of Mangos, together with several slips of the best breadfruit trees.

TURKEY-IN-ASIA, Harput. Mr. William W. Masterson, Consul, writes December 19 in regard to the Diarbekir melons, which he describes as being the largest he has ever seen, "the water melons sometimes growing as large as a flour barrel, and the musk melons larger than the largest pumpkins. The melons are raised in the bed of the Tigris River, after the spring rains are over and the river has shrunk to summer size. The seeds are fertilized with pigeon manure, and the vines grow without irrigation throughout the season. It is needless to say that the flavor of both the melons is much coarser than the American cultivated varieties."

ZANZIBAR, Zanzibar. The Director of Agriculture, Mr. F. C. McClellan, writes January 25 that the seeds of Cassia Bearama are not yet ready but will be sent when ripe.



PISTACIA CHINENSIS. CHINESE PISTACHE.

Photograph of a tree eighty feet in height and ten feet in circumference, taken August 2, 1908, by Mr. E. H. Wilson, collector for the Arnold Arboretum, on the slopes of Fei Yueh Ling, near the Tung River, at an elevation of 6500 feet. This hardy pistache, first introduced as a horticultural possibility by Mr. Frank N. Meyer, agricultural explorer, from northern China, is being introduced in quantity as a possible stock for the true pistache nut of commerce, *Pistacia vera*, and also as a shade tree for the Southwest. Because of its greater hardiness it promises to extend widely the range in which the pistache can be grown. For fuller description and reference to earlier introductions see Plant Introduction No. 24659, Inventory No. 18.



ATALANTIA GLAUCA. AUSTRALIAN DESERT LIME.

Seedling Desert Limes four days old, showing extremely rapid germination of this species. Plant Introduction No. 29660. Seed received February 21, and planted February 23. Photograph taken February 28, 1911.



ATALANTIA GLAUCA. AUSTRALIAN DESERT LIME.

Three-weeks-old seedling Desert Lime inarched on three-months-old seedling Rusk citrange. Photographed ten days after being inarched.