



Pond & Garden

March - April 2000 • Volume 1, Issue 6

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Cover Photo:

“Lillian, meet Victoria.”
Lillian Margie Summers, 5-
week-old daughter of Joe
and Tonya Summers, is
comforted by Daddy in the
Victoria pool at the Missouri
Botanical Garden, August
29, 1999. Photo © by Jim
Sabo, 2000.

...and our 'adventure' begins.

What an exciting year has begun for us! Yes, we are finally bi-monthly. We've had to implement some changes, too. Our printer now has a larger web press. Blame KMJ for our having to move to 112 pages. (Well, we were stuck in the middle - either subtract 8 pages...or add them.) You can partly blame our advertisers, too, for our having to bring in more informational columns and departments. After all, we have a policy of not interrupting articles with advertising. Because these special companies help make our existence possible and because they offer products and services that enrich our gardening efforts, we needed to create pages for them, too. You are the beneficiary with more information.

We'll have a special drawing in December of this year with prizes that celebrate our individual creativity. Ah, yes, I am quilting for it, sans thimble, and

Marilyn has her crochet needle sharpened. In the meantime, we're sponsoring a special contest to celebrate your pond and garden creativity. Check out page 15 for more info.

The year 2000 is special in many ways. We'll celebrate it all year long with kudos to your garden creativity, places to go, people and gardens to see, and ideas to implement in your own haven-creations. We welcome you in our 'adventurous' journey!



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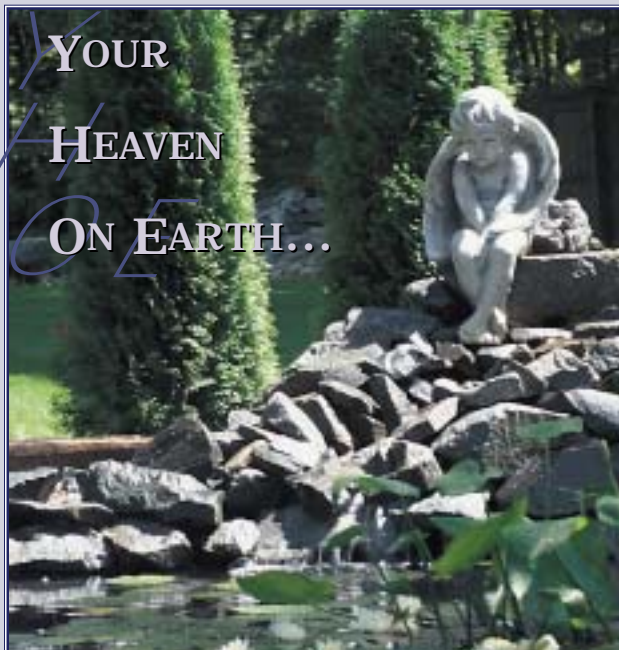
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Fancy That!

GOLDFISH KEEPING

by Vivian McCord

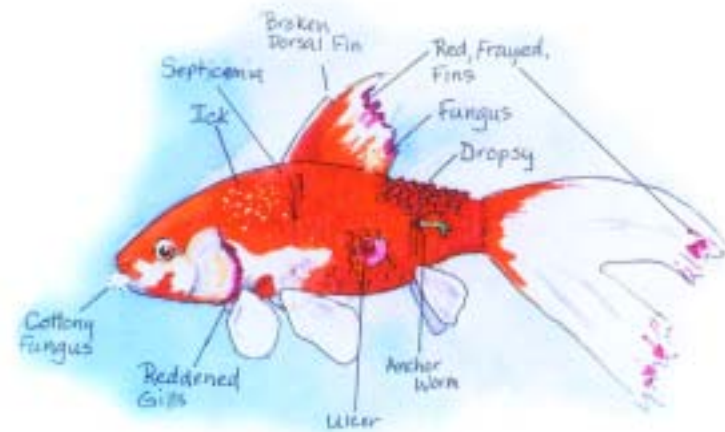
Spring – Time for a Health Check

The ice melts away. Your goldfish rise from the pond's depths to cruise the warmer water at the surface. Although they display lazy movement and a renewed interest in food, their immune systems are only awakening. Until the water temperature rises above 55 degrees, your fish are vulnerable to disease and parasites. Use the drawing as a guide for signs of problems common in early spring.

Dropsy is also called pine-cone disease because the fish scales protrude from the body due to pressure of accumulated body fluids. It is thought to be bacterial, but it does not seem to be infectious. Often fatal, the fish should be moved into a quarantine tank and treated with antibiotics.

Foam disease causes the fish to appear covered with air bubbles. Often they are found floating on their sides. It is caused by excess oxygen in excessively green water. Aerate the water and/or move fish into fresh water. Treat the pond for algae. You may also need to reduce the number of fish in the pond.

Flukes are trematode worms that may be found on the fish's gills (*Dactylogyrus*) or skin (*Gyrodactylus*). Barely visible, you can detect them from symptoms of the fish scraping against objects (flashing), fidgety fins, or quick mouth opening and closing. Treat with proprietary



medicine in a hospital tank.

Fungus, *Saprolegnia* spp, produces cottony growths on the fish's skin, especially around the mouth, fins and tail. Use malachite green or copper sulfate in a quarantine tank.

Ichthyophthirius multililis, known as white spot disease or ich, is caused by a parasite. In advanced cases wherein the spots appear around the head and gills, it may be too late to save the fish. Salt usually handles the problem, when used in a hospital tank that is gradually warmed to 76 degrees. Malachite green may also be used.

Anchor worm, *Lernaea carassii*, looks like a little white stick stuck on the fish, usually near the fins or tail. It is a tiny white worm that parasitizes the fish, producing a bloody irritation. Remove the worm carefully with tweezers and swab the wound with mercurochrome. While the pond may be treated at seven-day-intervals, such treatment kills only the free-swimming stage of the parasite and has no effect on attached worms.

Fish lice, *Argulus*, very small, flat, and nearly transparent parasites, may not be noticeable at all unless you investigate causes of your fish's flashing. ♣

SEASONAL PONDKEEPING

by Scott Bates

Time for spring cleaning!

March and April bring promises of spring to all gardeners, water or otherwise. Gardeners in warmer climates can expect to see activity earlier than those of us in the colder regions of the country. However, we can expect new growth to emerge on marsh marigolds and other cool weather plants. April is when the real 'magic' begins. Rising water temperatures and longer day length urge plants from their dormancy.

Lowering the pond water to expose the first shelf is an easy way to stay dry while preparing the water garden for the spring season. No shelf? Then it's time to unpack the old hip-waders. Testing the water at this time assures you that ammonia has not built up over the winter months. If the test indicates ammonia presence, the partial water exchange during your pond-opening regime should alleviate risk to your fish.

Move your potted plants from the pond to trim away old growth, divide and repot as necessary, and fertilize them for a jumpstart on the season. With the pond free of obstructions, remove leaves and other debris that may have blown in during the winter. A fine-mesh, long-handled swimming pool skimmer net is a good tool for this job.

Tidying up the pond removes potential sources of ammonia, nitrites and nitrates. Ammonia and nitrites are toxic to fish. Nitrates are food for algae.

Return the plants to the pond, perhaps set-



ting them in more shallowly than normal to enhance their early growth. Once growth has established, they can later be moved into their normal depths. You can now top off the pond, adding dechlorinator if needed.

Plug in your pump and biological filter to begin the de-nitrification process. Seeding the pond with a good bacteria culture aids in the startup of the biological system.

The warming spring water is welcomed by your fish, and their appetites increase with the rising temperatures.

Once the water temperature reach 50 degrees F, you can begin feeding, sparingly, as much as they will eat in 5 to 10 minutes. Start them out with easily digested foods such as wheat-germ based pellets.

Remember that overfeeding can foul the water and risk fish health.

A thought was shared with me about the feeding habits of koi and goldfish. Our fish coming to the surface and begging for food every time we walk by the pond is a conditioned response. Koi and goldfish are opportunistic feeders, eating when food is available.

Our fish have associated us with food, just like fish in rivers and lakes have associated food with the rain, hitting the surface just after a rain in quest of insects and other yummys that may have washed in.

With my fish food bucket close by the pond for quick and easy access, this makes me wonder, who is training whom? :o

Scott Bates, along with parents Gary and Rosemary, owns Grass Roots Nursery in New Boston, Michigan.

NATIVE LANDSCAPING

by JoAnn Gillespie

Surface Aquatics

Moving to the water's surface, we begin to see the need for plants that will cover portions of the pond or water garden and create shade for amphibians and fish, as well as a resting areas for insects and frogs. The range of these plants is small in terms of families, but in our aquascape they occupy the most space. Living in water 0-6 ft deep, they provide a focal point for water gardens.

We begin with members of the water lily family *Nymphae odorata* (white water lily), *Nuphar variegatum* (yellow water lily), and *Brasenia schreberi* (water shield). Planted into the bed of the pond, each of these plants becomes permanent and does not have to be removed for winter storage.

The white water lily (sometimes pink) is one of the most beautiful of surface plants. One plant can cover four square feet of water. The pads or leaves are semi-circular in shape. Flowers can be 10-20 cm wide. The flowers are usually fragrant, adding another plus to the aquascape. Water lilies like slow moving or still water. Place them as far from fountains and inflowing water as you can with enough space between to allow for their spread.

Nuphar lutea is commonly known as the yellow water lily, spatterdock, or cow lily lily and includes several subspecies found throughout North America. Tolerant of gently flowing water and some shade, it bears elliptically shaped, floating leaves. Ecologically, it fills the same niche as the white water lily. Its small, yellow flowers rest slightly above the water. This plant is a favorite muskrat food. Both the white and the yellow water lilies are perennial herbs. A difference in pad shape and color lends



variety to the pondscape.

Brasenia schreberi, water shield, is another member

of the surface covering family which is used sparingly in water gardens. It bears oval, floating leaves and small, three-petaled, purple flowers. It grows more densely than water lilies since much of the plant, including leaves, is submerged. It provides valuable cover and shade for fish and amphibians in the natural pond.

The yellow-blooming, native lotus, *Nelumbo lutea*, brings yet another dimension to the water garden. Both its leaves and its flowers are elevated above the water. The leaves are blue-green and cupped, usually holding a minute amount of water. The fruit of the lotus is embedded in a distinctive, flat-topped pod which becomes woody when dry. The seeds shrink within the pod's cavities and often fall free as the drying stem bends toward the water. These dried pods make lovely additions to dried flower arrangements.

The smallest of the floating leaved emergent plants is *Lemna minor*, called 'duckweed' for its favor as waterfowl food. Its rapid reproduction can blanket a small pond in little time. A unique adaptation of the plant's habits is growing it on floating screens to remove excessive nutrients from the water. ♡

JoAnn Gillespie is a noted wetland designer, mitigationist, and consultant. She can be reached at Country Wetlands

WATER GARDENING.... ON A LARGER SCALE

by John Hadlock

Larger bodies of water do not have to be maintenance headaches. Of the several techniques used to keep water clear and free of unsightly algae, the use of harsh chemicals such as copper sulphate and simazine is one of the most over-rated. These chemicals often remove essential oxygen from the water and adversely affect delicate biological balances such as ammonia levels and water pH. Any of these conditions poses serious risk to your fish and other pond life. If you would use such chemical remedies, be especially accurate in dosages lest you create toxic conditions for your fish. Likewise, any chemical that kills algae, a plant, may also affect other plant life in the water.

Biological additives of live bacteria are a safer option and often prove to be equally as effective as deadly chemicals. Besides interrupting the algae's life cycle, such bio-additives may contain bacteria that help process dead organic matter on the pond bottom to enhance safe water quality.

Aerators offer attractive water displays as they supply valuable oxygen to the water. The size and type of aerator used depends on the size, shape, and volume of your pond. You may need more than one aerator. They can be installed as a silent and nearly invisible underwater system or as a magnificent water display with relaxing sound that dampens unwanted noise from nearby highways or construction. With many fountain and aerator manufacturers to choose from, select a dealer or a distributor with experience and knowledge of both the product and water quality. Educate yourself, too, since the more you understand about water quality, the better your decision on a technique to treat your body of water. ♡

John Hadlock owns Waterscapes, Inc., in Lexington, KY. He can be found at the shop at 360 Cutters Hill Court, or at 606-263-7991.

Koi Keeping

by Pam Spindola



Commonly Asked Questions about Koi

Are Koi goldfish?

It is believed that goldfish were bred from a small wild carp found in still, cold waters in southern China. However, all goldfish varieties stem from one species, *Carassius auratus*, and koi were developed from the common carp, *Cyprinus carpio*. They are distant relatives. The original carp were a not-very-pretty black, gray, or greenish hue. Through hybridization, many vivid colors were developed.

How old do Koi get?

The life-span of a Koi is 60-65 years. We know that Koi have lived over 100 years – even over 200 years. ‘Hanoko’ lived in a beautiful, natural pond for 226 years. She wasn’t very pretty, however. Her age was verified by microscopic inspection of her scales.

Do Koi bite?

Koi nibble with their mouths, but they cannot ‘bite.’ They do have teeth-like apparatus in their throats to aid in chewing their food, but you’ll never feel them. When a Koi nibbles at your fingertips, it feels more like a mini-vacuum cleaner!

Do Koi Have Feelings for Each Other?

Sometimes, it looks like the Koi are kissing each other. It is said that the word *koi* means love. Koi seem to care about each other. I have seen them come to the aid of an ailing fish. They stand vigil, sometimes prodding or coaxing the sick Koi to swim. The Koi in the pond are definitely part of a close community. ♡



Pam with Samurai in front of the ‘Varsity Pond’

ASK CHUCK: PONDKEEPING Q&A

by Chuck Rush



Q I have done a lot of research on water pond construction. As a result, I feel I need to have this done by a professional. I can handle the plant life and fish life, but I do not feel capable of doing the pond itself or the electrical, pump, and filter construction. How can I find a reputable contractor for this project?

A Yours is a common problem for those people taking the professional installation approach. You’re already on the right track – research. You should research this as if you were going to do the installation yourself. When hiring any professional service, the best defense against being taken is to know as much about the job as possible. With something like a pond, this is even more important since you’re going to be the one taking care of it and solving any problems. Maintenance is easier if the job is done right. You also need to know what to ask for and what you don’t want.

With enough research, you can take the lists of previous customers from a prospective contractor and ask their clients the right questions about their ponds. Most pond owners are thrilled to show off their ponds and to talk about them.

Where can you find the contractor? First, you might be able to find some pond shops in the Yellow Pages under Fountains. Many pond shops know the people in their area that do installations. Landscape designers are another option. You might also try your local stone/rock centers to see if they know of any pond contractors. Often, these centers have bulletin board displays of their customers’ work. As with any contractor, the one you choose should be bonded and insured. Workman’s comp insurance is a must. ♡

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

You've just moved into your new house. There's dirt everywhere. Everywhere!!

"That's it," you scream. "I want a walkway in now!!"

While instant gratification is your first instinct, keep one thing in mind: wherever anything was dug up, it will settle over time. Unless you can be sure that the ground where you will put in your walkway or patio has been undisturbed for at least a year, don't do any construction on the area.

However, (there's always a however, isn't there?) there is a way to get it done faster: soaker hoses.

By placing soaker hoses on the area, and running them for about an hour a day for at least two weeks, you should get sufficient compaction. We've used this technique on newly installed pool areas, and, no exaggeration, have not had one brick settle.

You will be amazed how much settling you will see. For instance, a pool dug eight feet deep will have settling along the edges of about one foot, depending on the soil type. Be careful when running water near the foundation of your new home. You probably will see moisture on the walls in the basement, which can be alarming. Typically, in a new home, you will see some moisture anyway from the foundation over-dig settling (a good reason to wait on finishing your basement, also), but you don't want to compound the situation.

It's probably better to wait the year or so before committing to construction for another



reason: it gives you time to evaluate your needs and lifestyle before spending money on something you didn't really like anyway, and it allows the design process to flow naturally.

Spring Gardening Tips

- Fix that lawn damage from the snowplow. Use a good grass seed and keep it moist. Check trees and shrubs for snow and ice damage; remove any dead or broken limbs.
- When raking out the gardens, cut back any perennials that did not get cut in the fall. Exceptions are hardy semi-evergreens such as lavender, Russian sage, etc. Don't prune spring-flowering plants such as PJM and lilac until they finish blooming.
- Don't cut back bulbs until the foliage turns brown. Planting perennials or annuals in these areas will hide the ugly foliage. Create a journal to remind you of where certain bulbs and perennials are so you don't dig up anything in the fall.
- If you didn't mulch over your gardens in the fall, now is the time to do it. Use a well-aged hardwood or cedar mulch. That free mulch from the town or county should be at least a year old. ♡

Bruce Zaretsky and partner Sharon Coates own Bruce Zaretsky Landscaping, Inc. in Penfield, New York. Visit their website at www.bzli.com or call them at 716-377-8330.

Pond & Garden's Y2K Pond Contest

Pond & Garden magazine is joining forces with regional garden and water gardening centers throughout the U.S. to celebrate your garden creativity. The local winners from each participating retailer will be featured in the magazine throughout next year with grand-prize winners selected by website voting at pondandgarden.com and by mail. We'll have 20 different categories to showcase your pond designs. We'll have prizes. We'll have recognition certificates. We'll have fun sharing our ideas. Visit your local nursery, garden center, or water garden shop for more information. If they are not participating, have them call us at 317-769-3278 to sign up.

Visit these Participating Nurseries, Garden Centers, and Water Garden Shops for Contest Info and Entry Forms:

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

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

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

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

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

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: *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.

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.

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

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

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

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

OK: *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; ph: 412-821-6525

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

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

Crowding Formula

A simple formula to tell you how much fish you can keep comfortably in a given sized pond.

This formula gives a reasonable stocking density and should be revised as any material increases in length occur. (At least annually in young Koi.) These numbers are not liberal and, of course, larger accommodations are better. To the person keeping 135 inches of fish in two hundred gallons: "Watch for slower growth and don't be surprised if the fish are consistently sicker than your neighbor's."

The Formula:

Measure all fish in inches.

Total up all the inches.

Multiply that sum by itself. (Essentially, squaring it.)

Multiply the product of this by two.

Divide the product by 231.

Multiply that dividend by 10 for a comfortable minimum amount of water needed.

Multiply that dividend by 20 for an ideal, growth-comprehensive number.

These derivations are the gallons needed by the fish to feel comfortable with reasonable filtration. *This is not a number to use if there is no filtration or if you are a retailer who will need to crowd the fish to remain profitable.* For the home care of fish, wherein the hobbyist wants to know how many fish to keep in a pond and expect reasonable health and growth, this is the formula.

Let's work a specific example:

A person is just starting out, and they have two dozen (24) small fish of a seven to eight inch length.



Sum it: Roughly 180 inches of fish.
Square it: 32,400.
Double it: 64,800.
Divide by 231: 280 is the dividend.
Multiply dividend by ten: 2,800 gallons is the ideal product.
Multiply dividend by twenty: 5,600 gallons is a lofty, luxurious number.

Another person has obtained some gigantic fish, five of them, from Alabama, and they are all 36 inches in length. The sum of the inches is also 180 and the final minimum analysis yields a 2,800 gallon pond for these five lunkers. Ideally, a 5,600-gallon facility would be provided.

I am interested in any input on this document.
Fax to: 770-973-0301.✉

This column is reprinted by permission from Doc Johnson's website, KoiVet.com. Visit the site for extensive and practical information on all aspects of koi keeping. Also, check the website for information on Doc Johnson's book, Koi Health and Disease, Beginner to Advanced Life-Saving Technology. Doc will present two seminars at the AKCA 2000 Seminars in Springfield, Missouri, in late June. Call 417-883-2399 for more information.

Cooking with Marilyn

Special Friends Deserve Special Treats

by Marilyn Cook

You love your ponds, plants...your backyard. Who shares that backyard? Your dog. You buy him toys, treats, collars...but, if you want to do something really special for that one-in-a-million friend of yours, try this recipe.

Dog Biscuits

- 1 C oatmeal (not instant)
- 1 C boiling water
- 1/3 C margarine
- 1/2 C milk
- 1 egg
- 1 T sugar
- 2 T granulated bouillon
- 1/2 C cornmeal
- 2 1/2-3C flour
- 2 jars strained meat (baby food)
- Dash of garlic powder or salt

Mix water, oatmeal, margarine, sugar, and bouillon. Let stand 10 minutes. Add milk, egg, cornmeal, and meat. Add the dash of garlic. Knead in flour. Form into any size and shape you wish.

Bake at 325 for 50 minutes (more or less depending on the size of your biscuits) on an ungreased cookie sheet. Biscuits will be light brown, hard, and crunchy. Keep refrigerated or frozen if not eaten right away.

You can shape the dough into breadsticks or fork-flattened cookies, but I have fun with cookie cutters. I have dog biscuit-shaped cutters in three sizes. I also make 'people crackers' with gingerbread boy and girl cutters. Frosty loves her 'kitty' and 'goldfish' cookies. She actually awakens me in the middle of the night, and, naturally, I get up thinking she needs to go outside. However, when I reach the kitchen, I find her sitting in front of the refrigerator, wagging her tail, anticipating a midnight snack. This past Christmas I made a batch for Helen's 5 goldens and her grand-dog, Riley. A well-mannered group, they all lined up, patiently awaiting Aunt Marilyn's treats.✉

Browsing the Web...

Looking for information about pondkeeping? Check out these Internet Web Sites.

www.agritab.com
www.amaonline.com/owg
www.anjonproducts.com/pondliners.htm
www.anonbay.com/ane
www.aquababies.com
www.aquagardens.com
www.aqualogicpond.com
www.aquamart.com
www.aquariumpharm.com
www.aquatecfountains.com
www.atlantakoiclub.com
www.Avongarden.com
www.brassbaron.com
www.bzli.com
www.centerpointpond.com
www.cirr.com/-ntwgs
www.easyponds.com
www.grassrootsnursery.com
www.greenvista.com
www.Hardscapematerials.com
www.hemphillsonline.com
www.hoffmansgardencenter.com
www.jimswatergardening.com
www.kcnet.com/~wgskc
www.koigarden.com
www.Koiusa.com
www.Koivilla.com
www.lilyblooms.com

www.lilypons.com
www.linkny.com/barleystraw
www.lotussong.com
www.louisianairis.com
www.mastersons.net
www.Mystickoi.com
www.nelsonwatergardens.com
www.netjunction.com/solt
www.nhg.com
www.nhwatgardens.com
www.oasis-water-gardens.co.uk
www.on-line-mall.com
www.patiogardenponds.com
www.perfectpond.com
www.plantdoctors.com
www.pondandgarden.com
www.pondbloomers.com
www.pondfiltration.com
www.pondpumps.com
www.pondshop.com/catalog
www.pricesfishfarm.com
www.puddlesnpads.com
www.reedsnweeds.com
www.reliablegarden.com
www.RichtersGardens.com
www.stokestropicals.com
www.suburbanpond.com
www.SWGReplicraft.com
www.tcfb.com/perwatg
www.Thelandscape.com
www.watgarden.com
www.water-gardens.com
www.Watersedgenursery.com
www.webbsonline.com
www.paradisewatergardens.com
www.wggalore.com
www.willowpondaqafarms.com
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Amphibious Love Gone Wrong ♥♥♥♥

By Darlene Kozsey, Southgate, MI

We rarely saw this young frog we had raised from a small tadpole. He wouldn't let us get within ten or fifteen feet of him before he'd jump back into the pond. That was until we received this citronella candle frog from a friend. It was love at first sight. He would sit for hours next to the candle frog, allowing us to get as close as we'd like. He'd even let us pick him up! One afternoon the temperature soared to 103 degrees, and the wax frog melted. We haven't seen our little green friend since.☹



Stone Lanterns in Oriental Garden Design

by Helen Nash

Stone lanterns quickly identify the Oriental garden style. As with other elements of the Oriental design, lanterns fulfill both functional and symbolic purposes. Place them in your garden where they might be expected to function – next to paths, bridges, changes in elevation, and on the pond’s edge. Set them so that the light might appropriately shine where needed, even if no light is present within them.

While you may not be of the Buddhist faith, an awareness of the symbols represented in the various shapes of lanterns enhances your garden’s interpretation of the Oriental style. The triple stacked lantern, for example, represents earth, water, and sky. Often these lanterns sit upon four legs, representing the strength of a lion or tiger. The legs may even be shaped to represent the animal’s feet. Nine rings within the lantern’s design symbolizes the nine heavens in the Buddhist pantheon, and lotus blossoms represent the Buddha. Ultimately, in using stone lanterns we seek to capture the timeless and peaceful essence of the Oriental garden – the harmony of man with the Earth.



Framed by structured plants and set among large, aesthetically placed stones, a ‘snow lantern’ overlooks the pond’s edge. The low shape and wide cap of the *yukimi doro* lantern is one of the most popular designs. It is considered best viewed under a layer of several inches of snow....hence, its name.

The Japanese treasure the aged, mossy look. Especially if your lantern is made of concrete, basting its surface with buttermilk helps to lower the lantern’s pH so that moss can grow upon it. The buttermilk also provides nutrition for airborne moss spores to feed upon.



A two-legged lantern (*kotoji doro*) set with one foot in water and the other on land is meant to represent the interdependence of earth and water. A unique interpretation is to place the lantern fully within the water.



The *nure sagi* lantern is so named for its form that suggests a heron on crane standing on one leg. The lotus cap represents the Buddha. The lantern is set among tranquil green shrubs along the garden path with its windows directed to the walkway.



A tall lotus-capped lantern gives the sense of providing light to provide safe nighttime crossing of the bridge. Note that the holes through which the light would shine are directed towards the pathway.

Vignette Garden

The Garden of Bill and Pam Mudd, Grain Valley, Missouri

Text and photos by Karen Fiske

Bill and Pam Mudd have a large, very shady, rural garden. It is so shady that it is difficult to find water lilies and other plants that will grow in the ponds. However, it is easy to watch the koi and goldfish swimming in the clear water of the 1500-gallon pond. The unique use of antique farm implements, old wagons, signs, birdhouses, birdbaths, an old car, and a decorative outhouse in the landscape make this a special garden. There are also two smaller ponds near the house. Bill has helped with construction projects, including the garden paths throughout the garden. Pam has done the design of the gardens. She also paints flowers and scenes on old household items used as ornaments in the garden. ☺



This small vignette is sited near the driveway. A decorated outhouse is in the background.



One of the many unusual shady garden scenes in the Mudds' unique garden includes antique farm implements and other discarded household objects.



Garden statues, colorful birdhouses and brightly blooming flowers are among the well-designed garden scenes found in the Mudds' private haven.



The clear, shady pond is shared by koi and goldfish.



Pam has used a variety of discarded objects to create unusual garden scenes.

Around the Pond

Red Flower Carpet Makes U.S. Debut in Spring 2000

Just in time for the new millennium, Anthony Tesselaar International introduces the fourth in its highly popular series of Flower Carpet, easy-care groundcover roses that have won 14 international gold awards for their unprecedented natural disease-resistance and high performance.

Red Flower Carpet, *Rosa* var. 'Noare', is an easy-care, long-blooming, groundcover rose that produces a vigorous, compact, and upright bush with glossy, dark green foliage graced with burgundy margins. It stands 24- to 32-inches tall and spreads about three feet. Its parentage is *R. 'Ricarda'* x seedling (unnamed). Breeder of the Flower Carpet roses is Noack Rosen, the German rose hybridizers known for their 30-year commitment to developing disease-resistant hybrids.

A prolific bloomer, Red Flower Carpet features softly ruffled, single blooms in sprays of 25 to 30 flowers that gently cascade over the pot or along the ground. Its tight, deep red, compact buds open as velvety, deep-red blooms with golden stamens. The single flower form is very open, measures about 2-inches across, and softens in color as it ages over its 3- to 4-day life span.

Winter hardy in U.S.D.A. zones 5-10, protect it in the first year in zones 6 and below. Establishing quickly, its long bloom season extends from mid-spring through fall, fulfilling a gardener's wish-list for season-long red blooms from a perennial plant. Few hips are produced, and no dead-head-

ing is required. This trait, known as 'self-cleaning' makes for care-free maintenance. (Avoid planting directly on your pond edge to prevent petals from falling into the water.)

Requiring no special handling of any kind, Red Flower Carpet needs only water, fertilizer, and cutting back established plants to 10 inches in late winter or early spring. In full sun, a well-fed, well-watered, mature bush can produce up



Red Flower Carpet, *Rosa* var. 'Noare'.
Photo courtesy of Anthony Tesselaar International.

to 2,000 flowers per season. In partial shade (4-5 hours of sun per day) or in good filtered light, it still blooms prolifically, although in reduced numbers. Plant in semi-shade with plenty of filtered light and keep well watered in areas of intense heat such as in the Southwest. Feed with a balanced rose food in early spring and late summer in zones 8 and warmer and in spring and summer in colder climates. Plant them 2-3 per square yard for ground cover and 2-3 feet apart as a low-growing hedge border. ♡

For information of where to find Red Flower Carpet in your area, call the national toll-free Flower Carpet Rose locator number, 800-580-5930.

Birds and Windows

by Helen Nash

Thud. With luck, the bird that hit your window is only stunned. Even so, it is a stressful event. Usually birds crash into our windows for either of two reasons: the window may appear to be a passageway through which they can fly, or they may see their own reflections and assume the 'other bird' to be a rival encroaching upon their territory.

Play detective now before spring calls the birds to your pond and feeders. First open any doors and curtains that might be kept open during warmer weather. Walk out to the bird-attractive areas and look back at your house at a line of sight likely to be seen by feathered visitors. Can any of your windows be seen as a passageway? Can you see through the house to the outdoors on the other side through any windows? In any case, you can prevent those heart-wrenching thuds against your windows.

The easiest solution may be to keep your curtains drawn to eliminate the optical illusion of an open passageway. However, this prevents you from being able to look out and enjoy your pond, garden, and the birds from the inside. The same may be true with the traditional solutions of moving the feeder or bird-bath from the window's line of sight or of planting a tree or shrub between the two.

Hang ribbons outside in front of the window. Inexpensive embroidery hoops make easily hung frames from which to tie ribbons in your personal color scheme. The fluttering ribbons warn off the birds as they provide a delightful accent to the garden scene. Poly balloons, wind chimes, mobiles, and mini wind-socks are other options.

Of course, you can always resort to the old standard of decals applied to your windows. A more versatile adaptation of this idea is to use little plastic suction cups to support sun-catchers and crafts. If your home is decorated in a country or Victorian motif, try mini starched doilies. Your problem window can become a display area for small collectibles. ♡

READERS' Pond Album



The Prendegast Pond, Dayton, Ohio

With most of the Prendegast backyard taken up by decking and an in-ground pool, Cindy was not about to go pondless. A small preformed pond was given them by a friend whose golden retriever wouldn't stay out of it. Cindy says her golden likes the pond, too!



*Send your pond pictures to Helen Nash,
1670 S 900 E, Zionsville, IN 46077*



The Brown Pond, Kernersville, North Carolina

Vikki Brown's pond can be viewed from their patio. The upright log in the foreground holds a sundial.



The Marshall Pond & Gazebo, Ronceverte, West Virginia

Gail Marshall's husband, Richard, came up with the perfect thirty-year-anniversary present – a pond and a gazebo. Gail says, "The pond is the greatest thing we have ever done in our yard."

Victoria Update

by Kit Knotts

Less Than Perfect

However good we are at getting Victoria seeds to sprout, we are less than perfect at getting the seedling through what we consider the difficult stage, first to fifth floating leaf. In fact, our record has been devastatingly sad.

We're not alone. Many have the same trouble, so we have just hated to rely on others to start plants for us, hoping that, if we can solve the problems, it will help us all. Our friends, Nancy Styler in Colorado and Rich Sacher in New Orleans, have no difficulties at all with babies.

Why not? Though different, they each have the perfect combination of water quality (Nancy's "Coors" water), soil (Rich's Mississippi spillway sand/clay) and water temperature, the easiest factor to control. We, on the other hand, live on the oceanfront with water that has high pH (9+, if not adjusted) and



Seedling aquarium from above.

high salt content. Our soil is just slightly better than a beach sand. Where adult plants obviously don't mind, babies do.

We potted the babies when they have one or two hastate leaves in two-ounce plastic cups with a little hairpin type wire to hold them in. We've tried lots of soils and finally seem to be having success with the soil-less ceramic products made for aquatics. After trying a very elaborate "soup" of nutrients, we now just stick a chunk of PondTabb near the bottom and follow with more as they grow.

Still losing the battle, the thermostat stuck on the stock tank heater we use to heat the seedling pond. Noting steam rising from the water one cool morning, we feared stewed Vics (another recipe for Cooking with Marilyn). But the babies were far healthier than before! They absolutely love the 85-95F water temperatures!

We don't consider ourselves "over the hump" yet, just making progress. Every growing situation is *so* different that what works for us may not work for someone else. Feed back! 🐸



Seedling with floating leaves, *Victoria 'Challenger'*; (*V. 'Longwood Hybrid'* x *V. cruziana*)

Growing Koi TO THEIR Potential

By Beau Roye

Koi need five, interrelated conditions to grow large. First, they must have the genetic ability. In other words, what size were their parents? Some varieties just tend to be large naturally – i.e., shagoi and Ogons.

Second, Koi must have the proper environment in which to grow larger. The Japanese grow their Koi during their spring and summer months in large mud ponds containing thousands and thousands of gallons of water with special bottom and wall treatments to enhance algae growth. Koi keepers raise their fish in what is known as a closed recirculating system. If the closed system does not have the following items, chances are that the fish will not reach their true growth potential:

1. A 4-inch bottom drain every 10 sq. ft. of bottom area with a proper slope.
2. Pond depth a minimum of 4 feet or more to give the fish enough room to move and exercise. A depth in the 6 -10 ft range with as many total gallons as your area allows is ideal.
3. Circulation jets for Koi exercise and to aid the movement of debris toward the bottom drains.
4. The more aeration, the better.

Third, having an outstanding mechanical and biological filtration system aids the wellness of the fish.

Fourth, feed high quality food and lots of it (frequently) so the Koi have the nutrition to grow to their potential. Note: if you don't have an efficient filtration system to handle the large amount

of waste created by heavy feeding, you are defeating the whole goal to grow Koi larger by letting your Koi swim in dirty water.

The fifth item that most people don't realize is the extension of the feeding season by keeping your water above 63 degrees Fahrenheit. British Koi people suggest only one month of cool water and not feeding during this time to induce a dormancy period. The Japanese move a majority of their Koi into greenhouses during the winter months in order to control feeding and water temperatures.

Other factors to consider in Koi pond design, but that won't affect the Koi's growth, are the proper size UV light and the use of skimmers to keep leaves and debris from the water and to break up water tension.

Most of us started in this hobby with a water garden and a few gold fish. As we have moved on to keeping Koi, we have come to discover that our original ponds were constructed as water gardens and not really conducive to raising Koi. Good Koi pond design and construction is not an inexpensive project, but it can be manageable and done well on whatever scale is budgeted. The result of a well planned Koi pond is years of enjoyment and watching Koi grow to their full potential. ♪

Excerpted from Clear Water Times, Newsletter of the Koi and Water Garden Club of North Texas, For club information, contact Theresa Burdette, 972-758-0024. You can reach Beau, an ASLA Landscape Architect, at Suburban Water Gardens, 200 Fall Creek, Richardson, TX 75080; 972-699-8736 or at www.suburbanpond.com or e-mail: rick@pure-h2o.com



You're Invited...

to the 19th Annual AKCA Koi Show and Seminar

June 28th - July 2nd, 2000

The Springfield Watergarden Society invites you to an experience of a lifetime. Experienced speakers will be giving seminars Friday and Saturday. See the speaker list below for topics. The Society has also planned a tour of a Koi and Goldfish Hatchery. If you want to see how the fish are raised from fry to shipping size, you'll want to take this tour.

Vendors from across the US will be showing and selling their products. You'll find state-of-the-art filters, pumps, pond water additives, and beautiful Koi fish for sale. The vendor booths are staffed by experienced personnel who can answer questions you might have.

With many exciting events planned for this spectacular event, won't you join us for a fun and information-packed four days? Springfield is located in the southwest part of Missouri. It's an easy drive from Kansas City, St. Louis, Chicago, Indianapolis, Cincinnati, Dallas, Oklahoma City, and Tulsa. Flying in will not be a problem. For more information, contact Linda Siler at 417-883-2399.

Friday, June 30, 2000

8:00-10:00 a.m. Koi Judging

8:00-8:45 a.m. Helen Nash,

Koi and Water Plants Together

9:00-9:45 a.m. Jeff Spillars, Water Tests, a Mainstay in Koi and Watergarden Ponds



SHOW ME THE KOI 2000

10:00-10:30 a.m. Morning Breaks

10:30-11:15 a.m. Mark Krupka, Unseen Forces at Work in Your Pond and Garden

11:30-1:00 Lunch

1:00-1:45 p.m. Bill Sadler, Koi Nutrition: How to Read the Label on the Bags

1:00-1:45 p.m. Ben Chu, How to Design a True Japanese Garden

2:-2:45 p.m. Dr. Erik Johnson. Dr. Johnson will be the only speaker during this period. Doc Johnson will discuss water quality, specific diseases and treatments, including a brief synopsis of the necropsy.

Saturday, July 1, 2000

8:00-10:00 a.m. Koi Judging

8:00-8:45 a.m. Paula Biles, Live Demo of Dividing and Repotting Water Plants

9:00-9:45 a.m. Granville Watson: Beneficial Bacteria in Your Pond

10:00-10:30 Morning Break

10:30-11:15 a.m. Bob Bon Giorno, Bio-filters & Bottom Drains in Koi Ponds

10:30-11:15 a.m. Dr. Conrad Kleinholtz, UV Filters, Vortex Filters, Fluid Bed Filters

11:30-1:00 Lunch

1:00-1:45 p.m. Joe Cuny, Understanding Water Chemistry

1:00-1:45 p.m. Joe Zuritsky, Koi Identification

2:00-2:45 p.m. Erik Kincade, Artificial Rock in a Water Garden

2:00-2:45 p.m. Dr. Rob Hildreth, How to Set Up and Maintain a Quarantine Tank

3:00-3:45 p.m. Dr. Erik Johnson. Dr. Johnson will be the only speaker during this period. Parasite & Bacterial Outbreaks,

Travels with Helen & Marilyn....

Koi Shows!

This past year we visited two major koi shows, one in Louisville, Kentucky, put on by the Greater Louisville Koi and Golfish Society and the other in Oklahoma City, put on by the Oklahoma Koi Society.



At the Oklahoma Koi Show, we were delighted to finally meet Brett Rowley of Brett's Koi Farm in Liverpool, Texas. Brett, you may recall, was a dear friend and protégée of Pam Spindola's late husband, Bob. We picked out a 'bumblebee' Koi that Brett bagged up for our twelve-hour car trip back home to Indiana. B.B. is happily growing in our indoor mega-tank in the back room.



Judging at a Koi show is serious business. Here, Judges Ewy, Hester, and Poppe carefully study the Koi's confirmation to determine the winners in the class. It's a real education to stand nearby and listen to the judges' comments on each Koi.



Phil Hunter was in charge of monitoring the many vats in which the Koi were shown at the Louisville show held under tents on the property of He was constantly vacuuming the tanks and testing the water for ammonia traces. He was the unsung hero of the whole show!

Pond Critters

by Helen Nash

Water Fleas

A sure sign of spring are water fleas, or *Daphnia* spp. They appear as quickly moving specks in your early spring pond water. Since they are an excellent source of protein for baby fish, their timely arrival is one of Mother Nature's small miracles.

A crustacean of the zooplankton, *Daphnia* are members of a group called *cladocerans*. They have five pairs of legs with which to swim and to move water toward their mouths, filtering out even smaller microscopic food, such as single-celled algae. They reproduce rapidly, usually by *parthenogenetic reproduction*, in which the ovum matures without being fertilized. During times of environmental stress, such as in the autumn when much of the natural world enters dormancy, they produce eggs that are fertilized by the males. These eggs rest throughout the winter and may remain viable for years and years.



Friends in England have told me that they set pans of water in a shady location in the early spring to grow a *Daphnia* collection for feeding their fish. They encourage the algae to grow in these 'nurseries,' adding fertilizer to the fresh tubs of water.

While the pond's *Daphnia* population seems to disappear by mid-summer, they always reappear the following spring. ♡

Step by Step

DIVIDING AND REPOTTING WATER LILIES



When your hardy water lilies begin growing again in the spring, you might notice several growing points coming up from the pot's soil. This is a sure sign that your plant needs to be divided.



After removing the water lily from its pot and thoroughly hosing the soil from its rhizome, you can easily see the various growing points along the lily's rhizome.



2 Locate each growing point along the lily's rhizome and cut it free, keeping a good two inches of rhizome with the growing point to assure the plant of continued food supply as it re-establishes.



3 Trim away any excess roots. Place one plant tab per gallon of soil the pot will hold into the bottom of the pot. Next, fill the new pot half full of good garden soil and mound up one area near the pot's side so that the division can be set upon it with the plant's crown even with the top of the soil when the pot is fully-filled. Set your plant division upon the mound with the cut side of the rhizome near the pot's wall so that the growing tip is pointing towards the center of the pot.



4 Fill the pot to the crown of the plant division, tamping the soil with your fingers to prevent air pockets around the roots. Cover the soil with pea gravel or flat river rocks to keep the soil from muddying up your pond water. Lower the pot gently back into the pond so that escaping air does not disturb your planting.

Step by Step

Dividing and Repotting Marginal Aquatic Plants

Spring is the best time to divide most of your marginal aquatic plants to give them fresh soil, food, and a season-long growing period. You won't divide spring-blooming plants, such as irises, until after they have finished blooming.



Scirpus or bulrushes grow in a densely knit mat of roots.



Use a sharp knife to cut the roots into squares of plants for repotting. They should be repotted in the center of their new pots.



After removing the plant from its pot and thoroughly hosing away the soil, you can see what type of rootstock you are dealing with. In the case of plants such as cattails (*Typha*), the roots grow close to the surface in an intertwining and running circle. Simply pull the plant divisions apart. Larger cattail plants may need to be cut into divisions, each with roots and foliage. Repot in the pot's center.



Pickerel weed (*Pontederia cordata*) grows from a thick rhizome that circles upon itself within its pot. You'll need to cut away the previous season's dead growth and keep divisions with both roots and top growth. Repot with cut edge of rhizome near the pot's wall.



Sweet flag (*Acorus* spp.) sends out new plants along the surface-growing rhizome. So long as there are roots growing from any plant, you can divide the rhizome into as many plants as there are growing points. Plant your new divisions with the cut edge against the side of the pot.

Aquatic Planting Tips



Aquatic plants are really quite sturdy. To divide them easily, simply remove the plant from its pot and hose it. You may need to use your other hand to help remove clumps of soil. Doing your hosing over a solid surface prevents damage to the yard.



Submerged grasses like *Elodea canadensis* and anacharis that take most of their nutrients directly from the water do not need to be potted in soil. Fill a pot half full with pea gravel, hold your grasses inside the pot, and fill around them with more pea gravel.



In the wild, members of the *Cyperus* family, like *Cyperus alternifolius*, umbrella palm, shown above or papyrus relatives, allow their flower heads to bend over into the water for viviparous propagation. You can duplicate this by suspending a cut flower head of the *Cyperus* plant upside down in water. In a short time, you'll see the new plantlet beginning. Repot it when enough roots have developed.



The *Acorus* plant family sends its vigorous rhizomes scooting about the surface soil. If you use a narrow-mouthed pot, they will literally jump out of the pot within one season. Give these surface growers a wide-mouthed pot for best growth. Wide-mouth pots also provide necessary leverage for very tall-growing plants such as *Phragmites*.



Surface-rooting aquatic plants really don't need great pots of soil. Since you'll fertilize them regularly anyway, why not use less soil and lighten the load on your back?