ANNONA SPP. (Annonaceae.) 32319, 32322. Seeds of annonas from Costa Rica. Presented by Mr. Carlos Werckle, Museo Nacional, San Jose. Various Costa Rican species, one of which "stands the climate of the coast perfectly, and takes as splice graft on annona, guanavana and soncoya." (Werckle). For distribution later.

ANNONA CHERIMOLA. (Annonaceae.) 32298-301. Seeds of cherimoya from Costa Rica. Presented by Mr. Carlos Werckle, San Jose. Four varieties of cherimoya,one of very high quality and remarkable for the few seeds (only 8 in a good sized fruit). Another becomes greenish orange on the sunny side, which is very rare in this species. For distribution later.

ANNONA DIVERSIFOLIA. (Annonaceae.) 32163, 32282. Seeds of ilama from Acapulco, Mexico, presented by Mr. Marion Letcher, American consul, and from Salvador, presented by Don Rafael B. Castillo, director general of agriculture. For distribution later.

ANNONA MURICATA. (Annonaceae.) 32248, 32302. Seeds of the soursop from Camaguey, Cuba., Presented by Mr. Roberto L. Luaces. From wild and cultivated trees, respectively. For distribution later.

ASPARAGUS SPP. (Convallariaceae.) 32268-271. Seeds of asparagus from South Africa. A.officinalis and a native species, growing on Table Mountain, Cape Town, which is said to be better than any of the cultivated kinds. For distribution later.

ASPARAGUS OFFICINALIS. (Convallariaceae.) 32243. Seeds of asparagus from Chistunka Steppe, southwestern Siberia. "A vigorously growing wild asparagus, found here on a dry plain. Seems to be able to withstand more drought and adverse conditions than the ordinary forms of asparagus." (Meyer's introduction.) For distribution later.

ASTRAGALUS SPP. (Fabaceae.) 32184-186. Seeds of astragalus from near Chistunka, and near Sminogorsk, southwestern Siberia. Three species of possible value as forage crops in cool semi-arid regions. (Meyer's introductions.) For distribution later.

BERBERIS SIBIRICA. (Berberidaceae.) 32235. Seeds of a barberry from near Sminogorsk, southwestern Siberia. "A rare, low growing species of barberry, occurring on rocky mountain-slopes, facing north or northeast. Rarely seen over one foot in height. Berries hang solitary and are of

coral red color. Fit to adorn rockery work and as an ornamental ground cover on rocky places in the colder sections of the United States." (Meyer's introduction.) For distribution later.

BLIGHIA SAPIDA. (Sapindaceae.) 32351. Seeds of the akee tree from Jamaica. Presented by Mr. W. Harris, superintendent of public gardens, Kingston. "A fairly large spreading tree, native of West Tropical Africa, introduced and cultivated to some extent in the West Indies for its edible fruit. The latter is of the size and form of a small lemon or pear, about three inches in length, and bright red when ripe. The seeds, of which two to three are in a fruit, are jet black and of the size of marbles. The edible portion is the firm, cream-colored, fat-like substance(aril), developed in a succulent socket round the base of the seed. This is generally cooked, but may also be eaten raw, and is considered delicious when parboiled with salt, and stewed or fried with butter. The fruit, when ripe, splits open, and must then be piced, as on long exposure to the air the aril becomes discolored and unfit for food. Between the two lobes of aril there is a pink integument; this must be removed when preparing the aril for eating, as it is considered highly poisonous." (MacMillan, Handbook of tropical gardening.) For distribution later.

BOSWELLIA SP. (Balsameaceae.) 32019. Plants of the frankincense tree from the island of Socotra at the mouth of the Red Sea. Procured by Mr. Charles K. Moser, American consul, Aden, Arabia. Very interesting trees occurring in Socotra, Somaliland and southern Arabia, from which comes the gum used as incense in many Roman Catholic churches. Mr. Moser made a special trip to the island of Socotra at the request of this Office, which he was able to do through the invitation of the British resident at Aden to accompany him as a guest on a British government vessel on a special trip to the island. Suited for trial in the arid Southwest. For distribution later.

CASTANEA SPP. (Fagaceae.) 32323, 32365-366. Chestnuts from Kutien, Fuhkien, China, presented by Dr. T. H. Coole, and from Tientsin and Dong Ding Mountain, near Soochow, China, presented by Mr. Nathaniel Gist Gee. For distribution later.

CRATAEGUS SANGUINEA. (Malaceae.) 32233. Seeds of a haw from near Tomsk, Siberia. "An ornamental native Siberian haw, much used in Tomsk as a hedge plant. When left alone this haw develops into a tall shrub and becomes loaded in

fall with masses of orange red berries, which make these shrubs beautiful objects in an autumnal landscape. The berries are often collected by the Russian peasants, and after having been boiled with sugar, a passable 'haw butter' is made from them. To be tested in the cool and moist-aired regions of the United States." (Meyer's introduction.) For distribution later.

ECHIUM PININANA. (Boraginaceae.) 32263. Seeds from Palma, Canary Islands. Presented by Dr. George V. Perez, Puerto Orotava. "This is a most striking ornamental plant with a very tall single spike of light blue flowers; I believe the leaves will turn out to be an excellent forage, better than the prickly comfrey. Try it in southern California or Florida. These seeds are from a wild plant in Palma where it is native." (Perez.) For distribution later.

FICUS RIGO. (Urticaceae.) 32325. Seeds from Barodobo, Kapa Kapa, Papua. Presented by Mr. A. C. English. "A good rubber producing tree, hardy, and will grow well in our dry belt here. The rubber from this tree is on a par with Para rubber. I have not yet been able to get the seed to germinate. I started my plantation with plants of this species obtained from the scrubs growing as a parasite on other trees, the seed being carried by birds and animals, and after passing through the bowels, it then germinates in the forks of trees and in decomposed timber. It readily strikes from cuttings and it appears to be free of all diseases." (English.) For distribution later.

GARCINIA TINCTORIA. (Clusiaceae.) 32259. Seeds from Port Louis, Mauritius. Presented by Mr. G. Regnard. Introduced as a possible stock for the mangosteen. For distribution later.

GARCINIA VENULOSA. (Clusiaceae.) 32264. Seeds from the Limay Forest Station, Philippine Islands. Presented by Maj. George P. Ahern, Director of Forestry, Manila. Introduced like the preceding as a possible stock for the mangosteen. For distribution later.

HEDYSARUM SPP. (Fabaceae.) 32187-189, 32307. Seeds of four species from Siberia. Of possible value as forage plants or for breeding with the sulla(Hedysarum coronarium) one of the important forage plants of Spain, Malta and Tunis, now confined to much warmer climates than these species. (Meyer's introductions.) For distribution later.

LATHYRUS SPP. (Fabaceae.) 32190, 32192-193. Seeds of three species of wild peas from Tomsk, Siberia. For trial as forage crops in the cooler portions of the United States. (Meyer's introductions.) For distribution later.

MANGIFERA INDICA. (Anacardiaceae.) 32256. Cuttings of a mango from Chiloane Island, Portuguese East Africa. Presented by Mr. R. H. B. Dickinson, assistant director of agriculture, Beira. "Cuttings taken from a tree said to be 50 or 60 years old, growing near a small Mahommedan mosque. It bears large fruits which may be expected to ripen in January." (Dickinson.) This may possibly be the Lathrop mango described under Numbers 9486 and 9669, as it was secured in a situation similar to the reputed source of that fine variety. For distribution later.

NEOGLAZIOVIA CONCOLOR. (Bromeliaceae.) 32261. Plants of makimbira from Bahia, Brazil. Presented by Mr. Omar E. Mueller, American vice consul. For distribution later.

NEOGLAZIOVIA VARIEGATA. (Bromeliaceae.) 32260. Plants of the caroá from Bahia, Brazil. Presented by Mr. Omar E. Mueller, American vice consul. This species and the closely related preceding one occur throughout the arid districts along the Rio Sao Francisco, in a climate said to resemble that of our arid southwest. "Mr. Tennant Lee, who saw 2000 acres of these plants in a wild state, and who tested their fiber, says this is one of the finest fibers ever brought into the United States. Ropes made of it will stand salt water longer than manila hemp; it is 28 per cent stronger than manila, yields a larger per cent of fiber than the abaca, and the waste is suitable for paper making." (Fairchild.) For distribution later.

ONOBRYCHIS VULGARIS. (Fabaceae.) 32182-183. Seeds of the wild Siberian esparsette from Siberia. For trial as a forage plant in the semi-arid regions, where ordinary alfalfa gets winterkilled. (Meyer's introductions.) For distribution later.

PERSEA PITTIERI. (Lauraceae.) 32172. Seeds of an avocado from San Jose, Costa Rica. Presented by Mr. Carlos Wercklé. "A very early variety, but rather poor. Good quality, little flesh." (Wercklé.) For distribution later.

PHOENIX DACTYLIFERA. (Phoenicaceae.) 32327. Date seeds from Cairo, Egypt. Presented by Dr. Gustav Eisen, San Francisco, Calif. "'Zagloul.' The very best date that I have eaten anywhere. It is very large, in fact the largest date

I have seen. Medium dark brown, sweet and remarkably tender flesh. Said to come from Fayoum, but the dates bought in Cairo. Ripe in January and lasts fresh until April. Best in March or February. Said to be the best date in Egypt." (Eisen.) For distribution later.

PINUS SPP. (Pinaceae.) 32354-357. Pine seeds from Mexico. Presented by Dr. C. A. Purpus, Zacuapam, Huatusco, Vera Cruz. Four species, including P. pseudo-strobus, P. leiophylla and P. patula. For distribution later.

PRUNUS DOMESTICA. (Amygdalaceae.) 32328. Seeds of a plum from Naples, Italy. Presented by Dr. Gustav Eisen, San Francisco. "'Papagone.' The finest plum I have eaten in any country. Native of the campagna around Naples, especially Boscotrecase and other towns around Vesuvius. About three inches long, greenish yellow, oblong, with a remarkably long, thin and slender stone compared to the size of the fruit. The quality of this plum cannot be too highly praised. Have not seen it in California, nor in any other part of Europe." (Eisen.) For distribution later.

PRUNUS FRUTICOSA. (Amygdalaceae.) 32224-226. Seeds of the 'Kurgan cherry' from Omsk, Siberia. "The so-called 'Kurgan cherry' grown quite extensively throughout the Ural district and in Western Siberia as a home fruit. The dark red individual cherries are only as large as good sized red currants and are of sour flavor. They make, however, delicious compote and preserves, having a spicy, nutty flavor and they are in great demand. In Omsk they are sold during July and August at four to five roubles($2.06 to $2.58) per pood (36 pounds). These cherry bushes grow from two to four feet in height, bear glossy, dark green leaves and stand a remarkable amount of drought, cold and neglect. A well kept plantation is very pleasing to the eye and resembles a tea plantation more than anything else. This plant deserves to be given an extensive and thorough trial as a home fruit in the cold and semi-arid sections of the United States. It is recommended also as a factor in hybridization experiments to create a perfectly hardy, large-fruited cherry fit to thrive in the upper Mississippi valley and the regions west of it." (Meyer's introductions.) For distribution later. See halftone.

RIBES DIKUSCHA. (Grossulariaceae.) 32227-230. Seeds of a currant from Tomsk, Siberia. "A black currant native to the Aldan mountains in Yakutsk government, bearing large bluish black berries, of a rather sour flavor. They are fine for preserves and are also said to produce a sparkling wine,

resembling champagne. As the summer is remarkably short in Yakutsk government, and the winter's cold most intense, this currant may be expected to thrive in even the coldest sections of the United States." (Meyer's introductions.) For distr ibution later.

NOTES FROM FOREIGN CORRESPONDENTS.

Mr. Frank N. Meyer writes December 6, 1911, from Rostoff-on-Don, Russia, the following description of his visit to Mr. Woeikov, one of the most celebrated plant breeders in Russia:

"Mr. A. D. Woeikov is a man of about thirty-five, who although of a family which owns a large amount of land, is conducting a nursery. As he says, 'Dendrology is my hobby, but the nursery is my business'. He also conducts a modest school of horticulture for about twenty country lads, for which business he receives a governmental subsidy. He is especially interested in introducing all sorts of hardy trees and shrubs he can lay his hands on, while hardy fruits take the second place. He has a reading knowledge of German and English, but prefers French as a medium of conversation.

"His collections of trees and shrubs have been planted out on many spots, as he has been searching for the best all-around locality and he decided a few years ago to start a new plantation a few miles away from the old place, where he hopes things will do better. The climate in the Simbirsk Government is not congenial to trees. The summers are hot and dry, the winters quite cold, with little snow as a rule, while in spring they experience often very severe night frosts that kill off the young growth. Therefore the variety of trees and shrubs able to survive this climate is not a great one. On the hills one finds wild: Pinus sylvestris, Betula alba, Quercus pedunculata, Tilia parviflora, Ulmus pedunculata, Ulmus pumila, Amygdalus nana, Acer tataricum, Populus tremula, Crataegus sanguinea, Spiraea hypericifolia and a few minor things. On low places various species of willows occur, also Alnus glutinosa, Populus alba, P. nigra and some intermediate forms. On the whole it is not a very rich flora.

"As to cultivated plants, Mr. Woeikov's greatest specialty is apples, of which he has about fifty different varieties, not all, however, strictly successful. They are nearly all grafted on the Eastern Siberian variety of crab-apple, as this has the hardiest roots and withstands drouth the best; the growth, however, is slow and hybrids between Malus prunifolia and M. baccata supply really a better stock, but one cannot get them in sufficient quantity.

"Pears, as a rule, do not survive a severe winter, and therefore cannot be grown, unless stored in cellar every winter. Pyrus ussuriensis, however, is hardy, and Mr. Woeikov, still hopes to get hardy pears by hybridization and selection.

"Of plums about ten varieties are grown, but they are not all successes. They are grafted on the ordinary slough, Prunus spinosa, which occurs also wild here and there in the Simbirsk Province.

"Of cherries there are several varieties and hybrids, and strange to say, some English varieties like Kent, Queen Hortense, and Early Black are quite hardy there. Of all the things Mr. Woeikov has, his cherries are of the greatest value to us. There are forms of Prunus avium, P. cerasus, and P. chamaecerasus and hybrids between these three species and they are all exceptionally hardy. I saw hybrids between Wladimir cherry and P. chamaecerasus that looked of very great promise as fruit trees for the upper Mississippi valley regions. I spoke about the fact, that in Ames all the Wladimir cherries had been frozen back to the ground last winter, but Mr. Woeikov stated that the same thing happens every so many years here in Russia also and---that there are at least five distinct strains of Wladimir cherries which all differ in looks and degree of resistance to drouth and cold! One very hardy variety is cultivated near Nishni-Novgorod of which he also has a few plants; this variety is called 'Rostinia'.

"I also saw various species of wild Prunus like P. padus in a few varieties; P. glandulosa, P. maackii, P. pumila, P. japonica, P. pennsylvanica. The last looks like a stock for stone fruits, although some specimens sucker badly. Mr. Woeikov thought that hybrids between P. pennsylvanica and P. mahaleb would make ideal stock for cherries and plums.

"Of the Siberian cherry (Prunus chamaecerasus) I saw a block of old bushes, which were remarkable for their various habits. Some were 2-3 feet in height and of slender twigs, while others were 6-8 feet tall and of heavy wood. Mr. Woeikov stated that he had a few shrubs which he suspected were hybrids between P. chamaecerasus and plums! In case this is so, this Siberian cherry will be of still greater value to us in the Northern States, for endless crossings can be made then and practically all sorts of stone fruits created!

"I also was shown a hybrid between the ordinary peach and the steppe-almond(Amygdalus nana) made by a Mr. Midjurin, a nurseryman at Kozlov, Tambov Government, who wants to make a race of peaches fit to stand the uncongenial climate of the greater part of Russia. The plants were grafted on Prunus spinosa roots and they looked most remarkably like young

specimens of Amygdalus davidiana. The few twigs of herbarium material that Mr. Woeikov showed me afterwards seemed to show, however, a difference between the two, as flowers and small leaves were developed simultaneously, while A. davidiana developes leaves after the flowers have passed. We must wait a little while, however, before accepting this creation as a genuine hybrid.

"Looking over the ornamental trees I was struck with the fact that North America has more to offer to Russia in the line of hardy trees than Rusia to us. Some North American trees have become a feature of Russian parks and streets, like Robinia pseud-acacia, Fraxinus americana, but especially the box-elder, Acer negundo, which is one of the hardiest trees here in Russia and is seen in almost all parks in company with lilacs and Caragana arborescens.

"I noticed, however, at Mr. Woeikov's place, some specimens of Ulmus turkestanica, which came originally from Djarkent, at the Chinese Turkestan border, and which trees are apparently very drouth and cold resistant. Salix alba, in varieties, is of promise as an ornamental tree on slightly moist places in the upper Mississippi valley regions. Alnus glutinosa, well fit to border water courses in cold regions, loves a sandy soil.

"Populus trista from Kamchatka, a medium sized tree; very cold resistant. Populus wobsti with very large leaves, coming from Central Russia. Populus nigra, P. alba and P. tremula are hybridizing among one another at Mr. Woeikov's place, and the variation seen among the seedlings is most interesting. Some new types will evolve and we may expect, perhaps, forms of dense-growing habit, of which the so-called Berlin poplar(P. laurifolia x P. suaveolens) is an example.

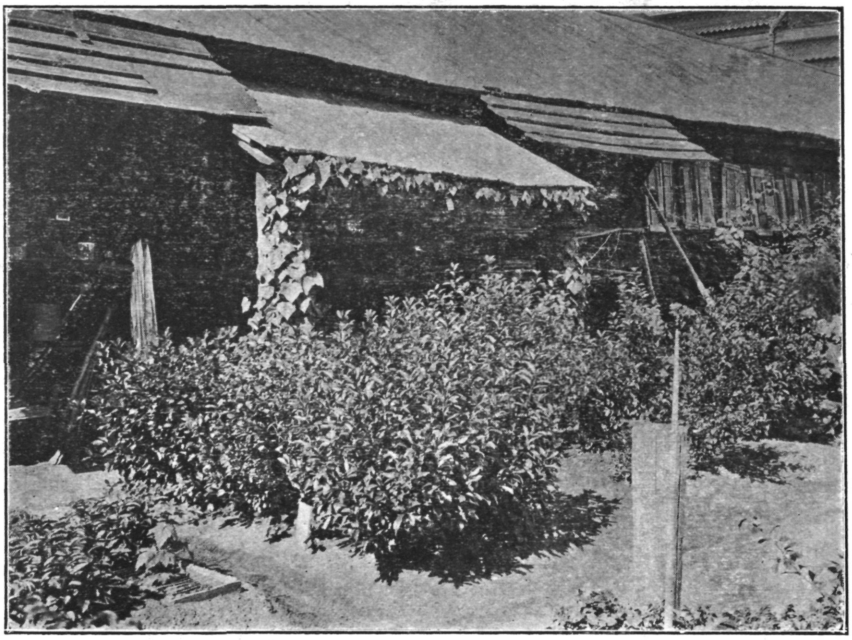
"In shrubs I saw very little that is new. Hippophae rhamnoides exists in a few distinct varieties, of which the ones from central Asia are the hardiest and quickest growing. Mr. Woeikov states that plants from elevated Central Asia seem to be especially hardy in Southern Russia, such plants having been used to long periods of dryness and heat and not coming quickly into leaf, after a few hot days in spring; plants from Manchuria, however, though perfectly hardy in the wood, suffered severely from the heavy night frosts in late spring and many things from the Eastern United States were hurt on the same account. These observations I consider of immense value to us, as it gives us a clue where to obtain our material for the western sections of the United States. The great pity is, that elevated Central Asia is so poor in promising plants. Still there are the mountains of Northern Kansu, which Mr. Woeikov considers an unexplored mine of new shrubs and trees. He stated there are the following

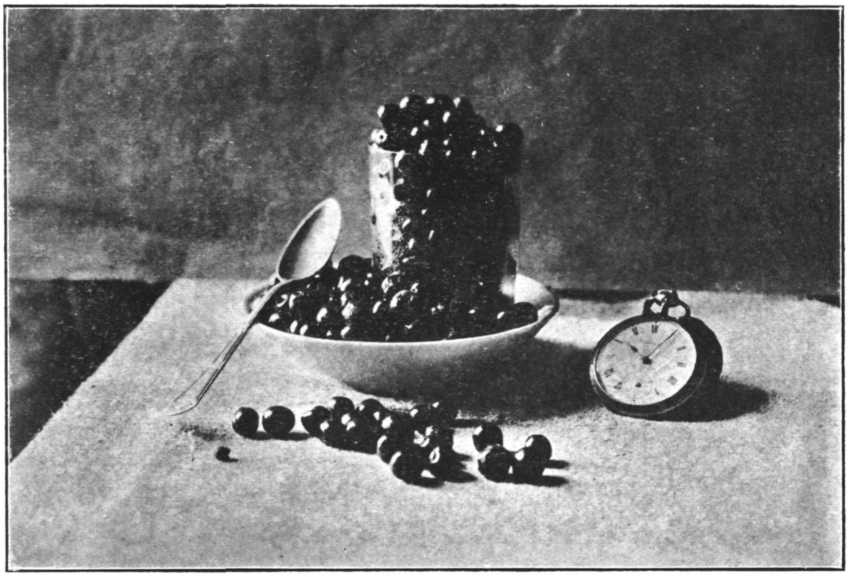
very promising plants there: Populus alashanica, Berberis diaphana, Ribes stenocarpa, Rubus in several species, Sorbus microphylla, Amygdalus stipulata, Hippophae in two species, one forming trees 30 feet in height, and probably a host of minor things.

"I also spoke about getting up to one hundred pounds of seeds of the genuine Larix sibirica and I obtained an address of a forester in Viatka Government to whom we have written already.

"While talking about hardy fruits fruits Mr. Woeikov remarked that the variety of apple called "Groosoffka" stands the Irkutsk climate; that in Armenia, between Kars and Erivan, there is a high elevated region, with hot summers and cold winters, an arid plain, intersected by ravines and that there are several promising varieties of fruits cultivated there which are hardy. That there are a few places in Samara Government near Razan, for instance, where big groves of wild apples occur. That there are groves of a wild apricot-like plum(Prunus or Armeniaca sibirica) in the mountains near Nertchensk and on a few other spots in northern Manchuria. He just had received a package of stones from a collector near Nertchensk; I wanted to buy half of them, but he was not willing to sell them; he would exchange with us and here are his propositions. He states that he is willing to be commissioned by us to collect anything we want within the Russian domains; that his expenses will be very moderate, for he himself is as much interested in seeing some of the wild plants grow as we are interested in getting them. That gis knowledge of Russian and Russian conditions and his acquaintance with the Russian flora make it almost sure that he gets the things he is after, especially all things in the dendrological line. That he likes to hear from you, what you think of this proposal. As a test I gave him an order for 500 lbs. of clean Medicago falcata seed, at the rate of 2 roubles per pound. Then he wants to exchange his cherry hybrids and varieties for seeds and budwood of the Compass cherry; Prunus americana and P. maritima; also improved sand cherries (Besseyi.)

"He also likes to get seeds of Celtis occidentalis, Gymnocladus canadensis, Juglans nigra, Pinus resinifera, and Juniperus scopulorum, all collected from the northern limits where these trees occur. He further is willing to make up lists and receive lists of exchangeable material. His address is: A. D. Woeikov, Sta. Novospasko, Sysran-Riazan R. R., Simbirsk Government, Russia."

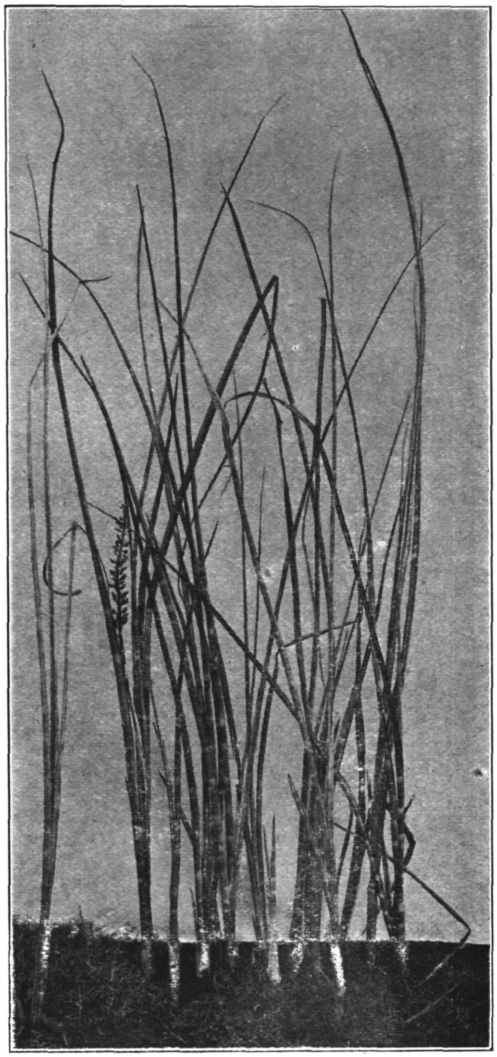




PRUNUS FRUTICOSA. SIBERIAN BUSH CHERRIES.

"Improved varieties of Siberian cherries, Prunus fruticosa, growing in the garden of Prof. N. F. Kastchenko in Tomsk.

Fruits of the Siberian bush cherry bought in Omsk , but said to have come from Kurgan. The fruits though small and of sour flavor make delicious compotes and preserves, having a spicy, nutty flavor all their own." From photographs taken by Mr. Frank N. Meyer, Omsk, Siberia, August 4, and Tomsk, Siberia, August 25, 1911.



NEOGLAZIOVIA VARIEGATA. CAROA.

This fiber plant of probable great commercial worth is described as having half round, light green, white banded, snakelike leaves. It belongs to the pineapple family, and produces an excellent fiber, and flourishes "regardless of droughts." It is said that in six months after being stripped of its fiber, it will produce a full sized crop, from 6 to 8 feet in length. The fiber for cordage and the wastage for paper making promise to compare very favorably with the other fibres used for these purposes. The illustration is used by the courtesy of the Pan American Union, in whose Bulletin for January 1910, appeared the first popular description, quoted above.

(Issued April 1, 1912.)