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WILLIAM TRICKER

Water-Lily Specialist

ARLINGTON
NEW JERSEY

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★ FEB 20 1923 ★

U.S. Department of Agriculture

Nelumbiums add beauty and novelty to the aquatic garden. (See page 23)

THE ARLINGTON TRIO

For pool or for tub culture, the "Arlington Trio" furnishes an extremely harmonious combination—one that is entirely out of the ordinary among the hardy *Nymphaea* group. The three varieties bloom at the same period and may well be called "The Three Graces" of the hardy *Nymphaeas*.

The *Marliacea* varieties are so charming, both in the habit of growth and in the color of the flowers, that I am sure many people will wish to have them in their aquatic gardens. Therefore that our customers and friends may become familiar with these varieties, as well as with Hardy *Nymphaeas* in general, I offer three plants in a collection for \$3. These varieties are suitable for pool or tub culture, and will prove extremely satisfactory in either instance.

Three plants—one white, one pink, and one yellow—for \$3.

APPRECIATE to the fullest the confidence and favor of the ever-increasing number of buyers of my specialty. To those receiving my catalogue for the first time, I hope to bring some measure of the joy that comes from an intimate association with all the growing things, and to share with them the pleasure that these plants bring to me.

The things that rest closest to one's heart are the things done best. I love my labors in this field, and feel more than compensated by the ever-increasing demand.

One of the many pools of Water-Lilies at Kew Gardens, England

To Help in Making Up Your Order for Plants

PRICES are quoted net. All goods travel at purchaser's risk and expense.

Shipping. All plants will be packed with the best of care to secure safe transit, but under no circumstances do I undertake responsibility for delay or damage to goods during transit.

Parcel Post. Small plants can be sent by parcel post, but delays occur very often. Beyond the 3d zone it is not only more satisfactory but even cheaper to send by express. **I do not prepay postage**, therefore please allow sufficient extra to pay postage; any money in excess will be returned.

I Guarantee my plants to be true to name, and in good condition when shipped; but I cannot be responsible for results. Unusual climatic conditions and disregard of planting instructions are entirely beyond my control.

Complaints, if any, as to quality of goods, etc., can be entertained only when made **immediately on receipt of goods**. I shall always be ready to advise in regard to planting water-gardens, and selections of varieties for certain purposes, and invite patrons to consult with me.

Place Order Early for spring delivery and prevent delay of shipment or planting.

Open Accounts. Financial references must be sent to open an account. No account opened on an initial order of less than \$10.

Substitutions. Sometimes—especially toward the end of the shipping season—I am unable to supply strong plants of some varieties. In such cases, unless otherwise instructed, I will substitute a variety as near like the one ordered as possible, of equal or greater value.

*This is our 1923 Catalogue; it cancels all other
previous price-lists*

WM. TRICKER : Arlington, New Jersey

Propagating houses at Arlington. The houses, with large pools in the open, form the largest establishment in America devoted exclusively to Water-Lilies

THE favor into which the culture of Water-Lilies and aquatic plants has quickly come indicates that heretofore few people have known the pleasure that comes with them. Into every garden they fit and very soon they become the center of the garden interest.

Everyone is familiar with our native "pond lily" but very few seem to know the wide range of color that the flowers now have—pink, red, yellow, blue, and all the intermediate shades. From all over the globe the native sorts have been gathered and the hybridists have produced many new and striking varieties.

The flowers of the Water-Lilies are so different from other flowers—they are in a class by themselves. No fragrance is like the odor of the Water-Lilies and they vary in form and habit. Some flowers open in the early morning; others only as the sun gets brighter; still others open in the twilight and remain open until the sun rises high in the heavens. One day a bud rises above the surface of the water; the next day it opens for the first time to delight one with its charming beauty; opening and closing for several days, it finally sinks below the surface of the water, its mission of gladness fulfilled.

Surely they are a captivating genus and one's fancy can always find new and added delight in them.

THIS IS THE EASY WAY TO GROW WATER-LILIES

The culture of Water-Lilies is so simple that it might almost be said that "they just grow themselves." Their modest requirements are *sun, water, and rich soil*. In deciding on a place for a natural water-garden, one is naturally led to select a low spot. A stream of water running through this or near it can easily be dammed or diverted so as to form a pond. The digging up and grading of the ground to be flooded is the first consideration.

Of course, it is not possible for everyone to have such a location, but almost everybody can have built or can themselves construct an artificial pool. In this event, any location that is available would be satisfactory, provided it is exposed to the full sun. The construction of an artificial pool is taken up on page 8 of this catalogue. These directions were written by an expert and anyone can follow them easily.

Rather than have no water-garden at all, the interested party can grow many of the varieties in tubs or half-barrels sunk in the ground. The selection of Lilies suitable for tub-culture is easily made, as the varieties suited for this purpose are indicated in the catalogue.

SOIL. The matter of getting the soil ready for the growing of aquatic plants is important. In preparing a piece of ground about to be flooded, it is well to dig into the soil a generous amount of thoroughly rotted manure, with the addition of a small amount of bone-meal. An excellent soil for use

in tubs or artificial pools is made by mixing three parts of rotted sod, compost, or good top-soil with one part of cow-manure. If impossible to secure cow-manure, good barnyard manure may be used. All manure used must be thoroughly decomposed, to prevent fermentation when covered with water. Ground bone or bone-meal may be used if necessary, at the rate of one quart to one bushel of soil.

SIZE OF POOL. The larger the water-surface the better the results. A tub or half-barrel 2 feet in diameter will furnish a miniature pool. An artificial pool should be made as large as possible, and 2 feet deep. Where clay is very abundant, it is quite possible to line an excavation with this in such a manner as to have it watertight. Make an artificial pool as natural as possible and avoid stern lines and too apparent masonry. A generous planting of moisture-loving plants around the edge of the pool or pond will furnish an added charm to the plants in the pool itself. Such plants as are suitable for this purpose are listed in this catalogue.

WATER. One foot of water over the soil is the most desirable depth in artificial pools. Some will thrive in shallower water, but few will stand a depth exceeding 2 or 3 feet. A continuous flow of water tends to keep the temperature in the pool low and must be avoided. After the pool is once filled it is only necessary to replenish that which evaporates. An occasional syringing in the afternoon will supply this and will benefit the plants.

HOW TO PLANT. To plant in natural ponds, where the water does not exceed 2 feet, it is only necessary to press the rhizome (the hard, fleshy part of the root) into the mud until the crown (the growing end) is just beneath the surface of the mud. If the root shows a tendency to float, a flat stone or brick may be employed as a weight to hold it down. To plant in a depth exceeding 2 feet, it is best to start the plants in baskets of good soil. Place these in shallow water and when the plants are rooted and making growth they may be sunk at the desired place.

In artificial pools that are not large, one foot of soil may be spread over the floor of the pool. For large pools there is no better plan than that of using boxes 2 to 3 feet square and 1 foot deep. By adopting this plan, it is quite possible at any time, even when the plants are in full growth, to move

This artificial pool is not large, yet it contains over twenty-five buds and flowers

Such a pool can be made by anyone, and will be a perpetual source of pleasure

the entire box of soil. All soil in artificial pools should be covered with a generous layer of sand to prevent anything rising from the soil to discolor the water.

For tub-culture, fill the tub two-thirds full of soil, cover with sand, and fill with water.

WHEN TO PLANT. Hardy Lilies begin to grow in the latitude of New York City about the end of April. At this time I begin to ship hardy stock to southern points and the Pacific Coast. As the season advances I ship according to weather conditions. Tender Lilies should not be planted out until warm, settled conditions are assured. This is usually about the end of May in the latitude of New York City.

Last spring the season was very much advanced but later many plants suffered by cool weather. Please do not become impatient. We will ship orders just as soon as weather conditions are suitable and in the order received. We acknowledge every order as received, giving it a number for your convenience and to help us in locating it should that be necessary.

HOW FAR APART TO PLANT. In small ponds allow from 3 to 5 feet each way. The idea of group planting in large ponds is most effective. Plant six or more plants of one variety in a group and let each group be 20 to 30 feet apart. The individual plants can be planted 18 to 24 inches apart. In this manner a very fine showing may be made. In tubs or half-barrels one plant is all that can be accommodated; the plant should be of moderate growth.

WINTER CARE. The one condition necessary for the safe wintering of hardy Lilies is to see that the roots are not actually frozen. This is provided in natural ponds by a sufficient depth of water. Artificial pools may be drained and then filled with leaves which will provide the necessary protection; or the pools may be covered with boards and a covering of manure

or leaves placed on top. Tubs may be treated the same way or removed to a root-cellar for the winter.

Tender Lilies had best be considered as annuals, for unless one has the proper facilities for caring for them under glass, it is useless to attempt keeping them. Young growing plants, purchased at the right time in the spring, give greater satisfaction and save much trouble.

GOLDFISH AND MOSQUITOS. Any fish in the pool are attractive and serve to destroy the wigglers that hatch into mosquitos and larvæ of other insects. One or two fish are all that would be needed in a tub, and a dozen would stock a 15-foot pool.

INSECT PESTS. The insects met with in the growing of aquatics are mostly the green and black aphids. These collect on the upper surface of the leaves or any part above the water, where the fish are unable to reach them. They may be kept down by using a strong force of clean water to wash them off into the water where the fish may devour them. A solution of Aphine, mixed according to directions on the container and applied in a very fine spray, will destroy them.

Muskrats are sometimes troublesome in natural ponds and should be exterminated by the use of steel traps.

GREEN SCUM. This often forms on the surface of the water in the spring, especially if fresh soil has been used or the soil disturbed. It does not last very long, especially after the Lilies begin to make strong growth. When really unsightly, this scum can be carried off by allowing the pool to overflow. It is safer not to attempt its destruction by the use of any chemical because of the very possible damage to the plants or fish.

REPLANTING HARDY LILIES. It will be necessary to provide new soil every second or third year for plants grown in boxes or tubs. Remove as much of the old soil as is possible without disturbing the roots and replenish the soil. After several years the plants should be divided and separated.

FERTILIZING. This can be accomplished by applying ground bone early in the spring directly to the boxes, when so planted, or by broadcasting it over the surface of the water. It is quickly taken up by the water and furnished to the roots of the plants.

PACKING. All goods are packed carefully, to assure safe arrival. One customer from the state of Washington wrote last season that "the plants arrived in perfect condition and it was almost impossible to believe that they had actually crossed the continent." Of such a record I am proud and will always do everything in my power to see that every customer is just as well pleased. We ship anywhere and do not hesitate to assure you that goods, unless delayed by some unusual circumstance or mishandled, will arrive in good condition.

ASSISTANCE in the selection of varieties or in making suggestions will be gladly given. I aim to be of real service to my patrons. In requesting information, always give as full a description of your conditions as possible in your first letter. It will save time.

I would be very glad to have submitted to me photographs of pools, ponds, or tubs that would be available for illustrations either in catalogue or advertising matter.

CONCRETE LILY-POL

A concrete Lily-pool will give perfect and permanent satisfaction. It is simple and inexpensive to construct and will always stay in perfect condition. The concrete pool is entirely suitable for growing Water-Lilies. On this page is given a plan for a pool 20 feet long, 10 feet wide, and 2 feet deep. From this plan and the description given below any competent concrete constructor can build it.

Excavate the necessary depth and thoroughly compact the earth by tamping until it is uniformly firm. Then erect the form as shown in the cut. The forms for the inside of the walls are hung from the cross braces. In this way the concrete for the entire pool can be poured at one operation and joints will be avoided. Just before placing the concrete, thoroughly drench the ground so that it will not absorb the water from the concrete. Place a layer of concrete 3 inches thick on the ground, and on top of this place the woven-wire reinforcing, cut to the right length, so that it will project up into the walls to within 2 inches of the top. Lap the edges of the reinforcing 6 inches and bind together with wire. Then place the other 3 inches of concrete for the bottom and fill the wall forms.

Use a concrete mixed in the proportion of one part of Portland cement, two parts of sand, and three parts of stone. Work it thoroughly into the forms so that it will be as dense as possible. Remove the forms as soon as the concrete has hardened sufficiently and finish the surface by rubbing with a brick made out of a clean mixture of concrete. Sprinkle the concrete once a day for ten days and at the end of three weeks it will be ready for use.

GROWING TENDER OR TROPICAL WATER-LILIES

The tender or tropical *Nymphæas* are all started in tanks in our green-houses. The young plants are started in pots and are turned out of these before packing. They make very rapid growth but should not be planted out until warm settled weather is assured. In our latitude (that of New York City) this is the latter part of May or early June. The plants soon begin to flower, leaves and flowers getting larger as the plant develops. The climax is reached in August. All the tender Lilies are free blooming and do their best during the hot weather.

This class of *Nymphæas* is best suited for artificial pools. A box of soil 2 feet square and 1 foot deep is none too much to provide for each plant. A surface space of at least 25 square feet should be allowed. For an unusual display, plant two plants in a 3-foot box and allow a little more surface space. The flowers of all the tender Lilies are produced on stout stems and are borne well out of the water. They are most desirable for cut-flowers, lasting from three to five days. The flowers close at night and open the following morning, except in case of the night-bloomers, which open in the evening and close the next morning.

The size of the bloom depends greatly on the room given to the plant, the amount of good soil, and the warmth of the summer. The quantity of flowers produced is really remarkable. I have had plants that produced over 100 flowers in a single season. I noted last summer on one plant seven open flowers in one day. These were of varying ages from newly opened flowers to those five days old. The list beginning on page 12 gives these tender, or tropical, day-blooming Water-Lilies.

This shows the form and vigor of our potted tender Lily plants

The main Lily pool and a portion of the greenhouses at the Shaw Botanical Gardens, St. Louis, Missouri

NOVELTIES TO BE INTRODUCED NEXT YEAR

It was my pleasure, last summer, to visit the Shaw gardens at St. Louis, Mo. For some years, Mr. Pring, the horticulturist, has been much interested in Water-Lilies and has produced excellent sorts by hybridizing some varieties of great merit. In 1920, by arrangement made with Mr. Moore, the director of the garden, I was able to offer to the public four of Mr. Pring's hybrids—Castaliiflora, Mrs. Whitaker, Wilson Gigantea and Stella Gurney.

Next season (1924), by a similar arrangement, I will be able to offer three more varieties—hybrids produced by Mr. Pring. One of these represents the greatest single step in the development of a new lily. I was delighted with this variety and am well pleased to have secured stock of it. The three new varieties of tender lilies will indeed be a splendid addition—one pink, one blue and one white.

WILLIAM TRICKER, Arlington, N. J.

Germantown, Ohio

Dear Sir:—The plants I received were in fine condition—never received plants from any place that were as carefully packed as those were.

Yours respectfully,

Mrs. JOSEPH GENSLER.

This is the pool Mr. Shaw refers to in his letter printed on this page. The center flower is the bloom mentioned

NOVELTY FOR 1923

August Koch

This variety originated in Garfield Park, Chicago, where Mr. Koch is chief florist. Its characteristics indicate that it is an offspring of *Nymphaea* Mrs. Wilson and Pennsylvania. Several years ago I introduced from Europe the variety *Daubeniana*—the first of the Viviparous group, that is varieties that reproduce on the surface of the leaves. Shortly afterward followed from Arlington two more varieties in the same group, Mrs. Wilson and Panama-Pacific. These are all varieties of sterling quality.

This new variety named after Mr. Koch is a decided addition to the group. The flowers are 7 to 8 inches across, and open four to five days. In color the sepals are purplish lilac and the petals pale wistaria violet (Ridgway Color Chart used in description). The foliage is strong and very attractive. Strong plants, \$5 each.

Toronto, Canada, October 19, 1922.

Dear Sir:—I may say that the success I have had seems to me to be marvelous, considering that one of the pink roots did not bloom at all. From the balance of five roots I have had between eighty and ninety blooms, and there are still a dozen buds above the water which I don't think will mature owing to the cold weather. I have had visitors from miles around to see them.

Yours truly,

H. A. SHAW.

P.S. The single bloom measured 9 inches in diameter.

Nymphaea Daubeniana will bloom summer and winter

STANDARD LIST OF TENDER NYMPHÆAS

Varieties in CAPITALS are the latest novelties

Capensis. The flowers of this variety are a rich sky-blue, 6 to 8 inches in diameter. The sepals (the outer part of the flower forming the bud) are green outside, whitish inside, flushed with pale blue. A free-flowering variety and very useful for cutting. \$1 each.

CASTALIIFLORA. This variety produces very large flowers of a charming pink color, 8 to 10 inches in diameter. The very fragrant flowers open early in the morning and remain open until evening. The leaves are light green, mottled with brown on top and flushed with pink underneath. \$2.50 each.

Cærulea. This is the ancient blue "lotus" of the Nile. The flowers are light cærulean blue, fading to nearly white at the base; stamens yellow, outside of the sepals marked with black lines and dots. Flowers 4 to 6 inches across, with pointed petals, and are produced in generous quantity. \$1 each.

Daubeniana. This variety is of European origin and is remarkable in that young plants spring from the upper surface of the leaves, over the point where the leaf joins the stem. These young plants begin to flower early and make an unusual display. I have seen plants that had been set out but eight weeks bearing large flowers from the center and surrounded by many leaves with young flowering plants upon them. On one specimen I counted 56 small flowers. The color of the flower is very light blue. The blooms are delicately scented; mature specimens frequently attain a size of 5 inches. Awarded a silver medal by the Newport Horticultural Society. \$1 each.

Mrs. Edwards Whitaker is the largest day-blooming sort

STANDARD LIST OF TENDER NYMPHÆAS, continued

Gracilis. This is the only white day-flowering tender *Nymphæa*. The leaves (often 15 to 17 inches across) are green in color and the flowers often attain a diameter of 8 inches. The stems are stout and bear the sweetly scented flowers well above the water. My strain of *Gracilis* is unusually good; awarded Certificate of Merit by the Society of American Florists at Houston, Texas. \$2 each.

Ernst Ludwig. This hybrid of the *Stellata* type produces enormous flowers of a violet-blue color. It is a very early and continuous bloomer. Being a very vigorous grower it should be allowed ample space. \$2.50 each.

Mrs. C. W. Ward. This splendid variety was produced from *N. gracilis*. It has the free-blooming characteristics of its parent, but produces a very much larger flower, deep rose-pink—almost red—in color. The stamens are yellow and the flowers rise well above the water. (Illustrated in color on back cover.) \$2 each.

MRS. EDWARDS WHITAKER. The largest flowering day-blooming hybrid, derived from the recently introduced *Ovalifolia* crossed with the many-petaled *Castaliiflora*. The enormous flowers are often 13 inches in diameter. They are produced on stout stems a foot above the water and open for the entire day. First the color is lavender-blue, lightening as the flower matures. \$3.50 each.

Bright yellow stamens and rich blue petals make Pennsylvania one of the most attractive varieties. See page 15

STANDARD LIST OF TENDER NYMPHÆAS, continued

Mrs. Woodrow Wilson. This is one of my hybrids from *Daubeniana* and bears the same leaf characteristics. This variety is, however, much stronger-growing than its parent and produces lavender-blue flowers of much greater size. The stamens are yellow, tipped with the color of the petals. \$2 each.

Ovalifolia. This variety of African origin produces flowers of the largest size. Upon opening the first day the flowers are very pale, almost white, but as they mature, a shade of blue suffuses it. It is very free-blooming and the flowers are sweetly scented. \$5 each.

Panama-Pacific was produced in Arlington quite recently. It is everblooming, viviparous, strong-growing, and free-flowering. The buds, as they come out of the water, are bronzy green spotted with a reddish brown, opening rich, rosy red, which is quite pronounced in the full sun. When fully opened, the predominant color is reddish purple and the stamens are yellow. This is a new and distinct color in Water-Lilies. An excellent variety for the conservatory in winter. \$2.50 each.

Radically different from the other form, *Nymphaea zanzibariensis rosea* should be grown in every large pool. See page 16

STANDARD LIST OF TENDER NYMPHÆAS, continued

Pennsylvania. This is, in reality, simply an improvement on *Pulcherrima*, next listed, but while possessing all the good points of this excellent variety, it surpasses it in size of flowers, which are also a deeper and richer blue. (See illustration, page 14.) \$2.50 each.

Pulcherrima. Of all the standard varieties, this is probably the most beautiful of the hybrid tender *Nymphaeas*. Its flowers measure 10 to 12 inches in diameter and are of a delightful light blue color. The yellow stamens form a pleasing contrast to the petals. The sepals are marked on the outside with black lines and dots, and the leaves are spotted on the under side. A very free and continuous flowering variety. \$2 each.

STELLA GURNEY. A spontaneous seedling, raised in Tower Grove Park, St. Louis. The parentage, recently proved by Pring, determines it a seedling from Mrs. C. W. Ward. It is a strong, free-blooming variety. Flowers many, light rose-pink. Leaves light green, bearing extremely long petioles. \$3.50 each.

STANDARD LIST OF TENDER NYMPHÆAS, continued

William Becker. An improvement on the variety, William Stone, with which it is identical, except the flowers are more violet-purple. \$2.50 each.

WILSON GIGANTEA. This is a hybrid from our own Mrs. Woodrow Wilson crossed with Castaliiflora and bears many of its characteristics. The variety that Mr. Pring has produced is however a much stronger grower and bears larger flowers. These are 7 to 8 inches across and rise a foot above the water. The color is dark lavender-blue. \$3.50 each

William Stone. This variety was produced from Gracilis. The purple flowers attain a diameter of 5 to 7 inches and have purple stamens and a yellow center. They open early in the morning and do not close until late in the afternoon. They are carried well above the water. \$2 each.

Zanzibariensis. The superb Water-Lily from Africa. The color is of the deepest purple. Flowers measure 6 to 8 inches in diameter, are strongly fragrant and produced very freely. \$1.50 each.

Zanzibariensis azurea. A seedling variation from the above. The flowers open wider and are blue in color. \$1 each.

Zanzibariensis rosea. Another seedling variation from the type. The flowers are various shades of rose-pink; leaves pink on the under side. \$1 each.

Frequently the blooms of *Dentata magnifica* are over a foot across

Omarana produces extremely large blooms. Not suited to tub culture, but excellent for pools. See page 18

NIGHT-BLOOMERS

These *Nymphaeas* are different from the day-blooming sorts in that the flowers open early in the evening, remaining open all night and until the sun gets very bright in the morning. For evening or night decoration they are unsurpassed.

Bisseti. A night-bloomer of unusually free-blooming habit. The flowers are of a beautiful rose-pink color, 8 to 10 inches across; the petals are broad and slightly concave, giving the bloom a cup-shaped form. \$2 each.

Dentata. The flowers are of the purest white, 8 to 10 inches in diameter, and are produced very freely. The petals open out horizontally. \$1 each.

Dentata magnifica. The very wide, slightly concave petals of this variety give the appearance, when open, of a cup. In color the flowers are creamy white and they often attain a diameter of 12 inches; the stamens are pure yellow. (See illustration on page 16.) \$2.50 each.

NIGHT-BLOOMING NYMPHÆAS, continued

Dentata superba. This is a seedling from *N. dentata*, with flowers 8 to 12 inches across. The petals are very wide, pure white in color, and open flat. The stamens are yellow, and the variety is very free-blooming and most desirable. \$3 each.

Devoniensis. The bright rosy red flowers are 8 to 10 inches across, and are borne on stout stems, well out of the water. The plant blooms most freely and is one of the most desirable of the night-bloomers. \$1 each.

Deaniana. A strong and vigorous plant, with bronzy green leaves crumpled at the margin. The flowers are pure, light pink; sepals deep rose-pink and stamens red. \$1.50 each.

Frank Trelease. A superb variety. The rich crimson flowers are 8 to 10 inches in diameter, and the stamens are mahogany-red. The leaves are very attractive, being dark bronzy red. A most desirable variety. (Shown upon the third cover in its natural colors.) \$1.50 each.

George Huster. A free-growing and free-blooming variety. Flowers 10 to 12 inches across, and of a crimson color. A desirable acquisition to the list of night-blooming Nymphæas. \$2 each.

Jubilee. The flowers of this variety are of great substance, creamy white flushed with pink at the base of the petals. An excellent variety. \$1.50 each.

Kewensis. Very pale pink flowers; moderate grower, but free-flowering \$1.50 each.

Omarana. A very vigorous and strong-growing variety, producing flowers of the greatest size. The color is reddish pink with almost white stripes in the center of the petals. An illustration of this variety may be seen on page 17. \$1.50 each.

Rubra rosea. The oldest and best red night-bloomer in cultivation. The flowers are rosy carmine in color and attain a size of 8 to 10 inches. The plants grow very freely and produce many flowers which are always a delight to flower-lovers. \$1 each.

Sturtevant. An exceedingly beautiful flower, 8 to 12 inches across; bright red. One of the very best Nymphæas, but requires liberal treatment and a hot summer to bring it to perfection. \$2 each.

CULTURAL NOTES FOR HARDY NYMPHÆAS

The hardy Lilies or Nymphæas are best adapted for natural ponds, where the roots may be planted directly in the mud at the bottom. They may also be used to advantage in large artificial pools, and certain of the moderate-growing varieties are suited for small pools and tubs.

The matter of planting and spacing is taken up in the general cultural notes in the fore part of this catalogue. In placing in natural ponds, avoid planting too near springs or any cold inlet. One should bear in mind in regard to hardy Lilies that they are hardy as long as the roots are not actually frozen or disturbed by the ice. A sufficient depth of water will afford all the protection needed.

Even though you have never attempted to grow Water-Lilies you need have no fears about undertaking their culture. No special skill is required—just see that they have plenty of water and sun. The demand for hardy Lilies for the past few years has been so great that stock of some varieties was depleted and had to be taken from the list. This season several are again offered although in limited quantity.

Nymphaea, Attraction. See page 19

FRENCH INTRODUCTIONS FOR 1924

A recent act of the Federal Horticultural Board restricted the importation of stock from Europe, except under special permit, and then only in limited quantity for propagating purposes. I was fortunate in securing such a permit to import some novelties from France in hardy Lilies. If these varieties are of value they will be offered in our 1924 catalogue. From the French descriptions they should be flowers of exceeding beauty and a valuable addition to the list of hardy Nymphæas.

CHOICE HARDY
NYMPHÆAS

The choicest American and European hybrids are included in this collection. In the unique colors, exquisite tints, magnificence of form and substance of the flowers, they are not surpassed by any collection of Nymphæas. The prices at which the different varieties are offered will permit the owner of even the smallest garden to gratify his desires for a few of these splendid plants.

Andreana. Flowers beautiful red and yellow; distinct and desirable variety. Can be grown in a tub. \$1.50 each.

ATTRACTION. This wonderful French introduction is one of the finest hardy Lilies ever produced. The flowers often measure 8 inches across and are produced very freely. Upon opening, the color of the petals is garnet-red and the sepals almost white; stamens yellow, lightly touched with mahogany. As the flowers mature the color deepens until it becomes a pronounced dark red and the sepals are streaked with garnet. A most worthy and valuable addition to any collection. (See illustration, page 18.) \$12.50 each.

ESCARBOUCLE. A most attractive and meritorious variety. The flowers are most striking in color, being a uniform vermillion-red. A free bloomer and a strong grower. Sure to become popular. \$12.50 each.

Eugenia de Land. This grand variety belongs to the *N. odorata* group, and is unequalled by any other of the same genus. Flowers extra large, of true *N. odorata* type, floating, petals long and lanceolate; color an exquisite shade of deep rose-pink of iridescent hues, with yellow stamens. Vigorous and free-flowering plants. Awarded Silver Medal by the Newport Horticultural Society. \$1.50 each.

FORMOSA. A large-flowering, clear pink Lily, with petals broad and incurving. \$7.50 each.

Helen Fowler. A natural cross of the *N. tuberosa* type; strong and of vigorous growth; flowers are borne on stout stems, making it useful for cut purposes; deep pink and very fragrant. Certificated by the Horticultural Society of New York. \$1 each.

Paul Hariot

CHOICE HARDY NYMPHÆAS, continued

Gloriosa. A superb variety, with flowers 4 to 6 inches across, of deep carmine-rose. A free, continuous bloomer and a desirable Lily for general use in tubs or ponds. \$5 each.

James Brydon. A superb variety, being a free grower with rosy crimson flowers, 4 to 5 inches in diameter. \$3.50 each.

LOOSE. A beautiful, large, white Lily, 5 to 7 inches across, with a delightful fragrance. Especially desirable because of its freedom and continuance of blooming. The flowers open very early in the day. One of the best of the white Nymphæas. \$1.50 each.

Marliacea rubra punctata. Flowers deep rosy purple, spotted carmine; stamens orange-red. A choice variety; free, continuous bloomer. \$3.50 each.

Paul Hariot. A grand and magnificent variety, producing flowers of large size, distinctive in color, firm in texture, and lasting in quality. Upon opening the first day, the flowers are clear canary-yellow, the second day they are shaded with pink at the base of the petals, and on the third day this pink suffuses the whole flower. This variety is very free flowering, grows well under varied conditions, and has met with favor wherever seen. Awarded Society of American Florists' Certificate of Merit. See illustration, page 19. Price \$5 each.

PINK OPAL. While this novelty is not of exceptional size, it has some other unusual points. The color is an exceptionally deep pink, and the bud is of a peculiar rounded form, the petals being very short and of unusual substance. The outstanding merit is its lasting qualities as a cut-flower. \$2 ea.

ROSE AREY. A wonderful variety of the Odorata type, very free-flowering, and strong growing. The flowers are very large (last year we had flowers 8 inches across), and are sweetly scented. The color is clear cerise-pink and does not lighten toward the center of the flower. Awarded a Silver Medal by the New York Horticultural Society. \$2.50 each.

Robinsoni. Large, floating flowers of dark orange-red. A free bloomer and should be in every collection. \$4 each.

SIoux. Large flowers of rich, brassy yellow, shaded red as the flower grows older; petals lanceolate; stamens deep yellow; bronzy green foliage, spotted reddish brown. French novelty. Illustrated. \$3 each.

VESUVE. The flowers are of an amaranth-rose, extra large, free-blooming and constant. One of the very best dark-colored, hardy Nymphæas. \$5 each.

William Falconer. One of the finest of the dark red hardy Water-Lilies. The color is a warm, brilliant red set off by the bright yellow of the stamens. The flowers are 5 to 6 inches in diameter, and, when the plant is well established, produced very freely. \$5 each.

Nymphaea, Sioux

Marliacea carnea produces flesh-pink blooms continuously throughout the season

GENERAL LIST OF HARDY NYMPHÆAS

Alba candidissima. A vigorous and desirable variety. Flowers good-sized and pure white. An early and free bloomer. \$1 each.

Gladstoniana. Flowers dazzling white, 6 to 8 inches across; petals concave and broad. A free and continuous bloomer and one of

the finest white Lilies in cultivation. Strong grower, and should be allowed plenty of room. \$1.50 each.

Laydekeri lilacea. Flowers 3 to 5 inches across, rosy lilac, shaded bright carmine, with a tea-rose fragrance. Very desirable for tub culture. \$2.50 each.

Laydekeri purpurea. A free-blooming variety; flowers medium-sized, rosy crimson, with reddish orange stamens. Does well in tubs. \$2 each.

Marliacea albida. A vigorous variety; flowers large, of sparkling whiteness; stamens light yellow, sepals flushed pink; fragrant and produced freely and continuously through the season. Desirable and handsome. 75 cts. each.

Marliacea carnea. Similar to the preceding save in color, which is of a soft flesh-pink, deepening toward base of petals. (Illustrated.) \$1 each.

Marliacea chromatella. A free and vigorous grower; flowers 4 to 6 inches across, bright canary-yellow, stamens deep yellow; leaves deep green, beautifully blotched with brown. \$2 each.

Marliacea rosea. Resembles *N. Marliacea carnea* in habit and growth; flowers large, deep rose color; young leaves purplish red, changing to deep green. One of the best for cutting. \$2 each.

SPECIAL OFFER. In order that our customers might become familiar with the hardy Lilies, I offer three plants of *Marliacea* varieties in three colors for \$3. These varieties are suitable for pool or tub culture. They are illustrated on second cover page of this catalogue under the title of the "Arlington Trio."

Three plants—one white, one pink and one yellow, for \$3

GENERAL LIST OF HARDY NYMPHÆAS, continued

Odorata. The fragrant Pond-Lily of the northeastern United States; flowers white, 3 to 5 inches in diameter, stamens yellow; leaves dark green above, under surface deep red to reddish green; splendidly adapted for planting in quantity in natural ponds. 35 cts. each, \$3.50 per doz.

Odorata gigantea. A native variety of the southeastern states. Both the leaves and flowers are very much larger than the native Pond-Lily of the North, and this variety requires deeper water and more room to spread than any other sort. It is excellent for naturalizing. The leaves are light red underneath and the flowers are very large and pure white in color. A very effective variety to use for bold contrasts. 50 cts. each, \$5 per doz.

Odorata, W. B. Shaw. Flowers large, of rich rose-pink and very fragrant. A strong grower and continuous bloomer. \$1 each.

Odorata sulphurea. Flowers fragrant; 4 to 5 inches across; sulphur-yellow, standing well above the water. A desirable and unique variety. \$1 each.

Pygmæa Helvola. A yellow *N. pygmæa*, a very dainty Lily and extremely free-flowering. Very satisfactory for tub culture. \$1 each.

Tuberosa rosea. Flowers of an exquisite shade of pink, 4 to 5 inches across, standing well out of the water. \$1 each.

Tuberosa Richardsonii. Flowers white, 6 to 8 inches across, forming with its numerous petals a perfect globe when fully open. \$1 each.

William Doogue. A magnificent Lily. Flowers cup-shaped, 5 to 6 inches across, of beautiful shell-pink; deliciously fragrant. \$2.50 each.

North or south, east or west, Water-Lilies are always alluring in their beauty and fragrance. Mr. D. B. Fischer, New Orleans, La., is the proud possessor of this charming garden.

NELUMBIUMS

Perhaps the most strikingly beautiful plant in all the

Nelumbium speciosum is almost as interesting for its associations as for its beauty

aquatic realm is the Lotus, or *Nelumbium*. In all stages of growth the plant has an artistic appeal. The great concave leaves, often over 2 feet in diameter, like wonderful green shields borne on stout stems high above the water, are beautiful enough to win general admiration even without their "thousand-petaled flowers." Then too, the brown seed-pods, remaining after the flowers have blown, are so decorative that none can pass them by without observing them.

A symbol of evolution, it springs from the mud, lifting its golden-hearted blossom high over the water

that it may open pure and spotless to the sun. Held sacred by the Buddhist, it is to him emblematical of the soul of man, resting always in calm above the surging activities of the world; existing in the sunlight pure and undefiled; rooted in a world of experience.

Its personal beauty is appealing in leaf, bud, and opened flower, its poetic charm in its poise above the water, its perfume, and its symbolic appeal of religious thought. One may readily slip into the past when brought face to face with the open flower. He can in fancy see the kings and queens, the courts and courtiers of ancient Egypt; the priests and devotees of the temples, the scholars and poets of that long-ago time; a great company who paid homage, who worshipped, and who sang of this royal plant—the Lotus. The spell of the Nile still hovers around the blooms, even while their glory adds to the charm of our twentieth century gardens.

They are of easy culture, these *Nelumbiums*, but as they are rampant growers and heavy feeders they must be supplied with a very rich soil. They are transplanted in tuber form but must not be removed until favorable weather conditions prevail—usually during the month of May. The tubers can only be supplied during a period of about six weeks for after that period they have usually advanced too far in growth for safe shipping. After that time pot-grown plants are available. They are produced by potting up tubers as soon as dug and placing them in warm tanks in the greenhouse.

Nelumbiums may be grown in half-barrels, in artificial pools, or in natural ponds. The tubers are hardy as long as they are protected from actual freezing, and are undisturbed in their natural winter quarters. For naturalizing in ponds, there is no variety better than *Speciosum*. The flowers, deep rose in color, rise like mystic flames from the dark water. Later, when the blooms open in the heat of the sun, the creamy tints about the bases of the inner petals render them even more beautiful. *Album grandiflorum*, white, is also very fine for naturalizing, and our native Lotus, *Luteum*, with its yellow bud rising above the water like a full moon, is superb.

Truly this is a wonderful genus of plants and worthy of every effort of culti-

NELUMBIUMS, continued

vation to invite the inspiration that has served to elevate the minds of men for thousands of years.

Album grandiflorum. Flowers pure white, large, beautiful and fragrant. \$2.50 each.

Kermesinum. A delicate rose-pink; early. \$2 each.

Kinshiren. White, shaded rose-pink; early-flowering. Useful for tub-culture. \$2.50 each.

Nelumbium Shiroman

Roseum. Deep rose-pink; beautiful globular flowers. \$2 each.

SHIROMAN. This superb variety surpasses all other Nelumbiums in stateliness and size. Flowers pure white, large, and very double. The plant is a vigorous grower, free flowering, and can be grown without difficulty under ordinary conditions. \$5 each.

Speciosum (Egyptian Lotus). Exquisite flowers of a beautiful rose-color; vigorous and free-flowering. (See illustration, page 23.) \$1.50 each.

Luteum. The American Lotus, or Water Chinquapin. This is a native variety indigenous to the southern and western states, but grows well in our eastern states. Flowers are creamy yellow. \$1.50 ea.

Osiris. A beautiful globular flower; deep rose. Blooms are produced in large numbers early in the season. \$2.50 ea.

Pekinensis rubrum. Flowers brilliant rosy carmine, 10 to 12 inches across. Plants, vigorous and free. \$3.50 each.

Pekinensis rubrum plenum. This splendid Nelumbium is identical in color with the variety listed above, but the flowers are very double, resembling a giant peony. Double-flowering Nelumbiums are very scarce. \$5 each.

POT PLANTS OF NELUMBIUMS

After the middle of June tubers of Nelumbiums cannot be supplied. I usually have at that time some pot-grown plants. These are tubers that have been potted early and started into growth indoors in our heated tanks. \$1 more than listed price will be charged for such plants. Thus a pot-grown plant of *Nelumbium album grandiflorum* will cost \$3.50.

For your aquarium you should have growing plants to keep the fish happy. I can supply plants for this purpose in almost unlimited quantity. They are listed on pages 34 and 35.

A BOOK OF NOVELTIES FOR THE LILY-POOL

Lily-pools make splendid aquariums; goldfish and other native fishes make themselves completely at home. Every question that arises in connection with aquarium life is fully answered in "Goldfish Varieties and Tropical Aquarium Fishes," by Wm. T. Innes, former president of the Philadelphia Aquarium Society. 250 pages, 195 illustrations. Price, \$4.

Victoria Trickeri grown under glass in pool with tender *Nymphæas* and tropical plants around the edge. *Victoria* can be grown outdoors during the warm summer months

VICTORIA

Victoria Lilies require much space to develop their monstrous leaves, which are often 5 feet across, with rims upturned 5 to 7 inches. *V. regia* requires a high temperature for development, otherwise the season may close without a flower being seen. *V. Trickeri* succeeds well under the ordinary treatment for tender *Nymphæas*, but should not be planted out, or shipment made, before warm, settled weather is assured, usually about the middle of June.

Victoria regia (Royal Water-Lily). The well-known species. Plants, \$7.50 and \$10 each.

Victoria Trickeri. This species is of vigorous and rapid growth, and produces its marvelous flowers at an early stage. A single plant often has from ten to fifteen well-developed leaves and frequently two flowers open at the same time. The flowers are white when first open, changing to deep rose the second day, and have a strong fragrance not unlike a ripe pineapple. The flowers open at night. Plants, \$7.50 and \$10 each.

MISCELLANEOUS AQUATICS

The ground around the pool or pond and the edge of the pond where the water is quite shallow is an ideal place to grow many of the subaquatic plants that are so attractive. The plants named in the following list will thrive in water from 2 to 6 inches deep. In artificial pools it is well to plant in large pots or tubs which should be so arranged in the pool that the required depth of water is obtained. In this way one is able to hide a great deal of unsightly masonry.

ACORUS japonicus variegatus (Variegated Sweet Flag). One of the finest variegated plants in cultivation. 50 cts. for 2, \$2.50 per doz.

A. gramineus variegatus. A dwarf-growing variety; very pretty variegation; useful also as a pot-plant. 50 cts. for 2.

A dense growth of aquatic plants about the edges will serve to frame the Lilies in the pool

MISCELLANEOUS AQUATICS, continued

CALLA palustris (Water Arum). A dwarf perennial aquatic. A miniature Calla, an interesting plant for the margin of a pond. 50 cts. for 3.

C. Richardia (Calla Lily). One of the best water plants for summer use. Perpetual flowering; fine white flowers. Flowering plants, \$1 each.

CERATOPTERIS (Water Fern). A unique floating plant. 50 cts. for 3.

COLOCASIA multiflora (Japanese Water Taro). A very unique foliage plant. The leaves are rich green, on dark purple stems. Can be grown as a house plant from tubers, using same cultural directions as for Chinese Sacred Lily (gravel and water in a shallow dish). As a marginal plant for the pool, it is very ornamental, as it will grow to a height of 4 or 5 feet. 50 cts. each.

CRINUM americanum. A native plant of the Florida swamps. It produces its flowers in umbels of six or eight large, white and very fragrant blooms. Grows in any kind of soil, but must be kept wet. 35 cts. each.

CYPERUS adenophorus. A variety coming from Brazil. It grows about 2 feet high and sends up a stout flower-stem. The flowers, greenish white in color, are produced in umbels and are quite interesting. Thrives well either as pot-plant or as a marginal plant. 25 cts. each, \$2.50 per doz.

C. alternifolius (Umbrella Palm). A very attractive plant for growing in small pools or in moist ground. 25 cts. each.

C. alternifolius variegatus. A white-variegated form of the preceding variety; very distinct and attractive. 50 cts. and \$1 each.

C. gracilis. A dwarf-growing variety; very useful for aquariums or small tubs. 75 cts. for 3.

Cyperus Papyrus (Egyptian Paper Plant). A very ornamental plant for the waterside. The triangular stems attain a height of 6 to 8 feet, surmounted with a tuft of long, thread-like leaves. 35 cts. and 50 cts. each.

EICHHORNIA crassipes major (Water Hyacinth). An interesting floating plant, with dark, lustrous leaves and delicate, rosy lilac flowers on large spikes. 50 cts. for 3, \$1.50 per doz.

E. azurea. Flowers of a lovely shade of lavender-blue, with a rich purple center; petals delicately fringed. 50 cts. each.

MISCELLANEOUS AQUATICS, continued

GLYCERIA spectabilis fol. var. A hardy perennial grass, desirable for low ground and margins of ponds; 3 to 4 feet; leaflets striped green. 50 cts. each.

HEDYCHUM coronarium (Butterfly Lily). A tender subaquatic plant which forms in moist ground, a dense clump 3 to 6 feet high. The masses of pure white fragrant flowers look like large white butterflies. \$1 for 3.

H. gardnerianum. A native of India, and while similar to the preceding variety, is considered the best of the genus and very desirable. In habit it is tall-growing and the light yellow flowers are followed by bright red berries. Quite a desirable semi-aquatic plant. 50 cts. each.

JUSSIEA longifolia. A very attractive and desirable aquatic, growing 2 to 3 feet high, erect, slightly drooping at the points, and producing numerous axillary flowers of a rich golden yellow, like an evening primrose. A good plant for tubs or planting on the edge of a pond. \$1 for 3, \$3.50 per doz.

LIMNANTHEMUM indicum (Water Snowflake). A pretty, lily-like plant, producing masses of dainty snow-white flowers, beautifully fringed. 35c. each.

L. nymphaeoides. A hardy aquatic plant, with nymphæa-like leaves and bright yellow flowers, produced very freely. \$1 per doz.

LIMNOCHARIS Humboldtii (Water Poppy). A very pretty aquatic plant, with floating leaves and large, yellow poppy-like flowers; continuous bloomer. 50 cts. for 3, \$1.50 per doz.

L. Plumieri. An erect-growing plant, standing 1 to 2 feet out of the water, with elliptical leaves 4 to 6 inches long, of a velvety green. Flowers straw-color. 35 cts. each.

MARSELLIA Drummondii. A very pretty subaquatic plant with foliage resembling a four-leaved clover. Grows very quickly. 50 cts. each.

Eichhornia (Water Hyacinths)

MISCELLANEOUS AQUATICS, continued

MENYANTHES trifoliata (Buckbean). A perennial aquatic with creeping rootstocks in shallow water. Its fragrant white flowers are borne on stout stalks, fringed and suffused with pink. 50 cts. for 3, \$1.50 per doz.

MYRIOPHYLLUM proserpinacoides (Parrot's Feather). An aquatic plant having long, trailing stems, covered closely with whorls of most delicate foliage. Planted in a tub or water-tight hanging-basket, it will quickly grow over the edges and becomes a beautiful sight. 50 cts. for 3, \$1.50 per doz.

PISTIA Stratiotes (Water Lettuce). A floating aquatic. The leaves, which radiate from a common center, are soft and velvety; very pretty, and a rapid grower. 35 cts. each, \$2.50 per doz.

PONTERDERIA cordata (Pickerel Weed). A free-flowering plant, growing about 2 feet high and producing spikes of closely set, blue flowers. 25 cts. each, \$2 per doz.

SAGITTARIA montevidensis (Giant Arrowhead). Attains gigantic proportions, growing 4 to 5 feet high, leaves 15 inches long; flower-scape towers above the foliage, bearing white flowers, with dark blotch at base of each petal; suitable for margins or tub cultivation. 35 cts. each, \$1 for 3.

S. japonica fl.-pl. The double-flowering Arrowhead; very desirable for planting in tubs or on margins of ponds and streams. 50 cts. each, \$5 per doz.

S. sinensis (Giant Sagittaria). Leaves broad and strong, dark green; a free grower. Suitable for aquarium. 50 cts. for 3, \$1.50 per doz.

SALVINIA braziliensis A dainty floating plant. Leaves soft green, covered with delicate hairs. Suitable for aquarium. 25 cts. a bunch.

THALIA dealbata. A fine and stately aquatic, with canna-like leaves, to be grown in shallow water or wet soil. Hardy. 50 cts. each.

TRAPA natans (Water Chestnut). A hardy annual and very desirable for the aquarium, pool, pond, or tub culture. Foliage beautifully mottled or variegated; flowers white, small in proportion to the fruit or nuts which, when ripe, drop off and remain in the water until the following spring. \$2 per doz.

TYPHA latifolia. The well-known Cat-tail; very desirable. \$1 per doz.

ZIZANIA aquatica (Wild Rice). This native aquatic annual is very ornamental; its graceful panicles of bloom are produced on stalks 5 to 10 feet high; should be grown in shallow water. \$1 per doz.

Water Poppies (*Limncharis*) are excellent for edging pools

Beautiful, yes! But in a year or two the increasing Water-Lilies will transform the scene to one of queenly splendor

HARDY PERENNIALS FOR THE EDGE OF THE POOL

The question often arises as to what should be planted around the pool that will be in keeping with the aquatic plants. The answer can only be such perennials as will thrive in wet soil. Such a condition must be "made" around an artificial pool but around a natural pond the place is already there. The following plants are most suited of all the hardy perennials for use under such conditions. Be sure to keep the ground around the artificial pool always moist. The luxuriant growth of these plants when plenty of moisture is available is astounding. Many of the plants are shipped from 3-inch pots but of the strong-growing varieties field-grown divisions are sent.

ASCLEPIAS incarnata (Swamp Milkweed). A good waterside plant, 2 to 3 feet high, with rosy purple flowers. Especially good in a semi-wild garden. 20 cts. each, \$2 per doz.

ASTER novæ-angliæ. Bright violet-purple. 25 cts. each, \$2 per doz.

A. novæ-angliæ rosea. Bright purplish mauve. 25 cts. each, \$2 per doz.

A. novæ-angliæ rubra. Deep reddish violet. 25 cts. each, \$2 per doz.

At least a few of these Astilbe Hybrids should be planted about the pool; they furnish an abundance of bloom

HARDY PERENNIALS, continued

Aster, Beauty of Colwall. A most beautiful Aster of recent introduction; erect stems about 4 feet high, with an abundance of lavender-blue flowers. 25 cts. each.

A., Peggy Ballard. A dwarf form, very similar in color to Beauty of Colwall. 20 cts. each, \$2 per doz.

A., St. Egwin. The plant grows about 3 feet high, densely branched and of bushy habit. It produces fine, pure pink flowers in September, very valuable for cutting. This splendid Aster was given an Award of Merit by the Royal Horticultural Society, England; Certificate of Merit, Elberon Horticultural Society; Certificate of Merit, New Haven Horticultural Society; First-class Certificate of Merit, Newport Horticultural Society, Newport, R. I. 25 cts. each, \$2 per doz.

ASTILBE Davidii. A first-class plant recently introduced from China. The graceful flower-spikes are 5 to 6 feet high, with blooms of clear rosy violet. 35 cts. each, \$3.50 per doz.

A. grandis. Somewhat similar to the preceding variety, but more vigorous; often 6 feet in height, with large, pinnate leaves 2 feet in length, and panicles of white flowers 2 to 2½ feet long. 25 cts. each, \$2.50 per doz.

A., W. E. Gladstone. A very free, large-flowering variety, snow-white flowers; very desirable for moist, shady places, flowering in June and July. 35 cts. each.

A., Queen Alexandra. A beautiful hybrid of lovely pink. Largely used with the preceding variety as a pot-plant for forcing, but both are perfectly hardy and very desirable for the flower-garden. 25 cts. each.

A. Arendsii hybrida. A new type of this most interesting and very valuable plant, especially for the subaquatic garden. The plants are of very vigorous growth, 2 to 4 feet high, densely branched; feathery plumes of delicate coloring. Award of Merit, Royal Horticultural Society.

HARDY PERENNIALS, continued

Astilbe hybrida carminea. Well-branched spikes of rosy lilac; 3 feet. 50 cts. each.

A. hybrida, Ceres. Well-branched panicles of a brilliant rosy color; $2\frac{1}{2}$ to 3 feet. 50 cts. each.

A., Gruno. Finest of the pinks; light, graceful, spreading spikes; salmon-pink flowers; 4 feet high. 75 cts. each.

A., Pink Pearl. Thick, pyramidal spikes of lovely pink; 2 feet high. 35 cts. each.

A., Venus. Early-flowering, same habit as Ceres; brilliant rosy purple. 35 cts. each.

A., Salland. Very strong spikes of red flowers; 6 feet high. 75 cts. each.

A., Salmon Queen. Very graceful spikes of a fine, light salmon-pink; $2\frac{1}{2}$ to 3 feet high. 35 cts. each.

A., Princess Juliana. The long spikes, growing 3 to $3\frac{1}{2}$ feet high, have a loose and elegant habit; flowers bright crimson-pink. The darkest-colored Astilbe in commerce. 50 cts. each.

BOCCONIA cordata. A tall-growing perennial that grows well in moist ground. Foliage silver-green. The flowers come in July and August, borne on stout stems like plumes. 25 cts. each, \$2.50 per doz.

CALTHA palustris (Marsh Marigold). Bright yellow flowers early in spring; 1 foot high. 25 cts. each, \$2 per doz.

CLETHRA alnifolia (Sweet Pepper Bush). One of the most charming of our native bushes; will succeed in almost any soil, but prefers a wet ground or margin of pond or stream; flowers white, of a very spicy fragrance. A desirable bush for the garden in any situation. 50 cts. each.

EUPATORIUM ageratoides (White Snakeroot). A strong-growing plant; most desirable for the semi-wild garden, growing 3 to 5 feet high, bearing a profusion of white blossoms in late summer. Good as a cut-flower. 25 cts. each, \$2.50 per doz.

E. cœlestinum. A beautiful, hardy plant, with light blue flowers similar to the ageratum; very free-flowering; late summer. 18 to 24 inches. 20 cts. each, \$2 per doz.

FUNKIA undulata picta-media.

The beautiful variegated Plantain Lily. Flowers in July on stems 2 feet high, lilac in color. 20 cts. each, \$2 per doz.

GENTIANA Andrewsii (Closed Gentian). A strong-growing plant, very pretty by the water-edge, with clusters of deep blue flowers in July and August. 25 cts. each, \$2.50 per doz.

HELENIUM autumnale superbum. A very attractive plant, growing 4 to 5 feet high, with broad-spreading heads of golden yellow flowers in late summer and fall months. 20 cts. each, \$2 per doz.

H. autumnale rubrum. A variety having bright terra-cotta flowers. 20 cts. each, \$2 per doz.

H., Riverton Beauty. A free-growing, distinct variety, having flowers of a rich lemon-yellow with a large cone of purplish black. 20 cts. each, \$2 per doz.

Eupatorium ageratoides

HARDY PERENNIALS, continued

Helenium, pumila. A dwarf variety with bright yellow flowers. 20 cts. each, \$2 per doz.

H., Riverton Gem. Of strong growth, $2\frac{1}{2}$ to 3 feet high; flowers brilliant old-gold, suffused with bright terra-cotta, changing to wallflower-red. 25 cts. each, \$2.50 per doz.

Hibiscus

of the United States and Canada. My selection comprises the choicest deep, rich crimson shades, together with pink and white. These can be grown successfully in the herbaceous border; they will succeed in any good garden soil, but to have them in perfection, plant in the water-garden or on the margins of ponds. Selected varieties of White, Pink and Crimson, 35 cts. each, \$3.50 per doz. General assortment, \$2.50 per doz.

IRIS germanica. One of the best early-flowering perennials. The flowers are in many shades of color, from soft blue to deep purple, from white to crimson. \$1.50 per doz.

I. germanica aurea. Golden yellow; distinct and fine. 25 cts. each, \$2 per doz.

I. germanica, Mrs. Neubronner. Golden yellow. Probably the darkest pure yellow German Iris. 25 cts. each, \$2 per doz.

I. orientalis. Rich violet-blue; early flowering; very free; a useful and distinct variety. Should be in every collection. 20 cts. each, \$1.50 per doz.

I. orientalis, Snow Queen. Snow-white variety of the preceding form; a distinct and very desirable companion. Extra. 20 cts. each, \$1.50 per doz.

Iris pumila. New Hybrids. Very interesting and attractive, being one of the earliest and showiest of spring flowers; of dwarf habit and embracing shades of color, such as creamy white, lemon-yellow and royal purple and blue. 20 cts. each, \$1.50 per doz.

HEMEROCALLIS flava (Yellow Day Lily). One of the best-known varieties; flowers deep lemon-yellow; very fragrant; very attractive on the margins of ponds, flowering in July. 15 cts. each, \$1.50 per doz.

H. fulva. A stronger variety than the preceding; grows 4 to 5 feet high; flowers orange, with deeper shadings. 20 cts. each, \$2 per doz.

H., Kwanso fl.-pl. A double form of the variety fulva. Very satisfactory. 25 cts. each, \$2.50 per doz.

H., Dr. Regal. Very early flowering; a rich golden yellow. One of the very best Day Lilies. 20c. each, \$2 per doz.

HIBISCUS. New Hybrids. Probably no other hardy plant has increased in popular favor more than the Hibiscus. It has always been an attractive flower, with its large, white, pink and rose-colored flowers, but the hybrids are a new creation, not at all in the same class. The plants are vigorous and free-flowering, often exceeding 6 feet in height, branching, with monstrous flowers 24 to 30 inches in circumference, in all shades of color; a large planting in bloom is a magnificent sight. Being perfectly hardy, the plants are well adapted to all sections

IRIS KAEMPFERI

Iris Kaempferi, or Japanese Iris, are the elite of the Iris family. The flowers begin to open about the third week of June (New York City latitude) and continue for several weeks. They grow well in any good garden soil but delight in an abundant supply of water. Planted in a moist situation they are wonderfully productive of blooms. They should be planted either early in the spring or in the month of September. They are valuable as cut-flowers and as such should be cut in the bud and allowed to expand in the water.

There are hundreds of varieties of *Iris Kaempferi*, but I have selected the following twelve varieties as a most suitable collection for small gardens. The most simple descriptions possible are given, as the charm of these wonderful flowers cannot be truly described.

Alida. White, six-petaled variety; stripe of light blue.

Austral. Dark mahogany in color with a yellow center.

Blue Bird. Intense blue throughout; large and full.

Blue Danube. Pure rich blue, yellow center; six petals.

Gold Bound. Large; six petals; white flowers, yellow center.

Harlequin. Whitish lavender; large size.

Helen von Sieboldt. Deep pink with white lines.

Mahogany. Dark red, shaded maroon; six petals; very distinct.

Ondine. Pure white, shaded with light blue toward the center. Flowers large and fine.

Painted Lady. White, richly suffused and striped with bright pink. A very showy variety.

Purple Emperor. Very dark purple, yellow center; large flower and strong grower.

Venus. Pure white. A strong grower and free bloomer.

35 cts. each, \$3 per doz. A collection consisting of 12 plants, 1 each of the above named varieties, \$3

Iris Kaempferi

SEEDLING JAPANESE IRIS

I have also some seedlings that are fine for group planting. They possess a splendid range of colors and many of them are far above the average in quality of flowers. \$1.50 per doz.

Iris Pseudacorus. This is the common yellow water-flag, flowering in May and June. Planted in water about 2 inches deep, it reaches its perfection, growing to a height of 4 feet. 20 cts. each, \$2 per doz.

HARDY PERENNIALS, continued

- LOBELIA cardinalis** (Cardinal Flower). One of the most attractive plants of our native flora, seen along streams and low, moist ground, sometimes a few spikes of rich, fiery cardinal flowers; again in masses, when the sight is brilliant and dazzling. 15 cts. each, \$1.50 per doz., \$10 per 100.
- L. syphilitica**. Grown under conditions similar to those of the preceding variety, it produces large spikes of flowers 2 to 3 feet high, of a lovely shade of blue and occasionally white. 15 cts. each, \$1.50 per doz., \$10 per 100.
- LYTHRUM roseum, Perry's Variety**. A grand improvement on the well-known Rosy Loosestrife, with much larger flowers and longer spikes of a glistening cherry-red. Valuable for the aquatic garden, flowering freely from July to September. 25 cts. each, \$2 per doz.
- MYOSOTIS palustris** (Forget-me-not). A beautiful light blue flower with yellow center, growing by streams or in wet places. An almost perpetual-flowering plant. 15 cts. each, \$1.50 per doz.
- SAURURUS cernuus** (Lizard's Tail). A desirable plant for the margins of ponds or moist ground; grows 2 to 2½ feet high, with terminal, drooping spikes of white, sweet-scented flowers. 25 cts. each, \$2 per doz.
- SENECIO clivorum**. A plant of recent introduction from China, with enormous round leaves resembling somewhat the gigantic petasites, producing yellow flowers borne on stems 4 feet high. 25 cts. each, \$2.50 per doz.
- SPIRÆA Aruncus**. A noble variety, 3 to 5 feet high, producing in June and July long, feathery panicles of white flowers. 25 cts. each, \$2.50 per doz.
- S. palmata** (Crimson Meadowsweet). One of the most beautiful hardy plants, the deep purple-red of the stems and branches passing into the crimson-purple of the broad corymbs of flowers, which are produced very freely during June and July; 3 feet. 15 cts. each, \$1.50 per doz.
- S. elegans**. A free-flowering, silvery pink form of the above. 15 cts. each.
- S. ulmaria fl.-pl.** (Meadowsweet). Grows 2½ to 3 feet high; a double white form; fine for naturalizing. 25 cts. each, \$2.50 per doz.
- S. venusta**. A showy, red-flowering species; very fragrant; 4 to 5 feet; June. 25 cts. each, \$2.50 per doz.
- S. venusta magnifica**. A great improvement on the foregoing variety; the flowers are larger and the color is richer. 35 cts. each.
- STENANTHIUM robustum** (Mountain Feather Fleece). A tall-growing plant, with showy panicles of pure white flowers. 35 cts. each.
- STYRAX japonica**. A handsome shrub or small tree of graceful habit, well adapted to the water-garden. The flowers are white, sweet-scented, produced abundantly on medium-sized bushes; 3 feet. 50 cts. each.
- THALICTRUM dipterocarpum**. A charming perennial. Its flowers are produced on tall, graceful spikes, 5 to 7 feet high; they are rosy lilac and contrast beautifully with the citron-lemon of the numerous anthers. 50 cts. each, \$5 per doz.

PLANTS FOR SMALL AQUARIUMS

Aquariums, with a few water-plants and several goldfish, are quite popular as an ornament for the city home, and furnish an everchanging amusement for the whole family. As an assistant to the nature-study class in the public schools the aquarium is indispensable, for through it the pupils become acquainted with various forms of aquatic life—fish, mollusks, plants and algæ.

The fish must have water, but not stagnant, impure water, and the growing plants help to keep the aquarium clean and pure. When the aquarium is well balanced, that is, a given number of fish to the quantity of water, with sufficient plant-life to supply oxygen, then the aquarium is attractive and a source of pleasure. The following plants are adapted to the purpose, a few or more according to the size of the aquarium.

ANACHARIS canadensis gigantea (Elodea; Water-weed). A beautiful, submerged plant, with elongated, branching stems, thickly set with sessile, whorled or opposite leaves. A rapid grower and one of the best oxygenators. 50 cts. for 3, \$1.50 per doz.

PLANTS FOR SMALL AQUARIUMS, continued

CABOMBA viridifolia (Green Fan-Wort; Washington Grass). A very interesting and popular plant. The light green leaf is fan-shaped, composed of filaments or ribs like a skeletonized leaf. 50 cts. for 3, \$1.50 per doz.

EICHHORNIA crassipes major (Water Hyacinth). A curious and pretty plant in the aquarium, the long, silky, steel-blue roots reaching down in the water. The plant is of value in the aquarium during the breeding season, the roots being receptacles for fish-spawn. 50 cts. for 3, \$1.50 per doz.

HYDROCHARIS Morsus-ranæ (European Frogbit). A delicate, floating plant, with rather thick, heart-shaped leaves, about 2 inches across. Its fine, silky roots are beautiful and attractive in the aquarium, and the plant itself is most graceful. 35 cts. each.

LUDWIGIA Mullettii. One of the best and most useful plants for the aquarium, valuable as an oxygenator. The foliage is glossy dark green on the upper surface, the underside of leaf bright red. An attractive and distinctive plant. 50 cts. for 3, \$1.50 per doz.

MYRIOPHYLLUM verticillatum (Popular Green Milfoil). Very fine leaves, pinnately parted and capillary; color a beautiful soft green. 50 cts. for 3, \$1.50 per doz.

PISTIA Stratiotes (Water Lettuce). A very attractive aquatic, floating plant, with soft, light green velvety leaves; requires warm treatment in winter. 25 cts. each, \$2.50 per doz.

SAGITTARIA sinensis gigantea. This is the most popular of submerged aquarium plants, and quite indispensable, as it can always be had in a good condition; a free grower and oxygenator. Leaves strap-like and broader than the preceding variety, of a dark, rich green color. 50 cts. for 3, \$1.50 per doz.

UTRICULARIA vulgaris (Greater Bladderwort). A beautiful submerged plant, crowded with primae, many-parted capillary leaves, bearing numerous bladders. 50 cts. for 3, \$1.50 per doz.

VALLISNERIA spiralis. (Italian type.) An evergreen form of eel-grass best suited for the aquarium. It has long, narrow leaves and is an excellent oxygenator. 50 cts. for 3, \$1.50 per doz.

7 Assorted Aquarium Plants mailed prepaid for \$1

HARDY ORNAMENTAL GRASSES

The Ornamental Grasses are one striking feature in the garden in clumps, beds or borders, or on the margin of lakes, ponds, etc. In isolated clumps the Pampas is majestic; it is regrettable that it is not hardy. The next best is *Erianthus ravennæ*. The Eulalias are best planted in irregular beds or groups with Pennisetum for a border or edging. *Eulalia gracillima univittata* is the most graceful and may be planted very effectively near the water. For large beds *Arrhenatherum* makes a very desirable dwarf border plant.

ARRHENATHERUM bulbosum variegatum. A dwarf variegated Grass; fine for bordering where a white border is desired, as it retains its clear coloring all season. 20 cts. each, \$2 per doz.

ARUNDO Donax (Giant Reed). One of the most stately of all Grasses. 50 cts. each.

A. Donax variegata. A beautifully variegated form, not so tall-growing. 50 cts. each.

EULALIA gracillima univittata. The most useful and desirable of all the Eulalias. Its long, narrow, graceful foliage with silvery midrib renders it a very striking and distinct plant as a specimen or for grouping. 25 cts. each, \$2 per doz.

E. japonica variegata. A very ornamental Grass, 4 to 6 feet high, with long, narrow leaves conspicuously marked with green and white, with handsome plumes. 25 cts. each, \$2 per doz.

E. japonica zebrina (Zebra Grass). Very similar to the above variety, but the blades instead of striped are barred with yellow. 25 cts. each, \$2 per doz.

HARDY ORNAMENTAL GRASSES, continued

ERIANTHUS ravennæ (Plume Grass, or Hardy Pampas). A very ornamental grass; flower-spikes 10 to 12 feet high; makes a most desirable specimen or clump on the lawn. 25 cts. each, \$2 per doz.

PENNISETUM japonicum (Hardy Fountain Grass). This new addition to the Hardy Grasses is quite an acquisition; its habit of growth is heavier than the annual varieties; it grows from 3 to 4 feet high; foliage narrow, of a bright green, the flower-heads a silvery color, well above the foliage. 25 cts. each, \$2 per doz., \$15 per 100.

A pond of this shape naturally needs a background of Bambusa and Ornamental Grasses. Garden of W. J. Kinsella, Jr., St. Louis, Mo.

HARDY BAMBOOS

There seems to be something very fascinating about oriental things and the Bamboo is no exception to the rule. The beautiful foliage and the interesting canes are always attractive. They require a rich, well-drained soil. The banks of streams and the edges of ponds and pools make an ideal situation. The varieties listed are all hardy as far north as New York City and should be hardy even farther north if given a slight protection during the winter.

BAMBUSA aurea. Close-jointed canes; leaves light green, small and very graceful. \$1 each.

B. auricoma. A green-and-yellow variety; very pretty; will grow to 3 feet. Makes a rather compact growth, and is most effective when used in connection with the green-leaved varieties. \$1 each.

B. Fortunei variegata. A dwarf variety, about 18 inches high, with green-and-white foliage. 75 cts. each.

B. japonica. Slender, graceful, and very attractive. \$1 each.

B. palmata. Undoubtedly the most attractive and satisfactory. Broad, rich green leaves, dense in growth; grows about 2 to 3 feet high. \$1 each.

B. Simonii. Strong, upright growth. Green foliage, which is broad enough to make a good screen, or a background for a pool. \$1 each.

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A LOVELY NIGHT-BLOOMING WATER-LILY

For several seasons *Frank Trelease* has been an exceedingly popular and desirable variety for tub and pool culture. The rich, deep crimson blooms unfold early in the evening and remain fully open until the warm rays of the sun beat upon them the next morning. It is one of the most gorgeously colored varieties, and appears to particular advantage when grouped with light-colored sorts, thus offering an opportunity for comparison. \$1.50 each.

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Mrs. C. W. Ward
(See page 13)

UNUSUAL COLOR HARMONY

is found in the variety *Mrs. C. W. Ward* which was produced by crossing the white *Nymphaea gracilis* with a red variety. No reproduction can do justice to the deep rose-pink blooms, with the center of yellow and crimson stamens. The variety is a free-blooming, tender *Nymphaea* well adapted to tub and pool culture. \$2 each.

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