Pond & Garden

May - June 2001 • Volume 3, Issue 1

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Features

Readers' Service

c o n t e n t s

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Cover Photo: Louisiana Iris 'Marie Caillet' by Sue Bridges, Courtesy of Louisiana Iris Farms, Lafayette, LA.

Departments/Columns/Short

Share your pictures!

I remember the day I caught Chelsea blowing bubbles in her pond. Fortunately, I got the shot of her draped in coontail, but.I missed the one of her sitting forlornly on her ice-covered pond, forehead wrinkled in dismay. In this issue, Mary Apol shares a picture of granddaughter Esther sniffing a water lily. One of the joys of ponding is the reaction of family and friends to its wonders. Mary suggested we run a feature on our children (and grandchildren) in our gardens. Yes, I thought, but what about family pets, too? Why not share your special pictures of family and friends (furry and otherwise) enjoying your pond? Sharing, after all, is one of the primary symptoms of pond-addiction. Send us your pictures!

Helen

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KoiVet.com

Ammonia

by Dr. Erik Johnson

Among the first things you should do when setting up a koi pond, or if your fish seem 'sick,' is a test for ammonia.

Ammonia is the primary waste product of fish, excreted primarily through the gill tissues and, to a lesser extent, via the kidney. Ammonia can also accumulate from the decay of solid fish wastes and other organic debris derived from protein.

Ammonia accumulations cause reddened skin and disability of the gills by its direct caustic effect on these surfaces. Fish suffering with high ammonia accumulations will isolate themselves, lie on the bottom, clamp their fins, secrete excess slime, and are much more susceptible to parasitic and bacterial infections.

Ammonia is a big problem in new systems because the bacteria that would naturally process the ammonia are not established. (*See discussion of the Nitrogen cycle.*) As well, even in established systems, ammonia may accumulate in springtime when the water is cold but fish are eating, because the bacteria have not emerged usefully from hibernation.

Ammonia is capable of ionization below pH 7.4, and, in that ionized state of ammonium, it is less toxic. Above pH 8.0, most ammonia is NOT ionized, and so it becomes more toxic. Care should be taken not to increase the pH of a system if ammonia is present. The need to drop the pH and to provide oxygenation to tanks of fish to keep pH down is an overrated aberration in the literature. Water that is warm, high in pH or deprived of oxygen will have an enhanced toxicity when ammonias are accumulating.

Treatment:

Water changes and management of the pH near neutral will go a long way to prevent losses from ammonia. Ancillary, less useful modes of ammonia management include the use of various water conditioners that bind ammonia and the application of rechargeable zeolite to the system filter. I am still going to tell you that time and water changes are the two most effective remedies, however. (*See discussion of Prime.*)

Visit Doc Johnson's website, www.koivet.com for comprehensive koi and goldfish keeping information.

My Pond

by Brian Denien, Farmingdale, NY

After excavating the soil for the pond, Brian could use the mound of dirt for carving in his waterfall.

I began construction of my pond in March of 2000. I decided to build it in the back corner where it would receive approximately 6 ½ hours of pure sunshine. Knowing we wanted a stream and waterfall, I ran electricity out to the pond and added a GFI receptacle. I had a good idea what I wanted the pond to be, but as I started digging, I thought to add something a little different — a 200 lb lava/feather rock that would look as if it had been left behind in the construction. This required some help from a neighbor!

After digging the pond to 12 ft long by 6 ft wide and 2 ft deep, I had a huge pile of dirt. This was the fun part – carving out the stream and waterfall. (Tip: soak the dirt with water so it becomes mud; it makes carving much easier.) When I finished all my digging, I ordered my liners, a 45-mil EPDM liner for the pond and a 32-mil PVC liner for the stream and waterfalls. I also ordered enough geo-thermal textile fabric to underlay the entire pond and stream. (I used play sand and newspaper, too.)

Once the liners arrived, I again summoned my neighbor. As soon as the liners were set, we began filling the pond. By then, one ton of moss rock and two tons of flat, Pennsylvania wall stone had arrived. After selecting the perfect flat waterfall rocks, I began to mix and set the stones in cement. Once the cement cured (aprox 48 hours), I hooked up my 3900 GPH pump with 1 ½" tubing, and the moment of truth was here. It flowed better than I'd anticipated. I was so excited to see it finally running, but, as you know, the fun had just begun. Next, I added the moss rock up the stream and the PA wall stone around the pond; it was beginning to shape up.

My wife, Tracy, noted that one problem with that part of the yard was a lack of color. She must have known I was on a roll. Ordering two yards of topsoil, I made two planting beds for annuals and perennials near the pond. After the last wheelbarrow of dirt, more stones arrived — one yard of 3/8" red stones for groundcover in the new flower beds, ½ yard of river rounds to line the stream/waterfall, and 7 stepping stones to lead to the waiting park bench.

Brian's completed project includes a pond, stream, waterfall, new planting beds, and a park bench for enjoying it all.

Who would suspect what could happen in a corner of Brian's yard?

Because the waterfall's liner will overlap over the lower pond liner, Brian set the pond's liner first. Filling the pond at this point allows final determinations of levels on the pond's edge.

With the feather rock in place within the pond, Brian could begin construction of his waterfall.

A week later, we added the aquatic plants, and a few weeks later yet, the fish were added. This year, we've added a UV light, too.

Our pond has become the focal point of our back yard, and our neighbors have told us that they leave their windows open at night to listen to the running water, too. I must admit that I love sitting out at night, looking at the stars and listening to my pond. Now, if I could only get rid of those pesky raccoons!

Sharing…

Are you or anyone you know a “koi cook”? Do you like to whip up goodies for your wet pets in your kitchen? Todo Todorsky, who handles his pond club’s newsletter, is collecting recipes for home-made koi food. Anyone contributing a recipe that appears in the koi cook book will receive a first edition copy with full citation for his/her entry. You can send your recipes to Todo Todorsky, 2131 Saul Drive, Jacksonville, FL 32216; fax at 904-721-5936 or E-mail at pondfish@bellsouth.net. In our next issue, you’ll get to meet Todo, as he begins writing an eclectic column. Be warned, Todo’s business card advises he is “subject to random acts of humor”!

When Esther Marie Apol (age 2) comes to visit her grandparents’ farm in Caledonia, MI, she delights in the frogs splashing into the ponds. Grandpa Don gets help feeding his koi, and, of course, there are plenty of water lilies to enjoy. Grandma (Mary Apol) sent along this picture, taken by Esther’s mommy, Joleen Apol, of Esther smelling a ‘Marliac Carnea.’

PEA SOUP IN THE POND

by Chuck Thomas

Company coming and the first course of dinner looks like it's in the pond?

Like a proud parent, there is nothing that a pond owner likes to do more than show off his water garden. But it never fails…we have an event planned at the house with numerous guests (who've only heard us brag about our marvelous sanctuary in the back yard) and bam, you walk out to a green, murky pond. Since it's only a couple of hours until they arrive, you frantically try to do a partial water change and regain some of your reputation. You can't help but ask, "What did I do wrong?" Welcome to nature, my friend. We are at the mercy of snow, tornados, hurricanes, and green water.

I readily admit that I am a purist. With a biology background, I understand the fundamentals of pond balance ecology. But sometimes it seems Mother Nature didn't read all the way through Chapter 8, or maybe she cut class that day. No matter the adequate numbers of submerged vegetation (anacharis, *Elodea*, *Cabomba*), floating plants (hyacinths, water lettuce), and lilies, the pond will do its natural thing and create an algae bloom — that green-colored, pea soup water. Simply caused by an over-abundance of nutrient in the water, primarily nitrogen, this algae can take off overnight; as quickly as it comes, it may go.

I tell my customers that I can balance a pond 90% of the time with plants (anacharis) and surface coverage (lilies, hyacinths), but some ponds just have a tendency to turn green more than others. The amount of sun that a pond is exposed to is certainly one of the major factors, and I always advise locating the pond with at least partial shade, if at all possible.

However, if we've done all that we can do, or other factors, such as fish over-popu-

lation or growth, have added extra nutrient loading to the pond, an ultraviolet sterilizer is the only option that can provide 100% clear water.

An ultraviolet light works by disrupting the DNA strand of the algae and renders it incapable of reproducing, i.e. the sterilizer part of the equation. Even thick pea soup water can be cleared of suspended algae with a few days' use of a UV sterilizer. (Remember to mechanically filter or vacuum away the 'dead bodies' lest you contribute more nutrient to the pond and foster more algae growth!) Koi ponds with little vegetation may have to use the UV light fairly regularly. Water gardens may need to resort to its use only a couple days a week, but I prefer to turn them on and just forget about them.

The light bulb, which is enclosed within a quartz sleeve, needs to be replaced each year as it loses intensity before it has actually burned out. UV sterilizers are hooked up in-line to treat water flowing from the bio-filter before it returns to the pond. This prevents good guy bacteria from being killed, too. UV sterilizers come with a recommended rate of flow past the light for maximum effectiveness.

There are various brands of sterilizers available on the market and most have been refined for pond usage. All you need to know is the volume in the pond to size the wattage of the UV unit that you will need. If the appropriate volume flows by the light and is irradiated, crystal clear water results. Effective only on suspended algae, it will not kill filamentous algae which attaches itself to the pond bottom and sides. This problem must be dealt with by additional nutrient removal by plants or a biological filter.

Chuck Thomas earned his degree in aquaculture from Auburn University. He owns Aquatic Gardens in Birmingham, Alabama.

Pond Planter
– IMPATIENS IN THE POND

by Ray Giacobone

You don't have to limit yourself to the typical pond garden water plants. Impatiens are terrestrial plants that don't mind having their roots water-logged!

How to Make a Pond Planter for Impatiens

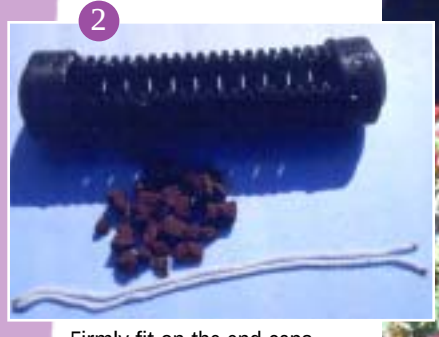
Cut a piece of the drainpipe about 18" long and cut away its top 1/3.

Materials:

- Corrugated PVC black drainpipe with holes
- 2 End Caps
- 3/8" nylon rope
- Volcanic landscape rock
- 8 impatiens

Tools:

- Saw
- Drill and 3/8" bit
- Hot glue gun and glue



Firmly fit on the end caps, and use the hot-glue gun to apply glue all the way around in the gap between caps and pipe. It does not have to be a water-tight seal.

After gluing both caps, drill a 3/8" hole through their tops and bottoms. From the top, thread the rope through the top holes and pass through the bottom holes, tying a large knot on the ends.

Cover the bottom of the container with smaller sized lava rock. Carefully wash the soil from the impatiens. Set them gently on top of the lava rock and add more rock to cover their roots and to hold them upright

Lower the container into the water by the ropes, securely anchoring the rope so that the plant roots are just into the water. Do not immerse the plants' crowns. Although the plants may appear bedraggled at first, they will soon perk up and give you a summer of colorful blooms.

Victoria Update

by Kit Knotts

The Victoria Queen

We often call Victoria the "Queen of Waterlilies", but this is about another Victoria Queen, Nanacy Styler. As Administrator with husband Trey of the IWGS Victoria Conservancy, Nancy rules the cultivated Victoria world.

Nancy Styler, the *Victoria* Queen

As with many monarchs, hard work goes with the title. It all began with an interest in growing *Victoria* which soon became a passion. In the beginning years of the passion, and the Conservancy, seeds were like diamonds. Only major botanical gardens, primarily Longwood Garden, grew both species and therefore could create and grow 'Longwood Hybrid.' Seed production, subsequent germination and seedling growth were fraught with problems.

Wanting to grow *Victoria* was only the beginning for Nancy. Greenwood Village, Colorado, near Denver, is not the easiest place in the world to grow *Victoria*, but there they grew in a large backyard pond. The other mysteries of the plant begged to be solved.

Nancy, on behalf of the Conservancy, undertook the tasks of maintaining a seed bank, initiating studies in ways to improve the germination and culture, distributing hopefully viable seeds to botanic gardens and individuals around the world, and keeping extensive records of all of the above.

Through better seed production in cultivation and more numerous collections in the wild, the seed bank has grown to contain many thousands of seeds, all of which need periodic checking and rinsing. At the beginning of each growing season, Nancy designs and runs germination studies, only one goal of

which is to provide the most successful seed lots for distribution.

Many aspects of seed success and failure are looked at in different years: the best water temperatures for sprouting the different types; the effect of rinses in dilute bleach; the need or desirability of removing the seed's operculum; light and water requirements of seedlings. This year, a focus is on how storage temperatures from collection to startup may affect viability.

Distribution now goes on year-round, with interest in *Victoria* growing in both hemispheres and indoor facilities increasing. Nancy virtually keeps the USPS Priority Mail service in business within the US and must know and meet customs and agricultural requirements of the many foreign countries to which she ships.

The record-keeping involved goes far beyond assigning Conservancy Numbers to seed lots. Each shipment must be carefully logged. The germination studies require a complex database to extract all the information accumulated. Sending out seeds often puts Nancy in the role of godparent, providing cultural information and encouragement by phone and mail. It also provides the opportunity to request data back from growers which then become part of the records of the Conservancy.

Though we women tend to get the spotlight, as with my husband Ben, no one should discount the role of Trey Styler. He supports and encourages Nancy's passion and is an active participant in many aspects of the endeavor. He is currently putting the finishing touches on a new Cultivation Guide for *Victoria* that includes all the new and changed thinking.

Nancy brushes aside the title bestowed on her by many in the *Victoria* world, but she's earned it! She is the undisputed Victoria Queen.

Getting Started with WATER GARDENS and KOI PONDS

by Mike Guilinger

The decisions involved in constructing a water feature can be intimidating with the plethora of products and information now available. Common questions include: Do I really need a biological filter? What liner should I use? How deep should the pond be to have fish? What if I don't want plants and fish? Because pet store clerks often suggest koi for the new pondkeeper, your first decision, before you ever dig the hole, is whether you want a *water garden* or a *koi pond*.

Water Garden

Water lilies and other aquatic plants dominate these ponds, the abundance of plant life allowing you to have a healthy pond without expensive filter systems. Koi *may* be kept in these ponds, but they may also destroy newly planted aquatic plants before the plants have become established enough to survive the onslaught. Fish numbers must be kept in check with no more than one inch of fish per 20 gallons of water. Fish should be fed sparingly, no more than once a day, and only as much as they will eat within a couple minutes. Water circulation is important with the total volume of water cycled through the system once a day. In Florida, these ponds can be as shallow as 12 inches without fish or more usually 24 inches with fish.

Koi Pond

These ponds are designed to support unusually high levels of fish (up to 8 inches of fish per 100 gallons) and may or may not include plant material. Plants can be used in marginal areas, and lilies can be planted to provide shade and to cool the water in the summer. In Florida, it is important that the fish not be exposed to constant sun, especially in clear water, since 'sunburn' can lead to weakened fish and a number of skin diseases. Trees, lanai screens, or water lilies can provide this shade.

Water is circulated through the system as often as once every hour. Rather than relying on plants for filtration, these systems use biological filters that enhance the naturally occurring nitrogen cycle's conversion of toxic ammonia and nitrites to usually non-toxic nitrate, thereby keeping the water healthy. An Ultra-Violet (UV) light is often used to keep the water clear of green water algae. Recommended water depth is 24 inches or more with little additional benefit derived from depths over five feet. To protect your investment in fish, we recommend koi pond depth be at least 30 inches or more and that the water be salted to at least .01%. Steep-sided constructions help protect fish from predators. In Florida's sandy soil, we use concrete blocks to achieve the vertical sides that deter herons and raccoons.

Mike and his wife, Brenda, are very active with the Florida West Coast Koi & Water Garden Club. In their spare time they can be reached at Sun Bay Garden Center, 2424 Manatee Ave E, Bradenton, FL 34208; 941-750-0889 or through their website: www.ponds2go.com.

Conifers... for the birds

by Sandra McLean Cutler

Hoping it would attract birds, we planted our weeping juniper, *Juniperus scopulorum* 'Tolleson's Weeping,' near our kitchen window. It does. Set closely enough to the window, we hear knocking each time the titmouse and chickadees crack their sunflower seeds. House wrens find it especially enticing for nesting.

This weeping juniper would also be outstanding beside a pond. With rapid growth of 8-12" a year, it quickly assumes design proportions. A vigorous, potentially invasive root system, however, mandates precautions wherever you plant it.

To prevent foundation damage, we planted ours in a huge plastic flowerpot and then sank it into the ground. Because it starts to decline when it becomes too root bound, we dig it up, prune the roots, replenish the soil, and then sink it back in place each year. This sunken-container method can be used with other large plants that might encroach upon the pond or other garden areas.

Perhaps requiring a bit more effort than other plants, 'Tolleson's Weeping' enhances your garden throughout the year…and it attracts birds.

Sandra McLean Cutler is the author and publisher of Dwarf & Unusual Conifers Coming of Age – A Guide to Mature Garden Conifers. Visit her website at www.bartonbradley.com for more examples of these special conifers. See page 92 for information on ordering the book.

TRAVELING? Visit one of these AAS Display Gardens!

Many of these All American Selection gardens include water features in their displays.
Take your *P&G* magazine on your trips to easily locate aquatic nurseries, too.

Alabama

Birmingham Botanical Gardens
2612 Lane Park Rd
Birmingham, AL 35223

Bellingrath Gardens and Home
12401 Bellingrath Hwy
Theodore, AL 36582

Alaska

Anchorage Municipal Greenhouse
5200 DeBarr Rd
Russian Jack Springs Park
Anchorage, AK 99508

Georgeson Botanical Garden
West Tanana Dr
AFES, Univ. of Alaska
Fairbanks, AK 99775

Arkansas

University of Arkansas
Ornamental Display Garden
979 W Maple
Fayetteville, AR 72701

California

City of Chino Civic Center
13220 Central Ave
Chino, CA 91710

Garden of the Sun
Univ. of CA Coop. Ext
1944 N Winery Ave
Fresno, CA 93703

Fullerton Arboretum
California State University
Yorba Linda Blvd & Associated Rd
Fullerton, CA 92634

Sunset Publishing
80 Willow Rd
Menlo Park, CA 94025

Strybing Arboretum & Botanic Garden
Golden Gate Park
9th & Lincoln Way
San Francisco, CA 94122

College of Sequoias Farm
2245 South Linwood
Visalia, CA 93277

Colorado

City of Aurora Parks Dept
151 Potomac St
Aurora, CO 80011

Horticultural Art Society, Inc.
Monument Valley Park
Corner Mesa and Glen
Colorado Springs, CO 80904

Denver Botanic Gardens
909 York St
Denver, CO 80206

Connecticut

Bartlett Arboretum
151 Brookdale Rd
Stamford, CT 06903

District of Columbia

U.S. Botanic Garden
245 First St, SW
Washington, DC 20024

Florida

Mounts Botanical Garden
559 N Military Tr
West Palm Beach, FL 33415

Georgia

State Botanical Garden of Georgia
2450 S Milledge Ave
Athens, GA 30605

Oak Hill Gardens
Berry College
Mount Berry, GA 30149

The Cloister Hotel Resort
100 Hudson Place
Sea Island, GA 31561

Idaho

Ricks College
500 S Center St
Rexburg, ID 83460

Illinois

Illinois Central College
Agriculture Land Laboratory
One College Dr
East Peoria, IL 61635

Chicago Botanic Garden
1000 Lake Cook Rd
Glencoe, IL 60022

Mabery Gelvin Botanical Gardens
Rte 47
Mahomet, IL 61853

Triton College Botanical Garden
Triton College
2000 5th Ave
River Grove, IL 60171

Washington Park Botanical Garden
Corner Fayette & Chatham Rd
Springfield, IL 62703

Indiana

Foster Gardens
3900 Old Mill Rd
Ft Wayne, IN 46807

Iowa

Iowa State University
Reiman Gardens
Pammel Dr & Haber Rd
Ames, IA 50011

Noelridge Park
4900 Council St, NE
Cedar Rapids, IA 52402

Vander Veer Botanical Park & Center
214 W Central Park Ave
Davenport, IA 52803

Des Moines Botanical Center
909 E River Dr
Des Moines, IA 50316

Dubuque Arboretum & Botanical Gardens
3125 W 32nd St
Dubuque, IA 52001

ISU Home Demonstration Garden
Armstrong Research & Demo Farm
53020 Hitchcock Ave
Lewis, IA 51544

Kansas

NWK Research-Ext Center
Rte 2
Colby, KS 67701

Botanica, The Wichita Gardens
701 Amidon
Wichita, KS 67203

Kentucky

University of Kentucky Arboretum
Alumni Dr
Lexington, KY 40546

Louisiana

New Orleans Botanical Garden
Victory Ave City Park
New Orleans, LA 70119

Maine

University of Maine Research Farm
Rogers Farm
Bennoch Rd
Stillwater, ME 04489

Maryland

Cylburn Arboretum & Park
4915 Greenspring Ave
Baltimore, MD 21209

Brookside Gardens
1800 Glenallen Ave
Wheaton, MD 20902

Massachusetts

University of Massachusetts
Durfee Conservatory, French Hall
Amherst, MA 01003

Berkshire Botanical Garden
5 W Stockbridge Rd
Stockbridge, MA 01262

Michigan

Dow Gardens
Eastman (US-10) & W St. Andrews
Midland, MI 48640

Fernwood Botanic Gardens
13988 Rangeline Rd
Niles, MI 48120

Hidden Lake Gardens-MSU
Rte M-50
Tipton, MI 49287

Minnesota

Minnesota Landscape Arboretum
3675 Arboretum Dr
Chanhassen, MN 55317

Lyndale Park Gardens
4125 E Lake Harriet Pkwy
Minneapolis, MN 55409

Missouri

SE Missouri State Univ.
Univ. Horticulture Display Gardens
New Madrid Dr
Cape Girardeau, MO 63701

AAS Display Gardens continued…

Lincoln University Gardens
1120 Chestnut St
Jefferson City, MO 65101

Powell Gardens
1609 NW US Hwy 50
Kingsville, MO 64061

Missouri Botanical Garden
4344 Shaw Blvd
St Louis, MO 62110

Nebraska

State Fair Park Arboretum
1800 St Fair Park Dr
Lincoln, NE 68504

Metro Community College
Fort Omaha Campus
30th & Fort Streets
Omaha, NE 66111

New Hampshire

Fuller Gardens
10 Willow Ave
North Hampton, NH 03862

UNH Trial Garden
Prescott Park, Marcy St
Portsmouth, NH 03801

New Jersey

Hunterdon County Arboretum
1020 Hwy 31
Lebanon, NJ 08833

Frelinghuysen Arboretum
53 E Hanover Ave
Morristown, NJ 07962

Rutgers University
Lacey Display Garden
Rte 1 & Ryders Lane
New Brunswick, NJ 08901
Skylands Botanical Garden
Ringwood State Park
1304 Sloatsburg Rd
Ringwood, NJ 07456

New York

Boldt Castle, Formal Gardens
Thousand Islands Bridge Authority
Alexandria Bay, NY 13607

Cutler Botanic Gardens
840 Upper Front St
Binghamton, NY 13905

Brooklyn Botanic Garden
1000 Washington Ave
Brooklyn, NY 11225

Buffalo & Erie County Botanical Gardens
2655 S Park Ave
Buffalo, NY 14218

Erie Basin Marina Park
Joan Fuzak Memorial Gardens
1 Erie St
Buffalo, NY 14202

Sonnenberg Gardens
151 Charlotte St
Canandaigua, NY 14424

Old Westbury Gardens
71 Old Westbury Rd
Old Westbury, NY 11566

North Carolina

Blue Ridge Community College
Rte 2
Flat Rock, NC 28731

Reynolda Gardens of Wake Forest Univ.
100 Reynolda Village
Winston-Salem, NC 27106

North Dakota

International Peace Garden
Rte 1
Dunseith, ND 58239

North Dakota State Univ.
1300 18th St N
Fargo, ND 58105

Ohio

Krohn Conservatory
1501 Eden Park Dr
Cincinnati, OH 45202

Spring Grove Cemetery and Arboretum
4521 Spring Grove Ave
Cincinnati, OH 45232

Rockefeller Park Greenhouse Gardens
750 E 88th St
Cleveland, OH 44108
The Dawes Arboretum
7770 Jacksontown Rd SE
Newark, OH 43056-9380

Miami Univ. Formal Gardens
Botany Dept Gardens
Boyd Hall, Fisher Dr
Oxford, OH 45056

Gardenview Horticultural Park
16711 Pearl Rd
Strongsville, OH 44136

Toledo Botanical Garden
5403 Elmer Dr
Toledo, OH 43615

Fellows Riverside Gardens
Price Rd in Mill Creek Park
Youngstown, OH 44509

Oregon

Clackamas Community College
19600 S Molalla Ave
Oregon City, OR 97045

Pennsylvania

Temple University
Ambler Research Gardens
580 Meetinghouse Rd
Ambler, PA 19002

Longwood Gardens
US Rte 1 S
Kennett Square, PA 19348

Rodale Research Center
611 Siegfriedale Rd
Kutztown, PA 19530

South Carolina

Clemson University
Hwy 76-28 & Perimeter Rd
Clemson, SC 29634

Texas

Dallas Arboretum & Botanical Garden
8617 Garland Rd
Dallas, TX 75218

Dallas Hort. Ctr. in Fair Park
Texas Discovery Gardens
3601 Martin Luther King Dr
Dallas, TX 75201

Houston Civic Garden Center
1500 Hermann Dr
Houston, TX 77034

Travels with Helen & Marilyn

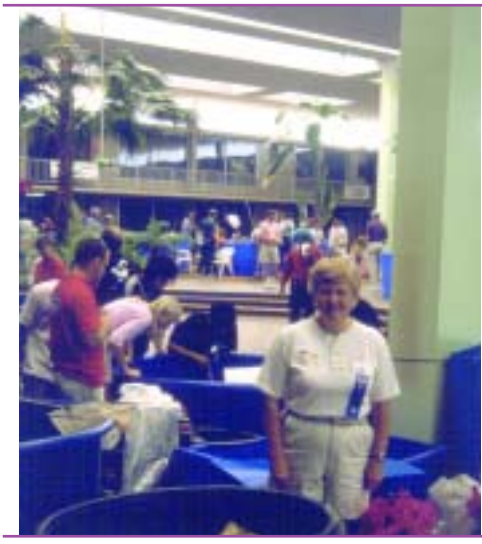
AFKAPS 2001

The 4th Annual All Florida Koi & Pond Show was held March 16-18 at the Ramada Resort & Conference Center in Orlando, Florida. Don Hellard, Joe White, Paula Biles, and "a cast of thousands" did all of Florida proud! Participating clubs were Central Florida Koi Club, Florida East Coast Koi & Water Garden Society, Florida West Coast Koi & Water Garden Club, North Florida Koi Club, Tampa Bay Koi & Water Garden Club, Tropical Koi Club of South Florida, Gainseville Koi, Goldfish & Water Garden Club, Florida Koi & Water Garden Society, and Nature's Coast Koi and Water Garden Club.

Vendors set up many booths and displays. Marjorie Summers' grandson, Dan Harrison, enjoys a moment on the front porch of the display he built for Grandma's business, Concrete Water Gardens in Mt. Dora.

Paula Biles, who organized the extensive Seminar portion of the Show, and Mike Guilinger of Ponds2Go hold the Crystal Pond Award given to the Department of Fisheries and Aquatic Science at the University of Florida, Institute of Food & Agricultural Sciences in recognition of their excellence in aquatic research and education.

Besides vendors, displays, koi and goldfish judging, and two days of Seminars, the Florida clubs held a tub garden contest.



Inside the Resort's atrium complex, vendors set up booths and tanks of koi and goldfish. Pam Beal made the trip from Merritt Island Ace Hardware.

Pond Contest 2000

From Your Pet's Shop and Water Gardens in Cincinnati, OH

T.J. Tully's entry is a most whimsical 'frog pond'! TJ used two small preformed ponds to create a display area for her favorite frog statues. With no fish or live plants in the pond, T.J. keeps the water clear with 1/2 cup of chlorine added each week.

From Springfield, MO

(inset) Janet Wreath of Springfield, Missouri, is never far from the sound of water. Her coffee table copper fountain with etched glass top was made by coppersmith Pat Hannes in Reeds Spring, MO, in 1984.

(left) Outside, of course, Janet has a real pond complete with fish and aquatic plants!

IRIS VERSICOLOR, THE BLUE FLAG IRIS

by JoAnn Gillespie

Iris versicolor is one of the most colorful harbingers of spring. This natïve Iris is commonly called "Blue Flag." It is easy to identify with its blue sepals and, in most cases, a spot at the base of the blade. While this small spot guides insects to the pollen portion of the flower, it is also known as a "water spot," characteristic of aquatic irises. Fully hardy across the northern U.S. and into Canada, a Southern species, *Iris virginica*, is likewise known by the common name, blue flag.

Iris versicolor loves wet places and is equally at home in shallow water (1-4") or in the muddy, emergent borders of the pond. Its kissing cousin is the yellow flag iris, *Iris pseudacorus*, originally a European plant now naturalized across North America.

Typical of many native plants, the blue flag iris is important to wildlife. The plant's rigid stems and sword-like leaves provide food and shelter for many amphibians, birds, and mammals. The remainder of the plant beneath the water, along with its decaying parts, provides habitat and food for many aquatic animals. In the mud surrounding the plant's rhizome, mussels, flat-worms, and mayfly and dragonfly nymphs feast on decomposing plant parts. Fungi and bacteria also work at converting the organic material into nutrients. As the seed pods mature and open, seeds fall out and float upon the water to the delight of waterfowl. Long after the blooms have faded, people continue to enjoy the plant indoors with dried seed pods gracing floral arrangements.

Irises add greatly to the aesthetics of a pond. The fact that they attract other life forms offers the observer a fascinating laboratory to study aquatic life.

JoAnn Gillespie is a noted wetland consultant from the state of Wisconsin.

Iris virginica is the Southern species of the native blue flag iris

Pond Contest 2000

Nancy Drigotas and Diane Eggleton designed and built their pond themselves in 1997. Measuring 7.5 x 10.5, it holds 1500 gallons of water. The ladies describe their pond pets as "frogs, clams, and dragonflies." Is the only fish the concrete species emerging from the edge of the pond?

From Bainbridge Gardens in Bainbridge Island, Washington

Fenix Theuerkorn of Bainbridge Island designed and built their 4 x 8' pond to be 3 feet deep for their 8 young koi. The readily accessible deckside pond is serviced by a Cyprio Bioforce 1000 pump and UV.

Gayle Heller of Poulsbo, Washington, enlisted the talent of Bainbridge Garden's Don Blossom for this oriental design. While the pond measures 12' x 8', it is only 16 inches deep. Gayle uses a Sequence K6 pump and in-pond pea gravel bio-filter.

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HOW'S YOUR FISH WISH LIST?

by David A. Dec

Do you have a fish wish list that you just can't seem to fill? When local sources can't help, expand your search throughout the U.S. The Internet puts you in touch with experts and gives you pictures of your possible fish purchases.

In searching for koi, you'll find selections categorized as pond, premium, select and championship AA. Pond quality fish are selected if you want to test a particular fish or simply wish to fill your pond. If you want something nicer at a reasonable cost, you'll choose from the premium selection. The select category offers a quality fish at an understandably higher price. Championship AA quality, of course, is for those who might be interested in showing the fish competitively. While pictures of lower quality fish may not be available, the higher quality and more expensive fish are pictured.

Ordering fish over the Internet or by mail may concern you. How are they shipped? How safe is the shipping? What if something happens to the fish?

Sellers ship fish in insulated boxes with ice packs under double or triple bagged, clear plastic bags. The ice chills the water enough to induce a hibernation-like state that eases the fish's stress. The first bag holds the fish in a few gallons of water with the remaining space in the bag filled with pure oxygen. That bag is then placed inside 2 other bags that are filled with oxygen and sealed tight. By controlling the density of the fish in the bags, the fish can remain safe and healthy, even when the shipping takes several days. Fish are shipped by Federal Express Priority Overnight, Air Cargo, US Express Mail, etc. with the success rate generally at 100%.

Occasionally, there can be a problem. Most shippers will bend over backwards to satisfy their customers. Because some shippers have been exposed to very suspicious claims, they usually request immediate photographs of the dead fish, or in some cases, they may request the tails be cut off and sent back to them. Almost all sellers guarantee the fish will arrive alive. Check out the terms of the guarantee and understand how any claims are handled *before* you order the fish. Should you have any problems, notify the seller within hours. By dealing with buyers who accept major credit cards, you are protected from any questionable practices. If a seller wants a certified check in advance of the shipment, you could be left helpless.

Guidelines for Handling Shipped Fish

1. Your newly arrived fish is enclosed within a sealed plastic bag containing 100% compressed oxygen. When you open the bag, the compressed oxygen is replaced with uncompressed air containing only 20% oxygen. As soon as you open the bag, the fish may suffer from a lack of oxygen. *Do not open the plastic bag* until after you have floated it and are ready to introduce the fish to their quarantine tank or pond.

2. Take the fish to their quarantine tank or pond as soon as possible. Remember, your pond's temperature, pH, hardness, salinity, etc. may be very different from the water the fish

are shipped in. The chlorine level in your pond must be zero.

3. Float the bag for 15 to 30 minutes to equilibrate the temperature and then open the bag. As soon as you open it, add pond water — about a quarter to half of the bag's volume, usually ? gallon. After you add the pond water, the bag should contain 25-50% more water. In about ten more minutes, if the fish do not look distressed, add another 50%. If the fish start stressing from lack of oxygen, agitate the water by scooping up a pint of the water and pouring it back in, or add more pond water to the bag. If this doesn't help, add the fish immediately to the pond.

4. After several additions of pond water, start adding your fish to the pond using your hands or a net. Do not pour the shipping water into your pond as it will be loaded with ammonia and nitrites.

5. When fish are introduced to a new environment, they often jump out. Either cover them, or keep a very careful watch over them.

6. Always quarantine new fish. Never introduce them to your existing fish until after a quarantine period of 2 to 3 weeks, longer if possible.

7. Always treat new fish as if they have parasites, viral, fungal, and/or bacterial infections. It's better to be safe than sorry. While your existing fish may have built up tolerances, stressed new arrivals could succumb immediately.

David Dec has been involved with ornamental fish keeping and breeding since the 1950's. He holds a BS in Biological Sciences from the University of Chicago and completed his work for a Ph.D. in Physical Chemistry at the Illinois Institute of Technology. He can be reached through his website at www.ColoradoKoi.com or at 303-883-8000.

GARDEN ADVENTURES

by Joe Summers, Missouri Botanical Garden

I have chosen two of my favorite plants for you to try in your pond this year. One plant is winter hardy; the other is not. One plant is large; the other is quite small. One grows well in the sun, while the other prefers the shade. One grows well in several inches of water; the other likes just its feet wet. Both will add beauty to your water garden.

Water snowball, *Gymnocoronis spilanthoides*, is a spreading and creeping plant that grows in full sun or in partial shade. White blooms, about the size of a dime, appear in mid-summer and persist until frost. The plant reaches 24-36 inches wide. Plant it in a container with 4-6 inches of water over the pot, and use it as an annual in all but zones 9-11. Control the size of the plant by clipping it back and by planting it in a small pot. Fertilize it every 4 weeks. It is also available in a variegated form, both forms displaying its best feature – the pom pon blooms. Monarch butterflies love this plant. Often, you will have a dozen Monarchs fluttering nearby and perching on this charming plant.

Many call *Gymnocoronis spilanthoides* the butterfly plant.

Water forget-me-not, *Myosotis scorpioides*, is a gem for the pond's edge as its dense growth eases the transition from pond to garden. Growing only 6 inches high, it creeps along by underground shoots. Water forget-me-not grows in full sun in cooler climates, but it benefits from shade in warmer climates. The plant is hardy in zones 3-10. Light blue flowers with yellow eyes are held in clusters above the plant. Each cluster is the size of a nickel, but there are often many clusters together. Water forget-me-not blooms off and on all summer if it is fertilized every 4 weeks. Planting near a stream or the pond's edge allows the plant to flourish. If it is placed in the pond, set its pot just under the water's surface. While there are pink and white forms, too, they are harder to find.

Water forget-me-not can be grown in a very slowly moving stream.

Joe Summers is a Horticulturist with Missouri Botanical Garden. Additionally, Joe is president of the St. Louis Water Gardening Society.

Pond Contest 2000

Rocky, Cindy, and Stephen Reeves of Birmingham, AL made a summer project in 2000, designing and building this charming pond. They used performed pond units, one 3'x5', one 2'x3', and one 1/5'x1.5' for a total of 200 gallons in the system. A 1400 GPH pump and in-pond bio-filter keep the water safe for their goldfish and white cloud minnows.

From Aquatic Gardens in Birmingham, AL

Construction Tip:

Preformed pond units allow an easy introduction to pondkeeping! Because the top edge is rigidly formed, you'll want the excavation to offer a level base on the bottom. If your area experiences freezes and thaws, buffer the pond unit with a layer of sand both under and around the walls of the pond. Use a slowly drizzling hose to compact the sand around the sides as you backfill sand in conjuction with filling the pond with water.

NATIVE LANDSCAPING

By JoAnn Gillespie, Lit.D.

Landscaping for Wildlife — Soft Stem Bulrush

Choosing a plant for your water garden gives you many options. Color, height, time of bloom, relationships to other plants and now, more than ever, how the plant fits into the ecosystem are some of the considerations to review in making your choices. As we all know, many species of plants and animals are disappearing due to development and cultivation. What better way to increase their longevity than planting them in your garden?

Each new plant brings something special to the landscape. Such a plant in your water garden is a rush, whether it is a bulrush, spike rush or other species. One of the most valuable in my book is the soft-stem bulrush, *Scirpus validus*, more recently named *Schoeneplexus tubermonti*.

It is a tall, green, tubular plant with hollow stems and a hairy rhizome. It adds linear dimension to water gardens in the summer months and becomes a tall, graceful arch during fall and winter when the weight of the seed head causes the plant to bend over and makes its seeds more readily available to wildlife.

The new stems grow closely together on the rhizome. This makes the underwater part of the stem a place for small fish to hide and offers a place for amphibians to lay their eggs.

Rushes are useful for bedding for animals because they are compact, resilient (due to hollow stems), and absorbent. Dragonflies and other winged insects like to perch on them. Long-necked waterfowl, geese, and swans enjoy the seed head for food. Man uses them for woven goods. The height and density of the rush provides both shade and windbreak for wildlife.

Why not make this plant one of your first choices when gardening for wildlife?

JoAnn Gillespie is a noted wetland consultant from the state of Wisconsin.