






Pond & Garden

May - June 2000 • Volume 2, Issue 1

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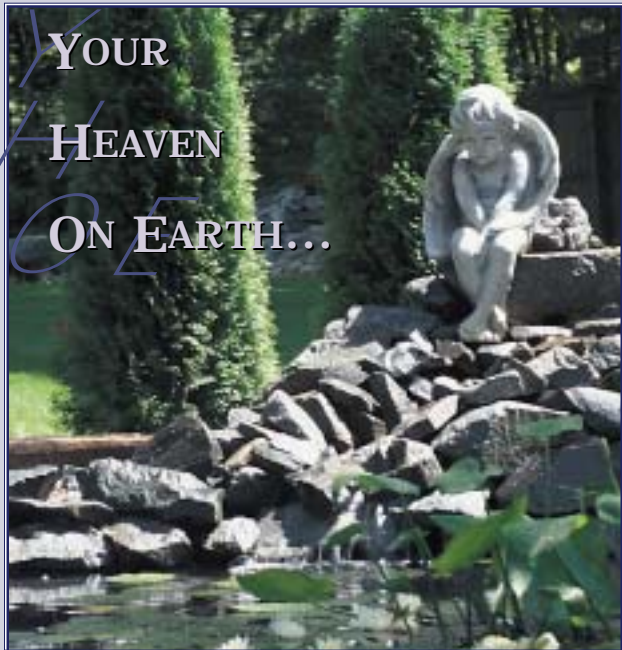
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Cover Photo:
Naturalizing Water Features
by Mark Moore
Photo by Pat and Ken Fluke

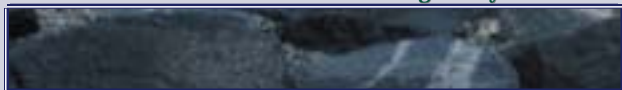
Sharing...

Ole Dave teases me that I have a hidden agenda with my pond interests and this publication – building bridges with water. Those of you who have followed us in recent years know this is not so secret an agenda. In building ponds in our backyards, we discover the intricate interrelationships of earth, water, and air around us. We also discover an unspoken kinship with others who share our love of the water and its beauties. As we band together in clubs and groups, we seek to share this with our communities. With May being National Foster Care Month, *P & G* shares a special project with you – a ‘forget-me-not’ pond built by the Eastern Iowa Pond Society to honor and remember these special children. *P & G* also shares another community project with you – a garden, complete with pond, built by the Springfield Watergarden Society for The Kitchen, a shelter for



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the homeless.

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GOLDFISH KEEPING

by Vivian McCord

The Hospital Tank

Trying to treat a sick fish within a pond makes it difficult to control environmental conditions and to monitor recovery progress, as well as making for an expensive program if purchased medicines are used. A hospital tank resolves all of these problems. Fortunately, when a goldfish is feeling puny, he's a bit easier to catch than usual. Remember that taking a fish from one water temperature into one varying by even a few degrees produces stress and can be fatal. If you can't be sure that the pond's water temperature and the hospital tank's temperature are within one or two degrees, transfer your fish within a plastic bag of pond water that you can float within the hospital tank until the temperatures are equalized.

Set up a ten-gallon aquarium for your sick fish. Especially if you are treating a parasite problem, plan for this temporary home to be used throughout the parasite's full life cycle, which can be 2 or 3 weeks. Hence, you'll want to monitor



Water temperature is critical to the life cycle of parasites and the timing of medicinal doses.



Set up your hospital tank with a filter running. While you can use beneficial bacteria to jump-start the filter, do not use charcoal media which removes medicines from the water. Zeolite, an ammonia absorber, is fine, but should not be relied upon in place of monitoring ammonia readings. Commonly used Stress Coats may not be advisable for very sick fish since they may coat the gills as well as the fish's body, inhibiting vital oxygen uptake. A one-to-three percent salt solution may do more good. However, be sure that your medicine of choice works in the presence of salt. In many cases, a 3-percent salt solution will remedy the problem by itself.

ammonia levels, perhaps even providing zeolite to absorb ammonia. (Nitrite doesn't become a consideration for a couple weeks.) You'll need to keep an eye on the water temperature, too, since it directly impacts the timing of medications. During any applications of medicine, watch the fish for signs of extreme stress that might indicate the dosage is too strong. 🐟



Many medications require ample aeration of the water. An aerator pump affixed to a bar air-stone provides this.

SEASONAL PONDKEEPING

by Scott Bates



May and June herald the pond season!

Pond life is back in full swing in the months of May and June. Hardy lilies are showing full leaves and some flower buds in colder climates. Warmer climates are seeing the lilies in their full glory. Lotuses are still waking up and need a little more heat and light to really get started. Patience is the key to growing lotus. Move them into shallower, warmer water to get them going a little faster. If you haven't removed the old foliage from last year's hardy plants, do it now before you have to trim around every new shoot.

It is also time to transplant any of the aquatic plants that are root bound or busting out of their pots. Heavy garden soils, preferably clay, are best. Stay away from commercial greenhouse mixes that contain peat and vermiculite – they float and make a mess in the pond. Be generous with pot sizes and remember to fertilize. Once the early bloomers like marsh marigold have flowered, move them into a shady spot so the plants don't cook later in June. Wait until after your water irises have finished blooming before repotting them.

Fire up your pumps and bio-filters if you didn't do that in April. Seeding the pond/filter with nitrifying bacteria is helpful in the early spring. This will reduce algae and, most importantly, start removing toxic ammonia that is produced as your fish resume their normal metabolism. If you didn't clean out your pond last autumn,

you'll want to remove any organic matter accumulations from the pond bottom. The decomposition of this organic matter adds nutrients to the pond water, fueling algae growth. By removing the organic matter now, you will reduce the load on your pond's biological system and make it easier for the bacteria to keep up with the nutrient levels, aiding the goal of clear water.

The appetites of your fish have increased compared to March's occasional surfacings. Water temperatures above 50 degrees call for food for the fish. Feed as much as they will eat in 5-10 minutes once a day, leaving no little 'snacks' on the bottom of the pond.

Spring fever may tempt you to put out your tropical plants. Check your area's frost-free date to be sure it is really safe for them. Even though some tropicals may simply sulk in water temperatures below seventy degrees, all can be harmed by a late frost. Here in my Michigan zone 5, I feel comfortable waiting until June first to set out the tropical lilies. ♡

Scott Bates, along with parents Gary and Rosemary, owns Grass Roots Nursery at 24765 Bell Road in New Boston, Michigan. You can reach him at 313-753-9200.

Garden Adventures

by Joe Summers, Missouri Botanical Garden

Summer IWGS Post Symposium in St. Louis!

The International Water Gardening Society (IWGS), a nonprofit organization, has been educating the public about water gardening since its inception in 1984. Its members now include people from 35 countries across the globe. In addition to educating and disseminating knowledge to the public sector, the IWGS is the world's leading authority on the classification of *Nymphaea* (water lilies) and *Nelumbo* (lotus). The IWGS also publishes the Water Garden Journal, a quarterly which is one of the group's main vehicles for spreading knowledge amongst its members.



One of the treats of the Post Symposium will be seeing George H. Pring tropical water lily cultivars growing where they were born. *N.* 'Midnight' was hybridized and introduced in 1941 by Pring with a crossing of *N. colorata* x *N. capensis* var. *zanzibariensis*. This cultivar's anthers develop as petalettes around the center of the flower, creating a delightful fringe effect.

Every summer, the IWGS conducts a Symposium. The Symposium allows persons interested in water gardening to come together for lectures, tours, plant introductions, and the chance to have lots of fun. The Main Symposium is being held August 7, 8, and 9 in Chicago. Following the Main Symposium each year is the Post Symposium. This year the Post Symposium is hosted by Tower Grove Park, The St. Louis Water Gardening Society, and Missouri Botanical Garden in St. Louis on August 10, 11, and 12.

Dr. Peter Raven, the Director of Missouri Botanical Garden (MBG), will start the Post Symposium with a St. Louis welcome and introduce you to the wonderful 79-acre Garden. Mr. Pat Nutt of Longwood Gardens and Mr. Doug Holland of MBG will give presentations about George Pring. Mr. Pring is responsible for hybridizing numerous tropical water lilies in the first half of the 20th century at Missouri Botanical Garden. The evening will be capped off with an elegant dinner over-looking the water lily pools and viewing the emerging blooms of the night flowering Victoria lilies.

You will be able to explore MBG's world-class grounds before the Garden opens to the public Friday, August 11. Escape into the tropical rainforest of the Climatron. Visit the Kemper Center for Home Gardening and its 23 Demonstration Gardens, feed the Koi in the largest Japanese Garden in North America. Sit in amazement as you view the spectacular tropical water lilies, many of which George Pring himself created here at MBG. Discover Victoria splendor at Tower Grove House and Victorian Gardens, adventure into the English Woodland Garden and the Chinese Garden, and so much more. As midday approaches, we will head to Forest

Park, site of the 1904 World's Fair, for a Midwestern barbecue lunch at the Jewel Box.

After lunch, you need to make a decision. You can choose to tour local residential ponds and learn how St. Louisians put a twist on water gardening, or, option B tour the MBG Research Center and panel discussions. The ultra-modern Research Facility, Herbarium, and Library are home to one of the world's most active plant research programs. We will also visit the non-public Production Greenhouses. A panel discussion about Victoria waterlilies will also be offered with option B, along with a demo about proper *Nymphaea* Registry. Both options will end in late afternoon, allowing ample time to have a night on the town exploring St. Louis.

Saturday, August 12, we will arrive at Tower Grove Park's Piper Palm House. The 289-acre 19th Century Victorian Park was donated to the City of St. Louis in 1868. It is one of only four municipal parks in the United States designated as a National Historic Landmark. Constructed in 1878, the Piper Palm House is the oldest standing greenhouse west of the Mississippi River. Complete with outdoor Plaza, gardens, and water lily pools, the Palm House will be a fitting backdrop for the presentation by the Parks' Horticulturist, Barb Jackson. "The History of Tower Grove Park and Its Water Features" will conclude the Post Symposium tour of St. Louis. You will treasure the memories of a wonderful trip forever, and cherish all the new friends you met as you learned more about a common interest, water gardening.

This three-day event will be very educational and entertaining. The IWGS Post Symposium of St. Louis can be attended independently of the Chicago Main Symposium, although I highly recommend attending both.

For more information or to register for this event, visit the IWGS web site at www.iwgs.org. You can also reach me or Jon Sweeney at Missouri Botanical Garden (314-577-9404) to receive a complete brochure.☘

Joe Summers is a Horticulturist with Missouri Botanical Garden. Additionally, Joe is on staff at Plants, Ponds & More in Affton, Missouri. Currently, Joe is president of the St. Louis Water Gardening Society.

Dr. Erik Johnson's 24-hour koi health super site

Sometimes when you visit Doc Johnson's website, you meet up with his "faithful sidekick" Roark, who assists Georgia-based Doc from Ventura, California – the wonders of the Internet!

Q: My Koi died, and I don't know why. The nitrites were a little high, but ...everything else was fine. What do you think killed them?

A: You gave a very important clue to the reason behind your deaths: Nitrites. Please note that even slightly elevated nitrite levels are bad news. *Any ammonia or nitrites which are detectable in the water are toxic to Koi.* You'll sometimes hear folks say, "Well, my nitrites are a bit high." Don't be misled. The only acceptable number for ammonia or nitrite is zero. Zilch. Nada. This is very likely what killed your fish... If ammonia or nitrites don't kill the fish directly, they can easily weaken them to the point where they will catch some other disease. Many Koi ills can be traced to this pattern of stress-crash.

Note that elevated nitrite levels are usually caused by a biofilter which isn't fully 'cycled' or one that may be damaged due to the use of chemicals, etc. You may also have overfed the fish and the biofilter wasn't able to keep up with the wastes produced...or your biofilter may not be sized large enough to take care of your pond's fish loading.

If you still have any koi left in this pond, I'd suggest several things:

Do several partial water changes to dilute the nitrites/ammonia...to make this a bit simpler, but just as effective, try changing 1/2 of your water at a

time for three times. Ideally, you'll do a water change, wait a day, do the next water change, wait a day, etc. This prevents the fish from being shocked by temperature and pH changes.

Add salt to the pond/aquarium. Use 1 1/2 teaspoons of salt per gallon (or 1/2 lb per 100 gal). Break this total dose up into two half doses and add each half-dose a day apart. Use only non-iodized salt (very important!) Salt will help protect the fish somewhat from nitrite poisoning. Salt at this level is harmless to Koi and goldfish.

Stop feeding these fish for a week...and then put them back on a half-ration of food for the next two weeks. Keep checking the nitrite and ammonia levels the entire time. If either gets worse, change part of the water to keep it down. You should see the levels start to decrease in less than a week. If they stay elevated, you are overstocked, under-filtered, or have a malfunctioning biofilter.

Try to figure out what caused this. Something is clearly wrong with the biofiltration process. Make sure the pump is working, the intake is clear, the filter media is being bypassed...etc. If the nitrite spike was caused by overfeeding, this problem should quickly correct itself. If the spike was caused by a system failure in the filter, you need to find it quickly before it only gets worse.

Add oxygen to the water. Add a big airstone (aquarium) or a fountain/venturi jet (pond). Nitrites make fish unable to breathe, like you get when you have spent a long time in a very stuffy room. Adding air helps keep them alive.☺

*Visit Doc Johnson and his sidekick, Roark, at www.koivet.com for comprehensive koi and goldfish keeping information. Also, check out Doc Johnson's book, *Koi Health and Disease, Beginner to Advanced Life-Saving Technology*. Doc will present two seminars at the AKCA 2000 Seminar in Springfield, Missouri, over the June 28th weekend. Call 417-883-2399 for more information about the Seminar.*

ASK CHUCK: PONDKEEPING Q&A



by Chuck Rush

Q: I have hundreds of tadpoles in my pond. How do I get rid of them or do I need to?

A: If you *really* like toads or frogs or whatever you have, you can leave them. Toad tadpoles will change into toads before the summer is far along. Except for tree frogs, frog tadpoles take longer. In either case, your larger fish may eat some of them. (Just as bullfrogs or green frogs will eat small fish.)

If you want to get rid of them, you can scoop them out with a net and toss them on the grass to dry up. That's what I do. Or you can let them hatch and mature into toads, like I did the first time, and thin them out with the lawn mower, like I did the first time.

You can also try treating your water with malachite green or another fungal pond treatment. (Malachite green is a treatment for fish fungal diseases like ick.) That usually kills the tadpoles in a few days, too, but leaves the fish and plants alone. If your pond is very large, this can be an expensive option. Net out the dead bodies so they don't add to the pond's bio-load. I did that last time in my lotus pond to test it.

The best defense is to net the frogs/toads before they lay and/or clean out the eggs after the fact. Netting frogs and toads is more easily done at night with a flashlight to temporarily blind them. Of course, when you approach the pond, whether day or night, they're going to submerge and swim away. You may be looking at a relaxing length of time spent quietly pond side. If you decide to use a skimmer net to remove the jelly-encased egg masses, check your pond water, especially among the marginal aquatics around the pond edges, in the morning after you've heard the toads calling the night before. (That is their mating call.)☺

Many of Chuck's Q & A appear courtesy of the North Texas Water Garden Society. You can reach Chuck by E-mail at Crush@dallas.net.

DIRT DIGGER

by Bruce Zaretsky



Natural Pathways in the Garden...or, Getting There from Here

It's raining. The trash needs to go out. But, guess where the garbage cans are? Right! Across that muddy patch of land between the kitchen door and Trashland. "That's it!" you mutter as you trek across the soupy mess. "I've got to do something about this mud."

So, what are you going to do? You can keep some rubber boots near the door, or you can come up with a dry pathway. But what kind of pathway won't cost an arm and a leg?

There are a few very effective ways to create a pathway in your garden:

Gravel

Crushed gravel is the least expensive way to create a pathway. Keep in mind that you won't be wearing high heels on these paths, so create these paths in the garden rather than as an entry to the front of your home. Excavate down about two or three inches, place a quality landscape fabric down to minimize weeds, as well as to separate the stone from the soil, and place the stone on this. It will be a little crunchy under the feet, but your feet will stay high and dry. (Landscape fabric allows water to drain down through it while plastic accumulates puddles.)

For a finishing touch, use brick or stone on the edge to frame the gravel. This keeps the gravel in place and looks pretty cool, too. Plastic edgings work, also, but look a little...hmmm, let's see...plastic. (Remember,

loose gravel in the lawn is why the family 'mower' wears protective eye-goggles!)

Flagstone and Rock

These will cost a little more, but they make beautiful pathways. Broken flagstone is a timeless product that never loses its look. This, and other rocks, should be placed on a bed of sand, at the very least. You can lay them on the dirt, but they will get messy over time. We also use moss rock to create instantly-old-looking paths. (Keep the surface as level as possible for safe transit.)

Mulch

Another cheap method is to use hardwood mulch to create the pathway. It needs to be replenished yearly and may be wet on the feet, but it is an effective way to go, especially if you're broke or if your back isn't what it used to be!

Bruce Zaretsky and partner Sharon Coates own Bruce Zaretsky Landscaping, Inc. in Penfield, New York. Bruce's column is excerpted with permission from their quarterly newsletter. Visit their website at www.bzli.com or call them at 716-377-8330.

While your garden stream is fully lined, often we slope the liner so that aquatic plants may be planted at the edge of the stream, perhaps growing in gravel and taking their nutrients directly from the gently flowing water. Aquatic plants selected for these sites are generally shallow-water marginals that tolerate gentle water movement around their stems. Such plantings require monitoring as the plants often grow out into the streambed itself, raising the water level above your hidden liner and producing water loss from the system. Prune the plants and their root build-ups as necessary. A (T) following the plant's name indicates it is tropical or may not be hardy into a zone 5. For zones colder than zone 5, check with your local nursery to ascertain a plant's hardiness for you.

Alligator weed –

Alternanthera ficoidea (T)

Arrow arum – *Peltandra virginica*

Arrowhead – *Sagittaria* spp.

Bulrush – *Scirpus* spp.

Cattail – *Typha* spp.

Creeping Jenny –

Lysimachia nummularia

(for sunny sites, select cv. 'Aurea')

Lizard Tail – *Saururus cernuus*

Loosestrife – *Lythrum salicaria*

Lotus – *Nelumbo*

Manna grass – *Glyceria*

Papyrus – *Cyperus haspans* (T)

Pickereel weed – *Pontederia cordata*

Powdery thalia – *Thalia dealbata*

Soft rush – *Juncus* spp.

Spatterdock – *Nuphar lutea*

(grow in side-pocket depths)

Spike rush –

Eleocharis montevidensis

Sweet flag – *Acorus calamus*

('Variegatus' shown in photo)

Tape grass – *Vallisneria* (submersed plant for side-pocket depths)

Two-leaf clover –

Regnellidium diphyllum (T)



Umbrella palm –

Cyperus alternifolius (T)

Variegated rush – *Baumea rubiginosa*

Water bamboo –

Dulichium arundinaceum

Water celery – *Oenanthe javonica*

Water clover – *Marsilea drumundii*

(others are T)

Watercress – *Nasturtium officinale*

Water forget-me-not –

Myosotis palustris, *M. scorpioides*

Water irises – *Iris pseudacorus*, *I.*

laevigata, *I. versicolor*, *I. virginica*

Water pennywort – *Hydrocotyle*

Water plantain –

Alisma plantago-aquatica

Water primrose – *Ludwigia* spp.

Water spinach – *Ipomea batatas* (T)

NATIVE LANDSCAPING

by JoAnn Gillespie

Landscaping Your Natural Pond

Our water garden has been planted with native plants. The area surrounding the water garden is landscaped to give it that finishing touch.

The choice once again will be native forbs that are perennials, thus making the entire area low maintenance. The forbs and flowers should be selected from those plants that can take some maintenance and can also tolerate dry-down. The proper choice of plants will make this area attractive. If chosen appropriately, this area can also function as a butterfly garden.

Choose flowers that produce color all season long. Flowers that entice butterflies are usually colorful as well as producing a good deal of nectar. Many butterflies choose certain flowers because of the lengths of their tongues.

Let's begin by planting the two *Eupatoriums*: *Eupatorium maculatum* (Joe Pye Weed) and *Eupatorium perfoliatum* (coneset). Monarchs, in particular, are fond of these flowers. The vibrant purple of Joe Pye Weed, complemented by the pristine white of boneset, looks great near the water's edge.

Purple coneflower (*Echinacea purpurea*) is also high on the list of preferred flowers, providing lots of nectar. Other flowers to be considered are the Lobelias: *Lobelia cardinalis*, the brilliant red lobelia, and *Lobelia siphilitica*, the giant blue lobelia. The flowers' tubular-like structure allows butterflies to insert their proboscis to remove nectar. Furthermore, Lobelia blooms late in the summer when other species are spent.

There are a variety of milkweeds to use. My choices would be *Asclepias tuberosa*, commonly called the butterfly milkweed, and *Asclepias incarnata*, swamp



milkweed. Monarchs lay their eggs on this plant. Another plant on which butterflies lay their eggs is blue vervain (*Verbena* spp). This plant can tolerate both water and dry down.

Goldenrods, with their beautiful yellow inflorescence, adds much to the water's edge, as well as attracting butterflies. There are many species, but the two I find most appropriate for this setting are *Solidago canadensis*, the Canadian goldenrod, and *Solidago ridelli*, Redelli's goldenrod.

Flowering plants that are bushlike in structure add much to the water's edge. There are many species of asters to fill the bill. My personal choice is the purple *Aster nova-angilcae*, the New England aster. *Helenium autumnale* is one of my favorite wet meadow flowers. It also grows in a bushlike fashion. Its gold buttonlike flowers are a welcome sight in late summer. Mixing sedges and grasses in your wet meadow garden brings both texture and a linear aspect to the area. *Spartina pectinata*, cord grass, and *Carex lacustris* are high on the list of appropriate plants. Both are very attractive all winter long.

As a finishing touch to your native garden, place a small meditation bench somewhere near the water garden in the midst of your flowers. Now sit back and enjoy your natural water garden for years to come. ♡

JoAnn Gillespie is a noted wetland designer and consultant. She can be reached at Country Wetlands Consulting at 414-679-8003.

Cooking with Marilyn

Make Time for the Kids

by Marilyn Cook

When my grandkids come over, they always want to play with their home-made play-dough. I made a batch when 9-year-old Zachary was only 3 or 4, and it's still good. I keep it in a ziplock bag in their designated drawer with all their 'tools' and cookie cutters. Too bad it lasts so long, half the fun is making it. It's really lumpy and then, all of a sudden, it's play-dough!

Play-Dough

2 C flour 2 T oil
1 C salt 1 t food coloring
4 t cream of tartar 2 C water



While Marilyn's grandkids, Zachary and Kaitlyn, enjoy Gramma's turtle ponds, they always enjoy playing with their special play-dough.

In medium saucepan, mix together ingredients and add water. Cook on medium high heat about 3 minutes, stirring constantly. It will be lumpy at first, then turn to a solid mass. Let it cool before handling. Store in airtight container. If it seems too moist, knead it awhile. If it starts to dry out (from too much playing or leaving it out of the bag too long), add a few drops of water.

If you want to save the creations, the play-dough can be dried and even painted when dry. I usually let it air-dry, but it could be placed in an oven set on 'warm.' Needless to say, I have lots of treasured artwork and Christmas tree ornaments.

When sister Kaitlyn came along, she wanted to play with Zachary's play-dough, but we worried that she'd eat it, so we made a special recipe for younger kids.

Edible Play-Dough

1 C powdered sugar 1 C smooth peanut butter
1 C powdered milk 1 C Karo syrup

Mix all ingredients together. It will be very stiff. Mold like play-dough and then eat it. Kids love to help with this! (Don't try to save this; it's made to eat.)

Browsing the Web...

These websites are listed in this
issue of Pond & Garden!

www.agritab.com
www.americanwpp.com
www.anonbay.com/ane
www.aquababies.com
www.aquagardens.com
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www.easyponds.com
www.escortlighting.com
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Plant Selection AZOLLA CAROLINIANA

A*zolla caroliniana* is known as fairy moss or simply as azolla. Very fine roots trail below the lacy, bright green fronds that turn reddish in full sun and in the cooling temperatures of autumn. Pinnately branched, two-lobed, scalelike leaves reproduce rapidly and quickly cover the water's surface. Fish do not eat them. Since they can fully blanket the pond's surface, they can become a nuisance in the water garden, blocking sunlight from aquatic plants below and preventing gas exchanges at the surface, producing oxygen-deprived water for your fish. Net out excess plants and add them to the compost pile, where their unique nitrogen-fixing nodules can benefit your garden soil.

Their capability of producing overwintering buds that sink to the pond's bottom has resulted in their gaining pest proportions as far north as New England and in Britain. However, this seldom seems to happen in the water garden. To ensure a quantity for the following season, winter a portion over indoors in an aquarium or in a shallow pan of well-lighted water. They are usually sold in half-cup portions. ☛



Ask the Plant Man



by Steve Stroupe

Water Irises and Water Hyacinths

Q: I don't seem to get many blooms from my yellow flag iris. I usually replot them each year after they are done blooming, and I fertilize them once a month during the growing season, but they just don't produce many blooms. What more can I do?

A: The species form of *Iris pseudacorus* doesn't bloom as profusely as some of its hybrids. Additionally, this is an extremely large and aggressive plant which requires a large pot in order to thrive. Try fertilizing heavily and repotting into a 15-20 gallon container. If this fails to produce the desired results, discard the plant and grow something else.

Q: I'd love to try growing Louisiana Iris, but I live in a zone 4 and the ones I've found are listed as hardy to a zone 5. Is there a way to winter these plants over so I can grow them?

A: Try mulching heavily or perhaps a cloche, or even let a few grow unprotected just to see what happens. Climatic zone recommendations aren't graven in stone – experiment, by all means. Also, I recommend you read *The Louisiana Iris* by Marie Caillet and Joseph K. Mertzweiller, Texas Gardener Press. The portions of this book that will be of interest to you are chapters written by Louisiana Iris growers in climatic extremes such as South Dakota and Germany. Of course, some cultivars

fare better than others in cold climes. Some of these are listed in the book. And then, of course, you could always relocate to a warmer climate.

Q: I can't seem to grow water hyacinth in my pond. Within days after bringing them home from the nursery, they start turning light green and eventually yellow. What am I doing wrong? All my other plants are ok. (Harried Hyacinth Horticulturist)

A: Contratulations! You must have a superbly balanced pond! If you could grow impressive hyacinths in your pond, then we would have cause for concern. Your 'problem' is simply this:

Pond folk spend a lot of time, effort, and money to balance their ponds. Filters, bacteria, anacharis, and a host of other methodologies are employed to reduce or eliminate the problem of green (algae) water, which is caused by excessive nutrients. When these efforts are successful, the nutrient level is too low to support even a simple one-celled plant, such as algae. Needless to say, if the water will not support microscopic algae, then we shouldn't be surprised when water hyacinth or lettuce languish. The 'solution' to this 'problem' is quite simple. Take the hyacinth or lettuce out of the pond and place them in a container by themselves. Fertilize with some Peters 20-20-20 or 15-30-15. Use fertilizer sparingly as too much will result in lush foliage at the expense of the flowers. ♡

Steve Stroupe is co-author of Water Plants for Ponds (Aquatic Plants & Their Cultivation in hardback), published by Sterling Publishing in New York. He also owns Davis Creek Nursery, one of the premier, wholesale aquatic plant growers in the U.S. Send your aquatic plant questions to Steve at Pond & Garden, 1670 S 900 E, Zionsville, IN 46077 or e-mail them to the P & G website at www.pondandgarden.com.

Plant Selection

WATER LILIES FOR SMALL PONDS AND TUB GARDENS

Tub gardens or container gardens are typically no bigger than a whiskey barrel. While they offer a solution to the water gardener with 'extra' plants left over from spring divisions, they also make for charming gardens in even the smallest of yards. Dwarf-type and pygmy water lily varieties work best in these mini-water gardens. Selecting a water lily with a four- or five-foot-spread results only in a pot of piling leaves with both pads and flowers draped unhappily over the container's edge. Look for selections from the list below to plant in small ponds and tub gardens. (*Dwarf/pygmies that spread to 3 ft. are marked with an asterisk. All others spread 3 to 4 ft.*)



The tiny dwarf *N. tetragona* is a species water lily that must be started each year from seed. *Photo by Michael Duff*

Hardy Selections

- N. 'Perry's Fire Opal'* (rich pink)
- N. 'Pink Beauty'* aka 'Fabiola' and 'Luciana' (medium pink)
- N. 'Pink Opal'* (coral-pink)*
- N. 'Pink Sparkle'* (apricot-pink)



The dwarf-type *N. 'Chrysantha'* is a changeable water lily, changing from a pale yellow on its first day of bloom to an eventual red by its third day. *Photo by Ron Everhart*

- N. 'Ellisiana'* (brilliant red)*
- N. 'Froebeli'* (burgundy-red)*
- N. 'James Brydon'* (rose-red)
- N. 'Little Champion'* (vivid red)*
- N. 'Perry's Baby Red'* (deep red)*
- N. 'Perry's Dwarf Red'* (brilliant red)*
- N. 'Perry's Red Wonder'* (bright red)*
- N. 'Berit Strawn'* (reddish apricot)*
- N. 'Chrysantha'* aka 'Graziella' (sunset changeable)*
- N. 'Indiana'* (sunset changeable)*
- N. 'Paul Hariot'* (sunset changeable)*
- N. 'Aurora'* (sunset changeable)*
- N. 'Solfatare'* (apricot peach)*
- N. 'Hermine'* (white)*
- N. 'Walter Pagel'* (white)*
- N. tetragona* var. *angusta* (Japanese white dwarf species, start from seed)*
- N. 'Helvola'* (yellow pygmy)*
- N. xmarliacea 'Chromatella'* (yellow)*
- N. 'Betsy Sakata'* (yellow)*
- N. 'Joanne Pring'* (pink pygmy)*
- N. 'William Falconer'* (deep red)*



Tub gardens offer the enjoyment of the water gardening experience in small spaces. *Photo by Bob Romar, courtesy of Maryland Aquatics Nursery*

Tropical Selections

- N. 'Dauben'* aka 'Daubeniana' (very pale blue)*
- N. 'Mrs. Martin E. Randig'* (deep violet-blue)
- N. 'Panama Pacific'* (deep violet-purple)
- N. 'Paul Stetson'* (sky-blue)
- N. 'Tina'* (deep violet-purple)



The tropical *N. 'Dauben'* is small enough and so tolerant of low light conditions that it is even sold as an aquarium plant. Although purported to be a blue flower, its color is very pale, often more approaching a bluish-white.

Landscaping YOUR Pond

CREATING AMBIANCE

by Helen Nash

Ambiance is the sensual appeal of your garden – its texture, form, and scent. These elements help to create the mood or tone of your backyard room. Visually, texture is achieved by putting together bold and delicate forms, such as upright with arching and weeping or vertical with horizontal.

As you consider how ambiance can be achieved within your garden design, explore the world of plants with bold or finely textured foliage, as well as ferns and ornamental grasses. The general formula of one-to-three works to achieve a feeling of balance in the composition. Interpret this formula as one-third of a space or area contrasted with the other two-thirds.

Note that these plant lists are arranged by zone, with information following: botanic name, common name, height and spread (only one figure if height and spread are the same), E for evergreen or SE for semi-evergreen, plant description, and special culture info. Assume the plant needs a sunny site unless otherwise stated. Plants that are not reliably hardy in your climate zone can usually be grown in containers and brought indoors for the winter.

Plants with Bold Foliage To 3 ft Tall

Bergenia, heart-leaved bergenia: 8-24 in; E; large, rounded, leathery leaves in basal rosettes.

Podophyllum peltatum, Mayapple: 18in x 4 ft; palmate, deeply lobed foliage; pt shade, moist soil.

Kirengeshoma palmate, yellow wax-bells: 24-48in; broadly ovate, palmately lobed foliage, simpler toward stem tips; pt shade.

Zones 5-10

Yucca filamentosa, Adam's needle: 30in x 5ft;



Many cultivars of Hosta provide both texture and bold foliage form to the shadier garden.

stemless basal rosettes, inversely lance-shaped, rigid, dark green leaves 30 in long, margined with curly white threads. Flower stalks grow to 6 ft or more.

Crambe maritima, sea kale: 30x24in; ovate, irregularly shallowly lobed/pinnate, twisted,

glaucous, blue-green leaves up to 12 in long.

Diphylleia cymosa, umbrella leaf: 3x3ft; pointed, lobed foliage; produces blue berries on red stalks in early summer following white spring blooms; rich, moist soil; full or pt shade; shelter from wind.

Over 3 ft Tall

Polygonatum biflorum, Solomon's seal: 6ft x 24in; oval to oblong leaves on arching stems; elegant.

Erygium yuccifolium, rattlesnake master: 4ft x 24in; SE; rosetted, sword-shaped, spiny margined, blue-gray leaves.

Zones 5-8

Rodgersia podophylla (*Rodgersia japonica*): 5x6ft; palmate, veined leaves up to 16in long of 5 jagged, obovate 3-5 lobed leaflets, crinkled when young, glossy when mature.

Rheum palmatum, Chinese ornamental rhubarb: 8x6ft; broadly ovate to rounded, palmate 3- to 9-lobed, coarsely toothed, dark green leaves with purple-red undersides.

Silphium laciniatum, compass plant: 10ftx24in; oppositely paired, erect, pinnate and fernlike, hairy leaves up to 20in long, smaller sized up the stems.

Silybum marianum, St. Mary's thistle: to 5ft; basal rosettes of deeply lobed, very spiny, white-marbled leaves.

Cynara cardunculus, cardoon: 5x4ft; arching, pinnate, spiny, silvery-gray, lance-shaped segments with deep basal lobes up to 20in long.

Gunnera manicata: 8x12ft; palmately lobed, prominently veined,



The perennial lupine offers boldness in both flower and foliage to create an ambient elegance to the gardenscape.

sharply toothed, deep green, up to 6ft long leaves on 8ft stalks.

Acanthus mollis, bear's breeches: 5x1ft; obovately, deeply lobed, dark green, glossy leaves to 3ft long.

Fatsia japonica, Japanese aralia: 5-12ft; 7-11 lobed, toothed, dark green



The large leaves of elephant ear (*Colocasia esculenta*) combine with the bold foliage of castor bean (*Ricinus comunis*) to create a tropical ambiance in this Midwestern garden.

leaves up to 16in long.

Canna: 4-6ft; large alternate, paddle-shaped leaves, veined; variegated and red-leaved forms available; adaptable to water culture.

Phormium tenax, New Zealand flax: 6x1 ft; rigid, upright linear leaves up to 10ft long, dark green above and blue-green below.

Ricinus comunis, castor bean: 30ft; alternate, very broadly ovate, deeply 5- to 12-lobed, toothed, glossy, mid-green leaves up to 18in long; when grown as an annual, grows to 6ft.

Colocasia esculenta, elephant ear, taro: 5 ft; ovate, heart-shaped to arrow-shaped, dark green foliage to 24in long; very moist or aquatic conditions; color variegations include purple-black.

Zone 11

Agave americana, century plant: 6x10ft; basal rosettes of spreading, lance-shaped, spiny margined, gray-green leaves up to 6ft long; min 41°F/5C. ♣

READERS' Pond Album

John & Arlis Bourg Raymond, Nebraska



At one end of the Bourgs' pond is a waterfall that they decorate each year. They accumulated the rocks from their local countryside, asking farmers to cart away their rock piles. This end of the pond also includes a landscape timber pond that overflows into the large pond, supplying extra vegetable filtration and space for more aquatic plants.



The Bourgs' pond is 20' x 40' with a shallow end at 2-foot-depth and the opposite end at 4-foot-depth. To help tend their koi, John and Arlis have installed a bubble bead filter. During the summer, they have at least four dozen water lilies bloom each day!

Elizabeth Mandolino Long Island, New York



Taylor and friend, Johnny, are frequent visitors to Grandma Mandolino's pond.



Elizabeth's Maltese, Tiffany, has formed a nose-to-nose relationship with the pond's Koi. Have you ever been kissed by a Koi?

Victoria Update

by Kit Knotts

New Nuts

This year's Victoria seeds are creating new nuts at an incredible rate. Lots of fresh seeds and new ideas about germination and what we think are better storage temperatures are bringing really good success rates to the many new people trying Victoria this year. Thanks also to *Pond & Garden*, the IWGS web site and other media, more and better information is out there, building interest in quantum leaps.

Not new to Victoria, but new to the “totally addicted, brainstorm every idea” hard-core is Matthew Johnson. We consider our co-nut cases to be Nancy Styler, Rich Sacher, and Joe Summers with the likes of Dirk Rosenberg, William Phillips and Stan Skinger (when he has time) joining in, among many others. Well, there's a new kid.

Matt grew out 12 Victorias last year in natural ponds at his home in upper New York State – with no help from our “Victoria Anxiety Support Group.” He sprouted them, brought them through the Terrible Twos (two floating leaves and croak, for some of us) IN HIS BASEMENT! This year he wants to

grow everything, including every oddball cross made, and is going like gangbusters.

We think we pretend to advise but are really fascinated with some of the innovative ideas proposed by Matt and are learning, as we always do from others, from his experiences. He even went to the Amazon on a recent trip and adds that to his portfolio of expertise. The hard core, as well as the Victoria e-mail group, just send copies of correspondence to Matt and wait to see what he thinks.

Is this a new PhD with a special interest in Victoria? A university guru, a major grower coming to the fore? Not on your life! This is a 17-year-old high school student who is just plain extraordinarily nuts...our kind of nuts.☛



Our kind of nut, Matthew Johnson, has been bitten by the Victoria bug.

Pond Splash – HOW MANY FISH?

by Stephen P. Katona



How many fish can I put in my pond? The easy answer someone once told me was to “put the least amount of fish in your pond you think you should have.” In most cases, people would be so afraid to over-do it that they would stay low in numbers. The educated answer to this question requires a question in return: “What are your ammonia and nitrite levels?” If you have added fish and your poison levels are at zero, then you could add more fish. If the levels are still at zero, then you could add even more fish. Eventually, your ammonia and nitrite levels will increase or spike from too many fish. But there are even more variables involved and an order to follow.

Fish are important to the pond’s ecosystem because they use the dissolved oxygen in the water and release carbon dioxide. During daylight hours, water plants absorb carbon dioxide and produce oxygen through the process of photosynthesis. During nighttime respiration, the process is reversed. Before adding any fish to a pond, you should add plants...and many of them. First establish the environmental system, and gradually add fish last.

I generally don’t like to follow formulas like “x” amount of inches per gallon of water because of outdoor variables. We are not dealing with a controlled environment like an indoor aquarium. Outside, temperatures fluctuate more; we deal with different

amounts of sunlight and shade; and dissolved oxygen levels vary depending on design and pump selection.

After fully planting a pond, I would add two fish at a time to my water garden. Each week I would add two more fish until I reached the desired number. During this stocking period, I would monitor my pond’s poison levels. Ammonia and nitrite test kits can be purchased from a dealer and are quite simple to use. If my poison levels are *not* at zero, then I either added too many fish, did not provide enough dissolved oxygen, overfed, did not net out decaying debris, or have insufficient filtration. My solution choices would be to thin out the population of fish along with a partial water change, (using de-chlorinator, if necessary) or beef up my filtration areas.

Consider this scenario: A homeowner tends and enjoys his pond for three years, and all of a sudden the poison levels increase, seemingly for no reason. One forgets that fish grow in size every year and produce more waste. To solve this, again you could thin out the number of fish or increase bio-filtration.

Experiment with your fish selection. Do not choose fish in haste. If you fill up your pond too soon, then the day you discover a fish you really want, you won’t be able to get it. Remember, put the least amount of fish in your pond you think you should have. ♡

Red Lilies

IN THE SUMMERTIME

Not all water lilies are created equally. Some varieties better tolerate shady conditions, and some varieties better tolerate the heat of summer. Southerners, especially in zones 9 and 10, are familiar with the plight of heat-sensitive, hardy water lilies. It is ironic that the lilies most sensitive to heat are the ones with the most pigmentation – the reds. In temperatures over ninety, the petals of these sensitive water lilies burn or wilt, almost like melting wax. The condition is temporary with the blooms improving on flowers produced in lesser temperatures. Water gardeners in hot summer areas benefit from selecting plants not subject to heat disfiguration.

Hardy Varieties Especially Subject to Burning or Wilting in Hot Temperatures

- N.* 'Attraction'
- N.* 'Atropurpurea'
- N.* 'Conqueror'
- N.* 'Perry's Red Beauty'
- N.* 'Sioux'
- N.* 'Sirius'
- N.* 'Perry's Wildfire'
- N.* 'Almost Black'
- N.* 'Pink Sunrise'
- N.* 'William Falconer'

Red Hardy Water Lilies That Stop Blooming in Heat

- N.* 'James Brydon'
- N.* 'Ellisiana'
- N.* 'William Falconer'



The lower, 3-day-old flower of 'Sirius' was subject to temperatures in the high 90's, while the upper, first-day bloom on the same plant was fortunate to bloom after the heat spell had broken.

Red Hardy Water Lilies That Do Not Wilt in Heat

- N.* 'Charles de Meurville'
- N.* 'Escarboucle'
- N.* 'Froebeli'
- N.* 'James Brydon'
- N.* *xlaydeckeri* 'Fulgens'
- N.* 'Perry's Black Opal'
- N.* 'Perry's Baby Red'
- N.* 'Perry's Red Wonder'
- N.* 'Rembrandt'
- N.* 'Splendida'

Travels with Helen & Marilyn



Friends and Fun Places...



On our 'mega-trip' last summer out to the Pacific coast, we stopped by Minnesota and visited with Dick and Pat Kuykendall of Prior Lake. We'll share their wonderful garden with you later this year!



Shirley Kooyman, Adult Education Director at the University of Minnesota's Minnesota Landscape Arboretum in Minneapolis, is always a delight to visit. Recognizing the interest in ponds, she has planned well-attended, full day, water gardening seminars at the Arboretum for the past couple years. Well done, Shirley!



Who says water garden clubs have to deal only with ponds? Members of the Springfield Watergarden Society met at the Drakes' for a spring mushroom hunt. Yes, we cooked them and had a picnic, too. Definitely an annual event, if we have any voice in it! Now, if they just didn't have seed ticks in Missouri.....

Plant Selection SUBMERGED AQUATIC PLANT, CABOMBA CAROLINIANA

Submerged aquatic plants are important for their removal of nutrients directly from the pond water. While eco-balance 'formulas' may be a general guideline, the only portion of that formula that truly impacts 'green water' is the amount of submerged plants in your pond since they take most of their nutrients directly from the water into their leaves. Include one bunch (5 to 6 strands



Although a submersed plant, *Cabomba* sends a thin stem to the surface where a delightful, papery, white flower blooms.

per bunch) per square foot of water surface and, so long as you don't have too much fish in the pond, your water will be clear. Keep in mind that these plants are easy to propagate; there is usually no need to buy your pond's maximum stocking needs all at once.

Cabomba caroliniana

This subtropical species from the southeastern United States has bright green, fan-shaped, coarsely segmented leaves up to 1.5 inches in diameter. The surface leaves are linear with pointed tips up to 0.8 inches in length. Charming, white with yellow centers, small flowers bloom on extended, fine stems at the water's surface. Because it is of sub-tropical origin, it is not reliably hardy from zone 5 and colder. Winter a portion indoors in a heated, lighted aquarium. Try wintering other portions well beneath any potential ice coverings on your pond.☺

Design Ideas

WATERFALLS

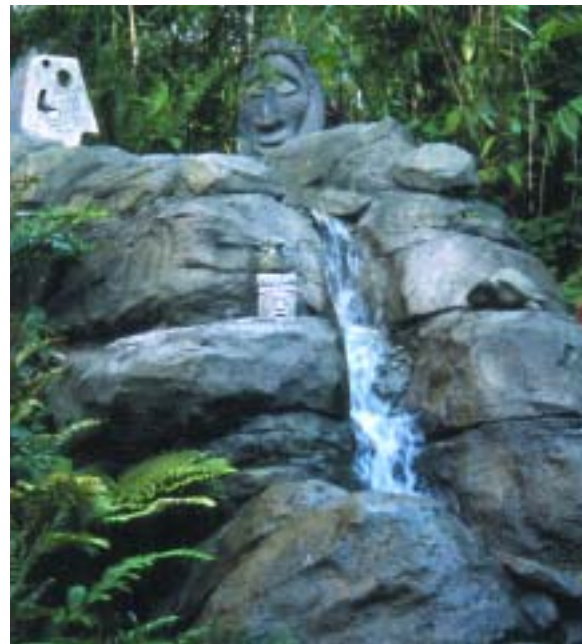
Waterfalls enhance the beauty of your pond construction as they add the delight of sound. Fully line your waterfall construction. Figure the pump size needed by noting the width in inches of your spillway and counting approximately 100 gallons per hour of flow for each inch. Then note the height of your waterfall. Consult a pump-sizing chart for the pump that will give you the necessary flow at the height or “lift” of your falls. ♡



A large waterfall need not be made of large boulders. Every stone used in this construction can be managed by a single person!



Traditional waterfall construction calls for stair-stepping the basic form into a mound of dirt at one end of the reservoir pond. Often the entry point of water at the top is a small “header” pond that may function as a bio-filter or as a vegetable filter. Line the entire construction to a point above the splash and water line. You can overlap the waterfall liner over the liner of the pond below.



Your waterfall can be a very narrow stream tumbling down a rock-face. This construction features a man-made rock. (Use concrete over a rebar-formed, supporting shape covered with chicken wire/mesh, and carve the wet concrete with a knife to simulate real rock. Paint it to the desired color.)

Plant Selection

SHADE-TOLERANT WATER LILIES

Most blooming aquatic plants need at least six hours of sunlight a day. Sites with only 2 or 3 hours of sunlight, however, need not be bloom-free. The list of water lilies that will still bloom in reduced sunlight is short, but you are not without options. For the fully shaded water garden, seek color in your fish and in variegated-foliage aquatic plants, as well as in landscaping plants such as impatiens.



N. 'Masaniello' may not bloom as prolifically in shade as it does in sun, but it will bloom with only 2 to 3 hours of daily sunlight.

Water Lilies That Bloom in 3-4 Hours of Sunlight

Tropicals:

Most blue tropicals, all of which are day bloomers, tend to be fairly tolerant of the shadier site. 'Director George T. Moore' does especially well in the partly shaded water garden. 'Isabella Pring' is a white tropical that tolerates reduced sunlight, too.



N. 'Hal Miller' is a large white to creamy-white hardy water lily that blooms in less sunlight than most others.

Hardies:

Red:

'James Brydon,' 'Lucida,' 'Attraction,'
'Escarboucle' aka 'Aflame,' 'Froebeli'

Pink:

N. 'Masaniello'

White:

N. 'Hal Miller'

Yellow:

N. 'Chromatella'

Sunset/Changeable:

'Comanche,' 'Paul Hariot,' 'Chrysantha'



N. 'Lucida' is a dwarf-type red lily that is perfect for the partially shaded small pond or tub garden.

Plant Selection

VIVIPAROUS WATER LILIES

Some tropical, day-blooming water lilies reproduce viviparously at their leaves with tiny clone plants at the leaf's sinus, the connecting point of the two lobes of the leaf. Some plants, such as *N. 'Dauben'* and *N. 'Tina'* produce these tiny clones on every leaf. The tiny viviparous plantlets produce miniature leaves and some roots, but they do not display much growth until the parent leaf begins to yellow and die. Remove the tiny plantlets once you notice root growth. Pot them in small containers and treat as any other seedling – place them in shallow water of 2 to 3 inches of water over the soil, protect them from strong direct sunlight, and begin feeding appropriately reduced amounts of fertilizer once mature growth begins.

Water Lilies That Reproduce Viviparously

Tropical Species

N. micrantha

N. lotus

(night-bloomer, occasionally from flower)

Day-blooming Tropical Cultivars

N. 'August Koch'

N. 'Bagdad'

N. 'Bluebird'

N. 'Charles Thomas'

N. 'Daubeniana' aka *N. 'Dauben'*

N. 'Edward D. Uber'

N. 'Isabella Pring'

N. 'Margaret Mary'

N. 'Mrs. Martin E. Randig'



Ironically occurring in Colorado, a flower of Kirk Strawn's cultivar *N. 'Colorado'* was discovered producing a viviparous plantlet in the summer of 1998.

N. 'Panama Pacific'

N. 'Patricia'

N. 'Paul Stetson'

N. 'Peach Blow'

N. 'Pink Platter'

N. 'Royal Purple'

N. 'Tina'



The hardy water lily, *N. 'Colonel A.J. Welch'*, produces viviparous plantlets from its flowers, usually from mid-summer on. Other cultivars created with 'The Colonel' as one of the parents may display the same trait.

Hardy Water Lilies Viviparous from flower only

N. 'Colonel A.J. Welch'

N. 'Cherokee'

N. 'Perry's Pink Delight'

N. 'Perry's Red Star'

N. 'Perry's Viviparous Pink'



Viviparous leaves, such as these of *N. 'Tina'*, tend to collect a small pool of water at the leaf's sinus where the tiny clones form.

Design Ideas

FLOATING ISLANDS

We spotted this unique display of aquatic plants, designed by Leslie Meyer, at Eamonn Hughes' nursery in Tualatin, Oregon, last summer. Since most aquatic plants will grow hydroponically, requiring only a support base, the concept is a natural. A lightweight base with a planting pocket is provided for such support. You can anchor your plant arrangement in place with pea gravel or a few well-placed, flat river rocks. Select a tall plant for the center and surround it with shorter aquatic plants, supplying a scrambling type plant to conceal the base. The 'island' kits come with a mesh bag of rocks to serve as an anchor, preventing the island from following the wind's discretion to a side of the pond. If tropical plants are selected, you'll want to winter them appropriately indoors. ♣



Eamonn pulled an island from the pond to show how the roots grow through the porous material to access nutrients from the water.



Plant your island with an arrangement of shallow water aquatic plants. Use a scrambling type plant around the base to camouflage the island form.

If you'd like more information about the floating islands, call Hughes Water Gardens, 25289 SW Stafford Rd, Tualatin, OR 25289 at 503-638-2077 or visit their website at www.thewatergardenshop.com.



Floating island forms are made of a Styrofoam-like material that floats upon the water. With a planting pocket created in the center, the forms come in a variety of sizes up to nearly two feet long. Each island comes with a mesh bag of rocks to use as an anchor.

Design Ideas

OLD-FASHIONED HAND PUMPS

If you don't have an old-fashioned hand pump in your family, they're easy to find at shops selling 'primitives.' Just finding one for your pond can be an adventure in itself. With the plumbing already in place, it is a simple matter of threading the tubing from the pump submerged in the pond up through the hand pump. How you use the old-fashioned pump after that is left to your own imagination!☺



Add extra aeration to the returning water by having it flow from your hand-pump into an overflowing bucket.

Create a watertight, wooden runway like a goldrush run for your water to return to the pond from your hand-pump.



Half-barrels are often used as biofilters for small ponds up to 3' x 5' and 2' deep or up to 4' x 4' and 18" deep, using the minimum formula of 10% of the pond's volume being involved in the biofilter system. Use your old-fashioned hand pump to return the pond water through your whiskey-barrel biofilter.

Enter Your Pond in P&G's First Annual Pond Contest!

Winners from each participating nursery will be featured in *Pond & Garden*. Visit one of these fine retailers for details.

CANADA: Picov's Nursery & Water Garden Centre, 380 Kingston Rd E, Ajax, Ontario L1S 4S7; 905-686-6958

AL: Aquatic Gardens Inc., 5485 Hwy 280 E, Birmingham, 35242; 205-995-9466

CA: The Front Yard Nursery, 5801 Mother Lode Dr., Placerville, 95667; 530-626-3494

CO: Timberline Gardens, 11700 W 58th Ave., Arvada, CO 80002; 303-420-4060

Western Outdoor Aquatics, 16150 Hwy 7, Brighton, CO 80601; 303-255-7081

CT: Butler Florist and Garden Center, 416 Park Rd, West Hartford, 06119; 860-561-2148

Gooseneck Water Gardens, 1588 Meriden-Waterbury Rd, Milldale, 06467; 860-628-5888

FL: Aquatics & Exotics Water Garden Nursery, 11896 Walsingham Rd, Largo, 11896; 813-397-5532

Concrete Gardens, 21740 US 441, Mt. Dora, 32757; 352-383-1313

Merritt Island Ace Hardware, 1005 N Courtenay Pkwy, Merritt Island, 32953; 407-452-3484

Werner's Water Gardens, Inc, 5314 Mile Stretch Dr, Holiday, 34690; 727-943-7937.

GA: Garden Depot, 1115 SW Bowens Mill Rd, Douglas, 31533; 912-383-7698

Whitepath Water Gardens, 14694 Hwy 515 N, Ellijay, 30540; 706-635-8700

IA: Steve's Ace Hardware, 1670 JFK, Dubuque, 52002; 319-556-8030

Tender-Top Water Gardens, 2902-406 Rd, West Burlington, 52655; 319-752-3305

IL: Casey's Garden Shop, 1505 N Main, Bloomington, 61701; 309-828-1424

IL continued:

Clark's Greenhouse & Herbal Country, 2580 100th Ave, San Jose, 62682; 309-247-3679

La Fox Garden & Landscape Supplies, IN298 LaFox Rd, LaFox, 60147; 630-208-1176

Rock Valley Greenhouse & Garden Center, Inc., 785 N Bell School Rd, Rockford, 61107; 815-398-1937

The Growing Place Nursery & Flower Farm, 25W 471 Plank Rd, Naperville, 60563; 630-355-4000

IN: Aquarius Water Gardens, 1480 Hwy 64 NW, Ramsey, 47166, 812-347-2191

Aquatic Designs & Supplies, Inc., 445 N Chestnut St (SR 39), Monrovia, 46157; 317-996-3106

Camelot Water Gardens, 2624 S Michigan St, South Bend, IN 46614; 219-233-1766

KS: Puddles N' Pads Water Gardens, 4111 NW 16th, Topeka, 66618; 785-233-3474

KY: The Pond Store, 4407 Breckenridge Ln, Louisville, 40218; 502-499-8777

LA: Harb's Oasis Water Garden Center, 13827 Coursy Blvd, Baton Rouge, 70817; 225-756-2720

MA: Chapley Gardens, 397 Greenfield Rd, Rts. 5 & 10, Deerfield, 01342; 413-774-7663

Hyannis Country Garden, 380 W Main St, Hyannis, 02601; 508-775-8703

MI: Apol's Landscaping Company, 9340 Kalamazoo, Caledonia, 49316; 616-698-1030

Barson's Greenhouses, 6414 N Merriman, Westland, 48185-2913; 734-421-5959

Grass Roots Nursery, 24765 Bell Rd, New Boston, 48164; 734-753-9200

Tiano's Water Lilies & Fish Farm, 12205 84th Ave, West Olive, 49460; 616-895-5175

Harry's Special Places, 40001 Grand River, Novi, 48375; 248-888-1060

MO: Hillermann Nursery & Florist Inc., 1160 W 5th St, Washington, 63090; 636-239-6729. Watch for new location this year!

O'Quinn's Orchids & Water Gardens, 2936 W Republic Rd, Springfield, 65807; 417-883-2399

MO continued:

Plants, Ponds & More, 9300 Gravois Rd, St. Louis, 63123; 314-638-3210

MN: Vermillion Waters, 4898 170th St E, Rosemount, 55068; 651-480-1986

NC: Carolina Home & Garden, 4778 Hwy 24, Newport, 28570; 252-393-9004

NE: Campbell's Nurseries & Garden Centers, 7000 S 56th St and 2342 S 40th St, Lincoln, 68516, 402-423-4556

NH: Elf's Garden Center, 296 Walnut St, Rochester, 03867; 603-332-6577

PK's Garden Center, 607 Amherst St, Nashua, 03063; 603-889-9043

NV: Oasis Water Gardens, 2205 ? Glendale Ave, Sparks, 89431; 775-358-6060

NY: Arbordale Nurseries, 480 Dodge Rd, Amherst, 14068; 716-688-9125

Masterson's Garden Center, 725 Olean Rd, East Aurora, 14052; 716-655-0133

Suburban Water Gardens, 211 Burrs Ln, Dix Hills, 11746; 631-643-3418

Totality Water Gardens, 591 Candor Rd, Spencer, 14883; 607-589-7956

NY continued:

Ulbrich's Garden Center, 11500 Broadway, Aiden, 14004; 716-937-7742

OH: Allison's Landscaping & Water Gardens, 5168 Crookshank Rd, Cincinnati, 45238; 513-922-1313

Green Vista Water Gardens, 230 W Main, Enon, 45323; 937-864-7681

Hoffman's Garden Center, 1021 E Caston Rd, Uniontown (Green), 44685; 330-896-9811.

Your Pet's Shop & Water Gardens, 3693 Paxton Ave (Hyde Pak), Cincinnati, 45209, 513-531-3085

OK: Ardella's Garden Center, 501 N Porter, Norman, 73071; 405-321-4826

Hardscape Materials, Inc., 11610 S Memorial Dr., Bixby, 74608; 918-369-1170

Stonebridge Garden Center, 700 E Will Rogers Blvd, Claremore, 74017; 918-341-1228

OR: Hughes Water Gardens, 25289 SW Stafford Rd, Tualatin, 97062; 503-638-1709

PA: North Hills Water Gardens, 1615 Babcock Blvd, Pittsburgh, 15209; 412-821-6525
RI: Koi Villa II, 2260 Flat River Rd, Coventry, 02816; 401-392-0255

TN: The Water Garden, 5594 Dayton Blvd, Chattanooga, 37415; 423-870-2838

TX: Emerald Garden, 6910 Hwy 71 West, Austin, 78735; 512-288-5900

Green Mama's, 5324 Davis Blvd, No. Richland Hills, 76180, ph: 817-514-7336

Water Gardens Galore, 4236 W Lovers Lane, Dallas, 75209; 214-956-7382

UT: Desert Water Gardens, 1279 W 1600 N, West Bountiful, 84087; 801-292-8057

VA: House of Water Gardens, 5748 Alean Rd, Boone's Mill, 24065; 540-334-3006

WA: Green Acres Gardens & Ponds, 15011 Vail Rd SE, Yelm, 98597; 360-894-0876

Koi Gardens, 6903 E Weile Ave., Spokane, 99217; 509-466-6640

Oasis Water Gardens, 404 S Blandon, Seattle, 98108; 206-767-9776

Sunrise Ponds, 2401 Samish Way, Bellingham, 98226; 360-734-3091