

PLANT IMMIGRANTS.

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Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by agricultural explorers and foreign correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that 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. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,
Agricultural Explorer in Charge

*Office of Foreign Seed and Plant Introduction,
Bureau of Plant Industry,
U. S. Department of Agriculture.*

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Acacia pallens (Mimosaceae), 48428. From Johannesburg, Transvaal. Seeds collected by Mr. J. Burt-Davy. A valuable timber tree, 30 feet in height, with a very hard heavy wood, used for making clubs; the timber is exceedingly hard and is durable underground. It is considered to be one of the most valuable hardwood trees in the Transvaal, and is cut extensively for mine props for the Rand. It is characterized by the presence of prominent warts on the trunk and main branches, whence it has received the vernacular name Knopjesdoorn. (Adapted from Kew Bulletin of Miscellaneous Information, 1907, p. 361.)

Aloe pretoriensis (Liliaceae), 48505. From Barberton, Transvaal. Seeds presented by Mr. Geo. Thorncroft. A plant of common occurrence on many kopjes around Pretoria. It grows plentifully on the northern slopes of Mentjes Kop, and extends from here in an easterly and westerly direction on the range of hills composed of the Daasport quartzite; it is also found in the Spekboom valley near Lydenburg, at Barberton, and along the foot of the Lebombo range of mountains.

The most distinctive feature of the plant is its tall branched inflorescence, the racemes of which are densely covered with brightly colored flowers; so conspicuous are they that they form a bright scarlet patch of color in the landscape and are visible from a considerable distance. The flowers contain a quantity of nectar, and consequently attract large numbers of brilliant sunbirds. The dense rosettes of tapering leaves, usually withered at the tips, have frequently a very characteristic red hue and spring from a stoutish stem 4 to 5 inches in diameter. The stem is dark brown to black in color, extremely rough, and clothed throughout its entire length by the remains of withered leafstalks. At first sight this *Aloe* certainly resembles *A. lineata* in general habit, but on closer examination it is found that the leaves are more narrowly linear-lanceolate than is the case with *A. lineata*. (Adapted from The Gardners' Chronicle, vol. 56, 3d ser., p. 105.)

Amygdalus persica (Amygdalaceae), 48508. **Peach.** From Santa Cruz, Calif. Seeds presented by Mr. Geo. G. Streater. "Indian blood peach. A vigorous-growing tree, bearing freestone peaches. The flesh is dark blood-red, very juicy, and of very good quality;

the skin is greenish gray suffused with red. It is a late-maturing peach, and looks as if it would make an excellent canning peach." (Peter Bisset.)

Bauhinia reticulata (Caesalpinaceae), 48437-39. From Johannesburg, Transvaal. Seeds collected by Mr. J. Burt-Davy. "Kifumbe. The pods are much relished by cattle. A man in Matabeleland, S. Rhodesia, grinds them up to mix with concentrates for his pedigreed stock." (Burt-Davy.)

A spreading shrub or small tree from the roots of which is obtained a mahogany-colored pigment that is used by the Manyoro for staining wooden utensils. The stain is most effective; the liquid, applied when only slightly diluted, dries rapidly and with quite a gloss. The shrub occurs here in quantity, also in parts of Toro and Chagwe, and is sometimes used in native medicine. (Adapted from Dawe, Report of Mission through Uganda, p. 26.)

Citrullus vulgaris (Cucurbitaceae), 48558. **Watermelon.** From Foochow, Fukien, China. Collected by Mr. J. B. Norton, agricultural explorer. "The common, small, red-fleshed melon of this region has a very thin rind and fine quality flesh but is lacking in sugar. It should be used in disease-resistant breeding to get shipping and marketing quality for small melons. It has a very attractive appearance and the size suggests the possibility of producing a watermelon small enough to ship in crates for individual consumption." (Norton.)

Crataegus azarolus (Malaceae), 48516-17. From Granada, Spain. Seed purchased from Mr. Pedro Giraud. One of the most important species of *Crataegus* is *C. azarolus* with its numerous varieties and races. This is a shrub of the calcareous hills and grows only on very dry lands. If undisturbed it attains a height of 13 to 16 feet, but its branches are generally hacked off for fuel by Arab women or mutilated by heavy stones thrown by the boys to shake down the fruit. Some varieties of this species have fruit the size of a large cherry, with a very agreeable acid taste. Although they are sold on the market of the Orient, they would not be marketable in Europe or America because of the large stones; but specimens are often found which are nearly stoneless, and it is possible that this character could be fixed by selection. For fifteen years or more the writer has used this species as a stock for pears with excellent results. Top-grafted at 2 to 3 feet above the ground, it develops into a very beautiful, produc-

live,-- and long-lived dwarf tree,-- provided the grafting is done with a very early variety. This shrub occurs in extremely hot, dry places and must therefore complete the greater part of its development early in the season; its roots are unable to furnish the amount of sap necessary to develop pears in August. If it is grafted with a pear which fruits in May or June, when the roots of the *Crataegus* are in the period of their greatest activity, the best results are obtained. The writer speaks only of pears, because he has experimented with them, but he sees no reason a priori why these stocks should not do as well for apples, which he has not as yet tried. (Adapted from Bureau of Plant Industry Bulletin No. 180, p. 15.)

Crataegus mexicana (Malaceae), 48507. From Guadalajara, Mexico. Seeds presented by Mr. F. S. Furnivall through the American consul. "White-thorn, commonly known as the manzanilla or tejocote, is indigenous to the mountain section of Mexico and Guatemala; the fruit (a little apple about the size of the American crab-apple) is insipid in flavor in the raw state, but very valuable for making jelly; the tree or shrub may be used with marked success as a stock in budding and grafting apples and pears." (Furnivall.)

For previous introduction see S. P. I. No. 46481, Plant Immigrants, No. 150, October, 1918, p. 1363.

Eremochloa ophiuroides (Poaceae), 48566. Grass. From Kuliang Hills, near Foochow, Fukien, China. Collected by Mr. J. B. Norton, agricultural explorer. "The best lawn and grazing grass of this region. Throughout the clay region and the gravelly sand alluvial this is the dominant grass. All the neglected fields and washed hillsides are overgrown with it. It is valued in Kuliang and largely in Foochow as a grass for lawns. If the lawns are mowed, clipped, or grazed, this is the only grass which persists except Bermuda grass which sometimes maintains itself along the edges of walks and paths. This grass in pure culture does not need to be mowed as it grows only 3 or 4 inches high. It can be eradicated easily as the runners are on the surface; and it is easily propagated by pieces of runners, turf, or seed. It is the best grazing grass in this region, growing with *Lespedeza striata* and allied forms over the fallow terrace lands. The prime condition of the cattle grazing on these hills depends on the

prevalence of this grass and Lespedeza. This is also an excellent plant to prevent washing; the long runners stretch out in every direction, root at every node, and soon branch and make cover. If it can be grown even as far north as North Carolina, it will solve the lawn difficulties of the Eastern States where none of our grasses are satisfactory the year round." (Norton.)

Eriobotrya japonica (Malaceae), 48302. Loquat. From Altadena, Calif. Budwood collected by Wilson Popenoe, agricultural explorer. "Tanaka. This excellent loquat was introduced into the United States by Dr. Fairchild, but the material obtained by him has apparently been lost, and the buds sent herewith have been taken from a tree growing at the West India Gardens, which was grown from budwood sent from Algeria by Dr. L. Trabut in 1911.

"Tanaka is a large loquat, noted for its fine flavor and excellent keeping qualities. It is oval or nearly round in form, deep orange in color, with meaty, orange-colored flesh. The season of ripening is late, and it is probably because of this that the variety has not been planted commercially in California. In recent years, however, it has become apparent that some of the late-fruiting varieties, such as Thales (considered by some to be identical with Tanaka and certainly very closely allied to this variety) may be cultivated profitably, if in a region well suited to their growth." (Popenoe.)

Myrica rubra (Myricaceae), 48504. From Yokohama, Japan. Seeds purchased from the Yokohama Nursery Co. "Yama-momo. A very pretty evergreen tree, closely related to the sweet gale (*Myrica gale*) well known in America. It is a small tree attaining a height of 20 feet, with oblong or lanceolate, dark green, smooth and glistening leaves, 3 to 4 inches long. This tree, or large bush, grows in the mountains of southern Japan. Its name, yama-momo, indicates its habitation, as it means literally mountain peach. How far north it grows wild I am not prepared to say. One Japanese authority asserts that it grows all over Japan, a statement I am unable to verify.

"A specimen in the botanical garden at Tokyo is about 12 feet high, with a short trunk and a dense, round, spreading head. It is very ornamental. The fruit when fully ripe is pleasantly acid and juicy;



AN IMPORTANT FORAGE PLANT.

(*Leucaena glauca* (L.) Benth. See S. P. I. No. 43637.)

In some parts of the Tropics this plant becomes a weed. It grows commonly in southern Florida. In the Hawaiian Islands it is cultivated as a forage plant, for which purpose it has been found excellent. The growth should be cut before the plants come into bloom. It is noteworthy that an important use should have been found for this common tropical plant hitherto considered a weed, and experimental plantings for the production of green forage for live stock should be made in those parts of the Tropics where the economic value of this species is not yet understood. (Photographed by A. S. Hitchcock, West Maui, Hawaii, September 29, 1917; Hitchcock's negative No. 139.)



CHINESE YANG MEI TREE IN FLORIDA.

(*Myrica rubra* Sieb. and Zucc. See S. P. I. No. 41256.)

Frank N. Meyer, the introducer, said of this remarkable evergreen fruit tree that it is grown on well-drained rocky terraces around Hangchow, and is represented by numerous varieties. This is a large-fruited variety producing fruits, the size of crab apples, of a dark purple color and of very attractive appearance. They are eaten out of hand or cooked in various ways; they are refreshingly sweet. Its addition to the list of semihardy fruits is an important one, notwithstanding its slow growth. It has passed uninjured through a temperature of 20° F. (Photographed by David Fairchild, Brooksville, Fla., November 20, 1918; P24627FS.)

it is apparently made up of a large number of densely crowded sections, quite distinct from each other, but radiating from a small central stone or hard seed. On this specimen the fruit was red, but there are varieties with fruit of different colors. A white-fruited kind, having comparatively large fruit, is said to be of very excellent quality. The tree is commonly propagated by seed, but the Japanese assert that it can also be grafted on the mulberry. It is planted by them partly for fruit and partly for ornament. The bark is an important dye-stuff." (C. C. Georgeson.)

For previous introduction see S. P. I. No. 48000, Plant Immigrants, No. 163, November, 1919, p. 1506.

Parinari mobola (Rosaceae), 48469-71. From Johannesburg, Transvaal. Seeds collected by Mr. J. Burt-Davy. "Mobola plum, from Choma, North Rhodesia." (Burt-Davy).

Nocha or Noxa. One of the most handsome and useful trees of all the Huilla district; forming extensive forests in the mountainous parts of Morro de Lopollo. It rises to a height of from 15 to 40 feet with a maximum diameter of 4 feet; the trunk branches dichotomously and tortuously. The crown is dilated and the dense, leathery evergreen foliage, deep green above and snowy white beneath, is of extraordinary effect. The wood is generally employed in Huilla for the manufacture of furniture and other domestic articles and, when properly seasoned, makes good lumber. But what is most advantageous in this tree is its fruit, since at the time of its ripening a large proportion of the native population is sustained almost exclusively on Noxas. So great is the abundance of these fruits in the neighborhood of Lopollo and Humpata that the natives offer large baskets of them to the European colonists at the price of about 'ten cents' for a hundred fruits. The fruits are the size of a small peach, containing the bulky stone enveloped in a farinaceous-pulpy mass, sweet, and of a very agreeable aroma. (Adapted from Hiern, A Catalogue of Welwitsch's African Plants, p. 320.)

Portulacaria afra (Portulacaceae), 48510. **Spekboom**. From Johannesburg, Transvaal. Cuttings collected by Dr. H. L. Shantz, agricultural explorer. In some places the **spekboom** is arborescent, up to 20 feet high, often forming dense thickets. The juicy leaves are a wholesome food for all classes of stock as well as for wild

animals including buffaloes and elephants; hence farms with plenty of **spekboom** need not fear an ordinary drought.

"Providence meant to spoil our farmers in placing the **spekboom** on the hills of the Karoo," wrote MacOwan in one of his articles on the fodder plants of the country. (Adapted from Marloth, *The Flora of South Africa*, vol. 1, p. 209.)

"The yearly average rainfall of the region in which the **spekboom** thrives is 18 3/4 inches and the rainiest months (November, December and January), are the hottest ones, the temperature reaching 108° F. During these months the rainfall averages 2 inches. In the winter months the rainfall is between .35 and .54 inches and the temperature is sometimes as low as 21° F. The plant has been successfully introduced into America and small trees of it are now growing in San Diego and Santa Barbara, California." (Fairchild.)

Ribes lobbii (Grossulariaceae), 48511-15. **Gooseberry.** From near Castle Rock, Wash. Seeds collected by Dr. David Fairchild. "The largest wild gooseberry I have ever seen. The fruits, some of them three-fourths of an inch in diameter, were attached by a very slender pedicel, and when I touched them they dropped into my hands. They were covered with flat-topped glandular hairs which made them slightly sticky to the touch and they had an odor reminding me of that exhaled by the leaves of *Rosa xanthina*. A farmer whom we met on the road declared that he could tell when he was near bushes of this species of gooseberry by the odor. The entire skin, which is claret-red when the fruit is ripe, peels off easily, exposing a whitish tissue inside of which is the characteristic gooseberry flesh containing a few small seeds. The flavor is extremely mild, not sour, but sweetish and rather lacking in character; capable, possibly, of being improved through breeding by the addition of that tartness so characteristic of our eastern wild gooseberry. The seedlings from this particular specimen may inherit the unusual size and so be of value in breeding experiments." (Fairchild.)

Notes on Behavior of Previous Introductions.

A letter received October 15, 1919, from Mr. B. Kouwenhoven, Edmonds, Wash., states the following: "*Aesculus wilsonii*, S. P. I. No. 40037, is a beautiful ornamental tree with graceful leaves, now a gorgeous mixture of orange, bronze, green and red, with purple ribs."

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