

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF PLANT INDUSTRY,
OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION.

NO. 78.

BULLETIN OF FOREIGN PLANT INTRODUCTIONS.

July 1 to 15, 1912.

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 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.)

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.)

GENERA REPRESENTED IN THIS NUMBER.

Alstroemeria	33819-822	Macadamia	33912
Andropogon	34046-047	Mangifera	34097
	34114	Myrtus	33888-897
Annona	34050		33905-909
Berberis	33843-850	Oryza	34092
Calceolaria	33801	Panicum	34048
Colletia	33855	Parkia	34094
Dioscorea	33800-806	Passiflora	33813-814
Enargea	33865-866	Rubus	34045
Eucryphia	33869	Sophora	33857-862
Eupatorium	33809	Tabernanthe	34090
Gevuina	34113	Trevoa	33815-816
Laurelia	33878-879	Ulmus	34063

PLATES: Macadamia ternifolia, Queensland nut.
Ulmus sp., Karagatch tree.

MATTER IN THIS BULLETIN IS NOT TO BE PUBLISHED WITHOUT
SPECIAL PERMISSION.

ALSTROEMERIA LIGTU. (Amaryllidaceae.) 33819-822. Seeds of "linto" from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "Plants from 6 to 36 inches in height with immense bunches of bloom on each stem all in flower at the same time. The tubers of all linto are very valuable for making the famous chuno or arrowroot, a valuable food for infants, sick and convalescents." (Husbands.) For distribution later.

ANDROPOGON SPP. (Poaceae.) 34046-047. Seeds of so-called blue grass from Australia. Presented by Mr. E. Breakwell, Economic botanist, Department of Agriculture, Sydney, N. S. W. "Pitted blue grass. A grass similar to *A. sericeus* in habitat. Yields abundant and nutritious feed and like its congeners endures drought and frost splendidly." 34047 "Queensland blue grass. Very widely distributed in Australia. A most palatable grass to stock. Grows over three feet high on good soil, and never less than one foot on the worst of soils. Keeps green all the year around, and is little affected by drought or frost." (Breakwell.) For distribution later.

ANDROPOGON SORGHUM. (Poaceae.) 34114. Seeds of Sudan grass from Khartoum, Egypt. Presentd by Mr. W. A. Davie, Inspector of Agriculture, for the Director, Department of Agriculture and Forests, Sudan government. "The plant is an annual closely resembling in appearance ordinary Johnson grass, but entirely lacking the rootstocks which make the latter undesirable. Sudan grass is apparently the wild or half-domesticated form of our cultivated sorghums, and it crosses readily with the various varieties of sorghum. It has a much finer stem than Amber sorghum, and slightly coarser than timothy." (C. V. Piper.) For distribution later.

ANNONA SP. (Annonaceae.) 34050. Seeds of an ilama from Tehuantepec, Mexico. Presented by Mr. W. W. Miller, Los Angeles, California. "These seeds came from an extremely large ilama fruit, probably eight inches in diameter. The fruit grows on a tree more like a mulberry than any other tree I know of grown in the north. I have never known the fruit to grow north of the south end of the State of Vera Cruz or Oaxaca. It grows in a very warm, moist climate. The fruit is something like a cherimoya. The trees are not prolific bearers, perhaps a dozen fruit on one tree being as many as I have ever seen growing at one time." (W. W. Miller.) For distribution later.

BERBERIS SPP. (Berberidaceae.) 33843-850. Seeds of barberries from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. Eight varieties from dry central Chile, and the moist coastal region, mostly with edible fruits. For distribution later.

CALCEOLARIA SP. (Scrophulariaceae.) 33801. Seeds from Limavida, Chile. Received through Mr. Jose D. Husbands. "This is a perennial sort with a large plant growth all of which is fragrant and extra sticky. It may be valuable for extracting a fragrant gum or oil useful for perfumes. It is covered by a mass of lemon yellow flowers. These plants seek the sides of ravines, embankments, cuts, perpendicular rocks, ditches, dry canals, rockeries, wherever conditions seem unfavorable and moisture scarce. Growing in a few atoms of dry earth, drooping from the sides of perpendicular solid rocks it is a charming sight." (Husbands.) For distribution later.

COLLETIA SPINOSA. (Rhamnaceae.) 33855. Seeds from near the River Itata, Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "A valuable plant for fences and for honey of which it makes a most delicious unequalled class of its own. It also has the advantage of growing dry in loose and drifting sands that will not maintain any other plant. It might make a desert productive." (Husbands.) For distribution later.

DIOSCOREA SPP. (Dioscoreaceae.) 33800-806. Seeds of "huanque" from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "Decorative vines whose tubers are comestible. There are a great variety of these in Chile. Some are very dainty, others have large bunches of seed pods that glisten like gold and silver." (Husbands.) For distribution later.

ENARGEA RADICANS. (Liliaceae.) 33865-866. Seeds from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "'Esparto,' 'Quillinejo.' Fruit called 'Coral.' A delightfully ornamental vine that clings closely to bark of trees, stumps, fallen trees or logs and adorns them with a dainty grace without hiding their natural forms. The light green leaves, white or crimson flowers, with crimson or yellow fruit at the same time, give a floral decoration of rare elegance. The vine is used by the Indians for making ropes, brooms, brushes and baskets, some of which are of great beauty." (Husbands.) For distribution later.

EUCRYPHIA CORDIFOLIA. (Eucryphiaceae.) 33869. Seeds from Chile. Received through Mr. Jose D. Husbands, Limavida,

Chile. "'Ulmo,' 'Muermo,' from the interior altitude of the cordillera." (Husbands.) "A magnificent evergreen tree which whitens the forest with its blossoms. The flowers yield an abundance of honey. The wood is excellent and withstands moisture." (Baron von Miller.) For distribution later.

EUPATORIUM SALVIA. (Asteraceae.) 33809. Seeds from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "'Salvia.' A perennial bush with a profusion of lavender flowers that perfume the air to a great distance. About 5 feet high, evergreen. Early bloomer, worth cultivation." (Husbands.) For distribution later.

GEVUINA AVELLANA. (Proteaceae.) 34113. Seed of the avelana from Maquqhue, Temuco, Chile. Presented by Mr. D. S. Bullock, Lapeer, Michigan. This evergreen tree with its dark green foliage is one of the most beautiful of trees. It bears snowy white spikes of flowers together with its coral-red edible fruits throughout the whole year. It requires shade in growing and considerable rain. In Chile extends to 45° south lat., there becoming a tree of considerable size, with tough elastic wood used for boat building. For distribution later.

LAURELIA AROMATICA. (Monimiaceae.) 33878-879. Seeds from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "A handsome tree of southern Chile with durable wood, which is never bored by insects, and is much used for flooring. May prove of value on our northwest coast." (W. E. Safford.) For distribution later.

MACADAMIA TERNIFOLA. (Proteaceae.) 33912. Seeds of the Queensland nut from Brisbane, Australia. Purchased from Mr. Thomas H. Wood. A slow-growing tree of northeastern Australia suitable for tropical culture. It begins to bear at 6 to 7 years almost spherical nuts the size of a large marble, which have a very agreeable rich taste resembling that of the Brazil nut, but sweeter and not so oily. The shell is harder than the shell of a hickory nut, but the white kernel is more like the kernel of a hazel nut. The price per pound in Australia is about 1 shilling and they have proven very profitable as a nut crop. The tree is an evergreen with leaves in threes or fours and creamy white racemes of sweet-scented flowers. From previous introductions it appears probable that this tree will thrive in California and Florida at least. For distribution later.

MANGIFERA INDICA. (Anacardiaceae.) 34097. Seeds of mango from San Jose, Costa Rica. Presented by Mr. Carlos Werckle,

National Museum. "Caribe. One side golden yellow towards orange-yellow, the other side scarlet, nearly no fiber. Large, very good, with orange-yellow flesh of peculiar flavor. Very beautiful and highly esteemed. Comes perfectly true from seed. For hot, rather dry regions." (Werckle.) For distribution later.

MYRTUS SPP. (Myrtaceae.) 33888-897, 33905-909. Seeds from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. Edible-fruited and timber-producing species from all parts of Chile. Among these may be some fruit trees of considerable value for the sub-tropics. For distribution later.

ORYZA SP. (Poaceae.) 34092. Plants of a perennial rice from Senegal, West Africa. Presented by the Director of the Colonial Garden, Nogent-sur-Marne, France. "In the Richard-Toll region in North Senegal, Mr. Paul Ammann has discovered a rice that differs from all other African rices in that it has rhizomes, and multiplies thus without depending on seed. This rice is considered so superior to other rice that at Saint Louis, Senegal, the natives exchange one calabash of it for three of imported rice. The stalks of perennial rice, especially when green, constitute a forage of excellent quality. It grows in rather light soils, rich in potash and nitrogen but poor in phosphoric acid and lime. These soils contain also about 0.1 % of sodium chloride, so that this rice would probably grow in saline soils, and might be cultivated where the soil is too salt for other crops, or in those soils from which it is desirable to remove the salt in order to grow cotton or other plants." (Ammann, Bulletin de la Societe nationale de Agriculture de France, 70:893-900(1910) For distribution later.

PANICUM SP. (Poaceae.) 34048. Seeds of a grass from Australia. Presented by Mr. E. Breakwell, Economic botanist, Department of Agriculture, Sydney, N. S. W. "Spider grass. New South Wales has for two years been suffering from a most severe drought, about one inch of rain having fallen in six months in some places in the interior. This grass in spite of the droughty conditions remained green when other vegetation was completely dried up. As it is a most palatable and nutritious fodder it is of great promise." (Breakwell.) For distribution later.

PARKIA TIMORIANA. (Mimosaceae.) 34094. Seeds of the cupang from the Philippine Islands. Presented by Mr. O. W. Barrett, chief, Division of Experiment Stations, Manila. A very large straight-boled native tree with soft white wood, fern-like leaves with very small leaflets, small white flowers

in dense pear-shaped heads, and long, black, flattened pendulous pods usually about $1\frac{1}{2}$ feet long. For distribution later.

PASSIFLORA PINNATISTIPULA. (Passifloraceae.) 33813-814. Seeds of tumbo from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. "The wild fruiting sort of Chile. An elegant vine with pink flowers and long stems to which the light yellow fruit hangs. It is somewhat smaller than the Peruvian pasionaria but is of the same flavor. Fruit 2 to $2\frac{1}{4}$ inches in diameter. Will not bear frost." (Husbands.) For distribution later.

RUBUS SP. (Rosaceae.) 34045. Seeds from Nice, France. Presented by Dr. A. Robertson Proschowsky. "This is a plant whose origin is unknown to me. Three years ago a seedling came up which was easily seen to be a Rubus. I planted it out the following year and it is now a large climber, reaching nearly the top of an olive tree. The plant has beautiful evergreen leaves, rose-colored flowers, and produces an abundance (several kilos) of yellow, very good and juicy fruits. I suppose that the plant may possibly be new or rare in culture." (Robertson-Proschowsky.) For distribution later.

SOPHORA SPP. (Fabaceae.) 33857-862. Seeds from Chile. Received through Mr. Jose D. Husbands, Limavida, Chile. Six varieties of these beautiful flowering shrubs some with upright and some with pendent clusters, appearing in spring or fall. For distribution later.

TABERNANTHE IBOGA. (Apocynaceae.) 34090. Plant from the Colonial Garden, Nogent-sur-Marne. Presented by the Director. This shrub which is cultivated around dwellings in the Congo because of the use of its seeds in native medicine furnishes an alkaloid, ibogain, of considerable interest, which is being investigated for its possible value. For distribution later.

TREVOA TRINERVIA. (Rhamnaceae.) 33815-816. "'Trevu,' 'Tribu.' A good treelet for live fences if it is cut back when young and large wood growth prevented. It makes a mass of thorns on small wood so dense that nothing can pass it. In the roads where cart and traffic have pruned the plant they become a splendid fence that defies destruction by any class of rough usage, soil, extreme drought or perpetually dry conditions. The wood is very hard and fibrous. Its clusters of fragrant white flowers and leaves are used for soap for washing clothes, etc. The wood never grows larger than one's wrist. It is extra good fuel." (Husbands.) For distribution later.

ULMUS SP. (Ulmaceae.) 34063. Plants of an elm from Fallon, Nevada. Presented by Mr. F. B. Headley, Superintendent, Truckee-Carson Experiment Farm. "Plants of an elm grown from seed which was sent to this station by Mr. A. P. Davis of the Reclamation Service from Byram-Ali, Transcaspiian province, Turkestan. Mr. Davis describes this elm as follows: 'I am sending you in this mail a small package of seed of Karagatch, a species of elm that thrives in this place and which I think will thrive in the Carson valley. It is a rapid grower and a much harder and better wood than the American elm, while it is as good or better for windbreaks and shade.' These elms made a growth last year of from four to eight inches from seeds planted in May." (Headley.) For distribution later. See halftone.

NOTES FROM FOREIGN CORRESPONDENTS.

CHINA. Canton. Mr. Chester G. Fuson, of Canton Christian College, writes under date of June 1 that he will secure and send us as soon as possible cuttings of a small-fruited persimmon which is grown near Canton. It has smooth shining yellow fruit, nearly globular, and from $\frac{1}{2}$ to $\frac{2}{3}$ inches in diameter.

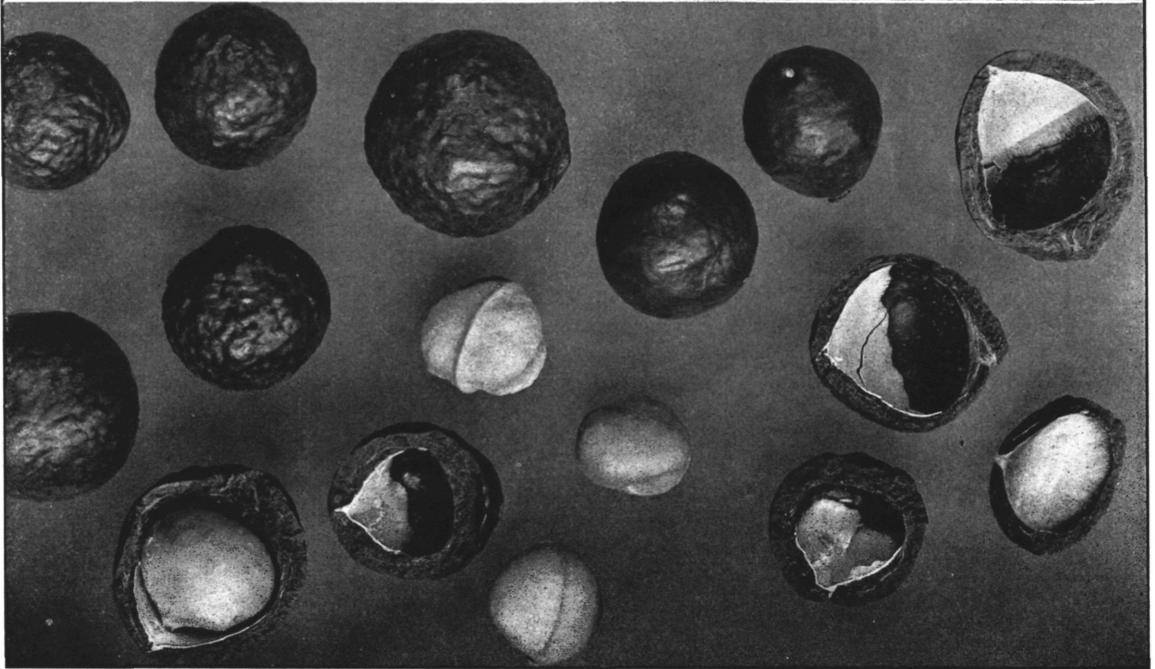
CHINA. Hunan. Chenchow. Rev. T. W. Mitchell writes June 17 in regard to the Tung shu or wood oil tree. "There are a great many of the trees here and the red clay soil seems to be the best for them but they grow everywhere. I don't know the actual rainfall of this section but I know it is very high. The dry season is in the autumn but really there is no dry season here and I am sure the rainfall must be extremely high. I have never seen the trees irrigated. They do not need it in this section. In regard to the temperature they can endure I know very little. They never kill out here and there are some pretty hard frosts here in winter. Of course there is never any freezing of the earth to any great depth. The Chinese knock the nuts off or pick them off and pile them up in piles and then take off the outside covering by hand and dry them in the sun. They are then (after sun drying) taken to a mill either driven by water power or cow power. The mill is only a crude track made of wood or stone over which a small iron wheel runs and grinds the nuts into a powder which is then taken out and put into cakes. The press is a tree usually hollowed out and pressed by wedges which are struck by a big swinging club and the oil oozes out into a bucket held below the press. The process is very crude and slow, and the oil is very dirty. This is also the process used in extracting the tea oil. The refuse is used as fertilizer. The Chinese use it for killing

the insects in their rice fields and they also say it is good fertilizer. The trees vary in size but a well grown tree will yield about two bushels of the nuts after the hulls are taken off. I don't know really what the average yield is but it is considerably less I imagine than the above figures. I have inquired the age of the tree and old men have told me that they live and bear for several tens of years, as they put it. I have inquired concerning the leaves being poisonous and all say that they are not."

ITALY. Rome. Dr. Gustav Eisen writes July 2d: "There are two vegetables here which we do not grow in California but which are of special merit. One is the well-known 'Finochio' with somewhat horizontally projecting stems, and entirely unlike the more common variety with upright stems, certainly infinitely superior. The other kind is 'Zucchini', a kind of squash, eaten while the flower is yet fresh. It resembles a cucumber very much in shape and seems in taste nearly as good as the variety found in Egypt. Why these two kinds should never have reached California, I am at a loss to know."

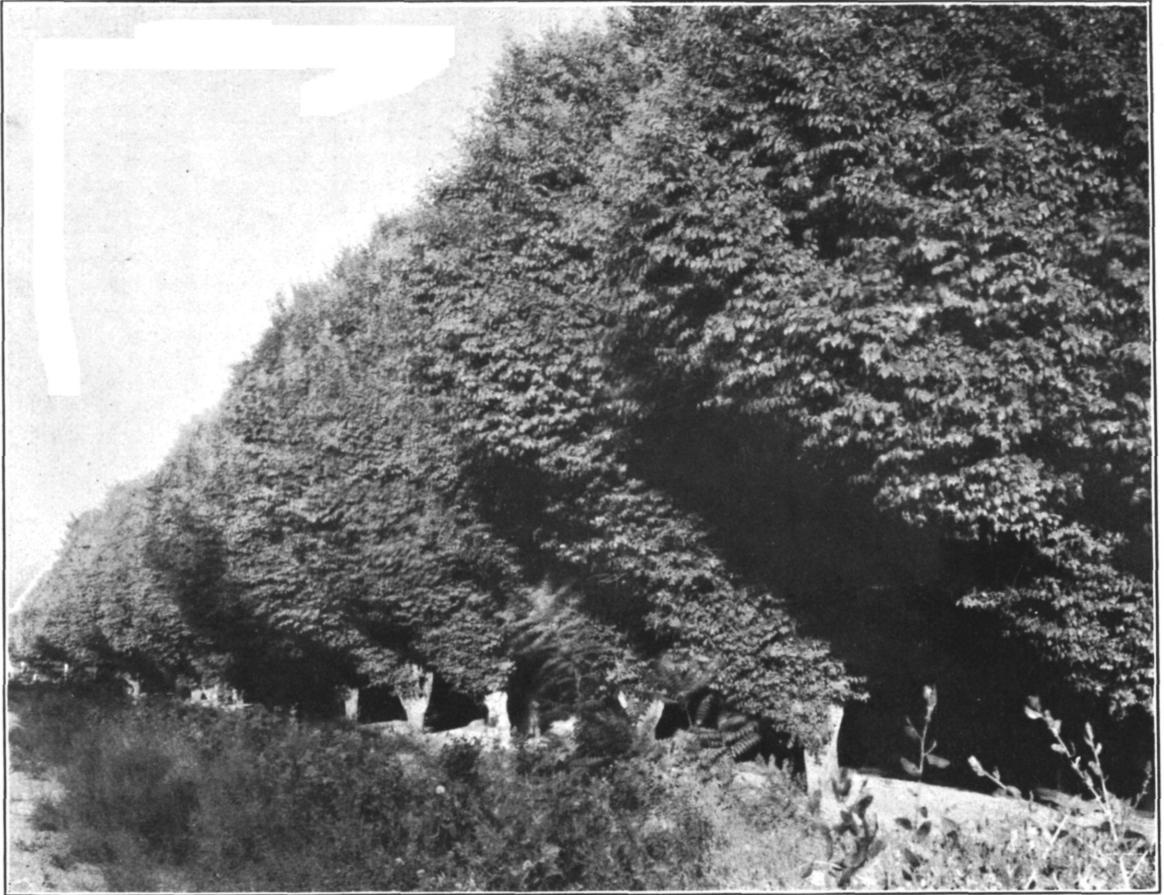
NICARAGUA. TUNKY. Minnesota Mine. Mr. Paul J. Fox writes June 23, in reply to requests for information in regard to teosinte: "The amount of cultivation of land in this part of Nicaragua is exceedingly small, practically all of the provisions for mines, except meat, being imported from the United States. I have travelled a good deal over this part of Nicaragua and all the corn I have seen put together would not amount to even a small farm in the United States. However, I laid the matter before Mr. M. T. Snyder, about one day's journey or say twenty miles from me, and a man of very extensive experience in Central America, who tells me the plant you describe is grown on the Pacific water-shed of Nicaragua. It is known under the name of 'maisia' and is grown to provide against a drought that would kill the maize crop. If the season turns out wet, it does not do well but in that case, they have of course, the maize. The rainfall here is heavy. At the Bonanza mine where records are kept, it is shown to be some 135 inches per annum, so that it is easily seen that maisia would scarcely be a crop for the Atlantic coast. Communications between here and the Pacific side are very difficult, involving a dangerous journey by mule-back of from 12-18 days, and a journey rarely made by a white foreigner. In fact it is much longer and harder than a journey to the United States. Communications with the "interior" (Pacific slope) are generally had by going to the sea, coasting down to San Juan del Norte and over the route of the Nicaragua canal with many changes of steamers, or else by Panama, or even by New Orleans and San Francisco."

(ISSUED: Aug. 14, 1912.)



MACADAMIA TERNIFOLIA. Queensland Nut.

A large tree attaining 60 feet with very hard-shelled edible nuts of delicious flavor. Specimen tree of bushy shape growing in Elysian Park, Los Angeles, Calif., with a height and diameter of about fifteen feet. From photograph by Mr. P. H. Dorsett, October 3, 1911. Nuts natural size.



ULMUS DENSA. (*U. campestris umbraculifera.*) Karagatch.

An avenue of the wonderfully dense growing "Karagatch" as seen on the Imperial Estate "Murgab" at Bairam-ali near Merv, Russian Turkestan.

This particular variety of elm is locally called "Charavidny." It is of such a remarkably dense growth and its branches intertwine to such an extent that even on the brightest days, in an avenue of these trees the shade cast makes it seem like twilight.

This elm loves a climate with long hot summers and with moderately cold winters; withstands a fair amount of alkali in the soil and irrigation water, and is of special value as a shade tree for Arizona, Nevada, New Mexico, Texas, Utah and for the hot, interior valleys of California. Plants sent under No. 32831.