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TAXONOMIC & RANGE INVESTIGATIONS

NO. 66.

August 1 to 31, 1911.

NEW PLANT IMMIGRANTS.

ANONA SPP. (Anonaceae.) 31710-712. Seeds of anonas from Ceylon. Presented by Mrs. Charles B. Bigelow, Boston, Mass., through Prof. C. S. Sargent, Arnold Arboretum, Jamaica Plain, Mass. Anona muricata, the sour sop, Anona squamosa, the sweet sop, and an undetermined species, all introduced for the work of the Office in the introduction and distribution of the best anonaceous fruits. For distribution later.

ANONA SPP. (Anonaceae.) 31574-576. Seeds of anonas from Costa Rica. Presented by Mr. Carlos Wercklé, San Jose, Costa Rica. Three seedlings, from San Francisco, Costa Rica. "Bears second year, delicious." (Wercklé.) Introduced like the preceding. For distribution later.

ARRACACIA XANTHORRHIZA. (Apiaceae.) 31557. Roots from David, Republic of Panama. Presented by Mr. J. R. Lastra. "A perennial herb of the carrot family. It attains a height of two or three feet. It has divided leaves like the carrot, and small umbels of purple flowers, and has large fleshy roots, which form an important article of food in South and Central America." (Smith, Dictionary of popular names of economic plants, p, 95.) "Probably best adapted to cultivation in the Southern States, as it is slow in maturing. Well worth the attention of amateurs." (Fairchild.) For distribution later.

ANANAS SP. (Bromeliaceae.) 31558. Seeds of the ivirá from Paraguay. Presented by Mr. Thomas R. Gwynn, Capilla Horqueta, Paraguay. "Ivirá is a pineapple and produces an acid of the first class. The leaf is used for fiber, producing ropes and clothing. The plant reproduces from the root, or else from small plants formed on top of the fruit just exactly as the pineapple does. This plant is very similar to the caraguata, from which is made the best rope I have ever seen. I don't know about its being superior to anything in the United States, but I do know if you eat two or three of the crude fruit, blood flows from the lips, and the teeth are set on edge. You only can understand who have eaten green apples and sour cherries. The fruit has just the same taste as the cultivated pineapple, and the same shape, but very small. The blade is a lot narrower, the thorns shorter." (Gwynn.) For distribution later.

DIOSPYROS PEREGRINA. (Ebenaceae.) 31488. Seeds from Sibpur near Calcutta, India. Presented by Major A. T. Gage, Superintendent, Royal Botanic Garden, Sibpur. "A dense evergreen tree

found throughout the greater part of India in shady, wet places and near streams. It is frequently cultivated both for ornament and for its large, red, velvety fruits. The fruit is beaten in a large mortar and the juice expressed. This is boiled, mixed with powdered charcoal and applied once a year to the outside of the planks of boats. The half-ripe fruits are pounded in a mortar and then kept six or seven days in water until they have decomposed. A gummy solution results, which is poured off. This brownish liquid is used in dyeing and tanning." (Watt, Commercial products of India, p. 498.) For distribution later.

FEVILLEA CORDIFOLIA. (Cucurbitaceae.) 31484. Seeds of cabalonga from Costa Rica. Presented by Mr. José C. Zeledon, San Jose, Costa Rica. "A vine to cover trellises in hot countries, that bears a fruit the size of an orange. An antidote for snake bites. Would grow in Florida." (Zeledon.) "The sequa or cacoon antidote of Jamaica, where it is a common plant in shady woods, climbing to a great height up the trunks of trees. The fruits are four to five inches in diameter, and contain from 12 to 15 large flat seeds, which possess purgative and emetic properties and have an intensely bitter taste. In Jamaica the negroes employ them as a remedy in a variety of diseases, and consider them to be an antidote against the effects of poison; they also obtain a large quantity of semi-solid fatty oil, which is liberated by pressing and boiling them in water." (Lindley, Treasury of botany, p. 490-491.) For distribution later.

LINUM USITATISSIMUM. (Linaceae.) 31483. Seeds of white-seeded form of flax from Hoshangabad, Central Provinces, India. Presented by Mr. A. Howard, Quetta, India, at the request of Mr. J. D. Shanahan, formerly of this Bureau. "As regards the oil yielding capacity of this white-seeded variety I understand it is better than the country linseed, but I believe the yield of seed is less. It may, however, be of use in breeding." (Howard.) This form was secured at the request of this Office, as it is reported that the Indian white-seeded variety yields two per cent more oil than the ordinary dark linseed. For distribution later.

LUCUMA SPP. (Sapotaceae.) 31479-480. Seeds of sapotes from San Jose, Costa Rica. Presented by Mr. C. Wercklé, San Jose, Costa Rica. "A tree 30 to 40 feet high, with fulvous or grey branches, and long obovate leaves. The cream-colored silky flowers are borne in clusters on the stem. Fruit about six inches long, with reddish pulp, containing one or more polished seeds. The pulp is sweet and resembles in taste a luscious pear. It is made into a marmalade, which is said to be not unlike good apple preserve." (Macmillan, Handbook of tropical gardening, p. 153.) For distribution later.

LUCUMA OBOVATA. (Sapotaceae.) 31642. Seeds from Chile. Received through Mr. José D. Husbands, Limavida, Chile. "Lucuma

de Quillota." The skin is a bright dark green, flesh yellow, very much like a pumpkin but lighter color and more mealy." (Husbands.) For distribution later.

LYCOPERSICON SPP. (Solanaceae.) 31561-562. Seeds of wild tomatoes from Peru. Presented by Dr. A. Weberbauer, German Legation, Lima, Peru. Two forms, one a "desert plant in hot almost rainless entirely frost-free region", the other "a climbing shrub three meters high, growing in soils constantly moist, but not swampy". For distribution later.

MALUS SYLVESTRIS. (Malaceae.) 31511-31536. Cuttings of twenty-six apples from New Zealand. Presented by Mr. W. C. Berridge, Manager, Tauranga Experimental Farm, Department of Agriculture, Commerce, and Tourists. "These are cuttings of aphis resistant or aphis proof apples. Most of the varieties have been proved to be proof against the ravages of the woolly aphis, but several have not yet been fully proved to be absolutely proof against it." (Berridge.) For distribution later.

MALUS SP. (Malaceae.) 31688. Seeds of wild apples from near Kuldja, Chinese Turkestan. "Very hardy wild apples, collected in semi-arid mountains at altitudes between 5000 and 6000 feet. The trees growing at 4500 feet were in bloom at the time of visit(April 20), but those at altitudes between 5500 and 6000 feet were perfectly dormant yet." (Meyer's introduction.) For distribution later. See halftone plate.

MALUS SP. (Malaceae.) 31689-690. Seeds of apples from Saissansk, southern Siberia. One, "said to grow in gardens around Saissansk, apparently seedlings from the wild apples, occurring in the mountains", the other "a small apple of bright red color and possessing a most excellent flavour. Said to grow sparingly near Saissansk, and apparently an improved variety of Malus baccata or perhaps a hybrid. Is locally sold dried as a sweetmeat and for compote and a preserve material." (Meyer's introductions.) For distribution later.

MANGIFERA INDICA. (Anacardiaceae.) 31620-630. Seeds of eleven varieties of mango from Las Sabanas, the Canal Zone. Presented by Mr. Ramon Arias-Feraud, Panama, Republic of Panama. Introduced like the following for the work of the Office in the establishment of the mango industry in Florida, Porto Rico, Hawaii, and the Philippines. For distribution later.

MANGIFERA INDICA. (Anacardiaceae.) 31572-573, 31615. Cuttings and seeds of mangos from Costa Rica. Presented by Mr. Carlos Wercklé, San Jose. Three of the best quality mangos of the country, described as having few fibers and much meat. Introduced like the preceding. For distribution later.

MANGIFERA INDICA. (Anacardiaceae.) 31477. Cuttings of mango from Piracicaba, Brazil. Presented by Mr. Clinton D. Smith, Escola Agricola Pratica, Piracicaba. Introduced like the preceding. For distribution later.

MANGIFERA ZEYLANICA. (Anacardiaceae.) 31633. Seeds of a native Ceylonese small-fruited mango from Peradeniya, Ceylon. Presented by Dr. John C. Willis, Director, Royal Botanic Gardens, Peradeniya. Introduced as a possible stock for the common mango. For distribution later.

MEDICAGO SPP. (Fabaceae.) 31609-612. Seeds of native medicagos from Chile. Received through Mr. José D. Husbands, Limavida, Chile. Forms of Medicago arabica and M. hispida. For distribution later.

MEDICAGO SP. (Fabaceae.) 31617. Seeds of alfalfa from near Baba, northwestern Mongolia. "M. falcata? An alfalfa, found here and there in large quantities on the hills, growing between dense grass at altitudes of about 4000 feet, reaching a height of apparently not over two feet. As the cold is very intense in these regions, these plants may be tested in the most northern sections of the United States." (Meyer's introduction.) For distribution later.

MEDICAGO SATIVA. (Fabaceae.) 31687. Seeds of alfalfa from Chugutchak, Mongolia. "A strain of alfalfa said to be much hardier than the ordinary varieties, but also said to be of slower growth. While fields sown to imported Turkestan seed give three cuttings a year in Chugutchak, this variety gives but two, but while of the Turkestan alfalfa one third of the plants get killed in a severe winter, this strain is said not to suffer at all. To be tested in a cool dry region especially in Wyoming, Montana, Idaho, etc." (Meyer's introduction.) For distribution later.

PERSEA AMERICANA. (Lauraceae.) 31614, 31616, 31631. Seeds of avocados from Amatitlan and Livingston, Guatemala, and from Chile. Introduced in the effort to get the best varieties of this most promising fruit for thorough trial in southern Florida and California. For distribution later.

PHYTOLACCA DIOICA. (Phytolaccaceae.) 31482. Seeds of the Ombu from Buenos Aires, Argentina. Presented by Mr. Joseph E. Wing, agent of the United States Tariff Board. "This tree does not withstand much frost. It is the common tree of the plains of Argentina, and is seen making a dense green mound of verdure in the very dry soils, green during the worst droughts. It makes extraordinarily rapid growth. I have seen the trees fully 12 feet in diameter. It is a very tenacious tree and once

established, if it is cut down, it immediately springs into life again, but does not sucker as the growth comes from the trunk. It seems absolutely healthy and resistant. It is a tree much prized to grow near the home of the colonist or estanciero of the plains of Argentina." (Wing.) For distribution later.

PISTACIA INTEGERRIMA. (Anacardiaceae.) 31725. Seeds of zebra wood from Lahore, India. Procured by Mr. R. S. Woglum, of this department from Mr. W. R. Mustoe, Superintendent of the Botanical Gardens, Lahore. "This is the famous zebra wood of Kakra, India, which grows to be a tree 40 feet or more high, with a trunk in diameter from two and one half to three feet, or even as much as four and three quarters feet. It grows on the warm slopes of the Himalaya Mountains in northern India, usually at an altitude of from 1200 to 8000 feet. The wood is very hard and close grained, brown in color, and beautifully mottled with yellow and dark veins, whence the name, 'zebra wood'." (Swingle.) For distribution later.

RHUS VERNICIFERA. (Anacardiaceae.) 31639. Seeds of the lacquer tree from Japan. Presented by Mr. Thomas Sammons, American consul general, who procured them from Mr. Matsunosuke Yamaguchi, Nagano, Japan. "A slender-branched tree with winged leaves, attaining a height of 20 feet. It is common throughout Japan, and is cultivated for its sap, which flows from its stem and branches on being wounded. It is first cream-colored, but on exposure to the air soon turns black, and is the varnish which the Japanese use for lacquering their furniture or ornamental articles." (Smith, Dictionary of popular names of economic plants, p. 426.) "The varnish or lacquer is valuable because of its great hardness without brittleness or becoming cracked; its high lustre and mirror-like surface which remains untarnished for centuries; its resistance to the agencies which attack resinous varnishes as it is not injured by boiling water, hot ashes, hot alcoholic liquors, acids, etc." (J. J. Rein, Industries of Japan.) "Unlike ordinary paints which dry because of oxidizing properties of the oil in them, this Japanese lacquer dries better in moist than in dry air as the result of a supposed enzyme which acts upon an albuminoid in the presence of a vegetable acid and a gum. The industry is one well worthy the serious consideration of paint manufacturers." (Fairchild.) Experimenters with this tree should remember that the volatile sap causes a painful eruption on the skin of certain persons similar to that caused by our common Rhus species known as poison ivy, though probably more intense even than the latter. For distribution later.

ROSA SPP. (Rosaceae.) 31692-695. Seeds of wild roses from near Ghapsagai and Bogh-dalak, Mongolia. Among these are one

or two seemingly drought resistant, another for dry cold regions, and the curious Rosa berberifolia, with undivided leaves, more or less like those of a barberry. For distribution later.

SOLANUM TUBEROSUM. (Solanaceae.) 31537-547, 31654-676. Tubers of wild potatoes from Chile. Received through Mr. José D. Husbands, Limavida, Chile. White and yellow varieties, some of them very early, said to yield in seven weeks. For distribution later.

SOLANUM SP. (Solanaceae.) 31683. Tubers of bitter potatoes from Perene, Peru. Presented by Mr. J. A. Furlong. For distribution later.

SPONDIAS MANGIFERA. (Anacardiaceae.) 31634. Seeds from Peradeniya, Ceylon. Presented by Dr. John C. Willis, Director, Royal Botanic Garden, Peradeniya. Introduced as a possible stock for the common mango. For distribution later.

VIGNA LUTEA. (Fabaceae.) 31606-607. Seeds of a Vigna from the Philippine Islands. Received through Prof. C. V. Piper, of this Bureau. Two of thirty-seven interesting economic plants, mostly forage crops and grasses collected by Prof. Piper during his stay in the islands while investigating the forage conditions for the War Department. For distribution later.

ZEA MAYS. (Poaceae.) 31560. Seeds of corn from Buenos Aires, Argentina. Presented by Mr. Joseph E. Wing, agent of the United States Tariff Board. "I bought the Argentine maize for you in Buenos Aires. It may have much use in our country in regions like western Nebraska or Colorado, since it matures here in a climate that will not mature our maize owing to cold nights and drought." (Wing.) For distribution later.

NOTES FROM FOREIGN CORRESPONDENTS.

BRAZIL. Bahia. Mr. Southard P. Warner, American consul, writes August 6, that the Secretary of Agriculture for the State of Bahia has promised to secure for us as soon as possible, plants of the caroá and the makimbiera, two species of Neoglaziovia, of probably great value as fibre plants suitable for culture in the driest portions of the Southwest.

CHINA. Tangshan. Rev. George F. Candlin writes July 1 that he will endeavor to get seeds of the Cedrela sinensis(Hsiang ch'un)for us, as it is cultivated in his neighbourhood for its tender leaves and sprouts, which are eaten much as the southern Chinese eat bamboo sprouts.

HONDURAS. Puerto Cortes. Mr. Claude I. Dawson, American consul, August 15, in sending in a quantity of the "guano palm", probably Ochroma lagopus, for test as to the value of its sawdust as a light-weight packing material for fruit instead of redwood sawdust, calls attention to the fact that "there are two grades of the wood, the first and second growth, the first being hard and coarse-grained, and therefore less suitable for making life-rafts, belts, etc., for which it is at present mostly used. The second growth is easier to market, but owing to small size - seldom over six or eight inches in diameter - proves unprofitable unless contracted for in large quantities or shipped under solid contents measurement. This measure is preferable, and with an order for 500,000 feet in hand, it could be delivered at the mouth of rivers at $10.00 U. S. per thousand. The stumpage of the tree is estimated at several million feet."

PALESTINE. Haifa. Mr. A. Aaronsohn, Director of the Jewish Agricultural Experiment Station, writes July 30, that he has just returned from a four weeks trip to Damascus, Mt. Hermon and Mt. Lebanon. He collected seeds and young plants of the cedars and a large number of seeds of various forms of Amygdalus orientalis and various Prunus species, which he has recommended strongly as dryland stocks for cultivated Prunus varieties and which he will send us later.

SPECIAL NOTE: Please note that in Bulletin 64, this series, INOCARPUS EDULIS should be No. 31374 and VITIS VINIFERA, No. 31355.

S. P. I. NOS. INCLUDED IN THIS BULLETIN.

31477, 31479-480, 31482, 31483, 31484, 31488, 31511-536, 31537-547, 31557, 31558, 31560, 31561-562, 31572-573, 31574-576, 31606-607, 31609-612, 31614, 31615, 31616, 31617, 31620-630, 31631, 31633, 31634, 31639, 31642, 31654-676, 31683, 31687, 31688, 31689-690, 31692-695, 31710-712, 31725.

Issued October 14, 1911.

MALUS SP. WILD APPLE.

"A large single growing specimen of a wild apple (Malus sp.) The bark of these wild apples is scaly and comes off in patches. The growth seems to be slow, but their resistance to cold and drought seems quite remarkable. They are probably of very great value as hybridizing material as factors in creating hardier races of apples, especially fit for the upper Mississippi Valley regions." From photograph by Mr. Frank N. Meyer, Valley of the Chong Djighilan, Chinese Turkestan, altitude 3700 feet, March 18, 1911.

In addition to this tree Mr. Meyer found many other forms concerning which he writes, "The fruits vary in quality and size from very small and sour hard fruits to medium sized apples of very fair taste. These are dried by the natives for winter use." Cuttings and seeds of these apples were sent in under Nos. 30946-949, 31279-280.