



MARCH 2009 **NEWSLETTER**

In This Issue:

Meeting Info
President's Message
2009 All Japan Koi Show
Share Your Passion by Mike Pfeffer
Grow Out Contest
Coldwater Koi Keeping (continued)

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UPCOMING EVENTS

March 5th - Meeting
Nunnlea House
1940 S. Hurstbourne Pkwy
7:00 Refreshments
7:30 Meeting

April 9th - Meeting
Nunnlea House
1940 S. Hurstbourne Pkwy
7:00 Refreshments
7:30 Meeting



MARCH MEETING

The March Meeting will be Thursday, March 5th.

The agenda for the March meeting will be discussing the Koi & Goldfish Show just around the corner in May. There will be a Question/Answer session on proper pond opening. Our very own AKCA Judge Charles Phelps will be holding a judging seminar on the variety Kohaku.

Come early for refreshments and socializing at 7:00 pm. Come as you are, this is a casual meeting. Beginners and experts are welcome. Meeting starts at 7:30 pm.

PRESIDENT'S MESSAGE

At February's meeting we discussed the upcoming year's events. Please check out the Agenda in this newsletter to mark your calendar now. This year, the club looks to be very busy, especially the summer months. We are looking for any volunteers now to help with advertising, ideas or suggestions prior to the Show in May. We are also starting plans on the pond tour. If you would like to show off your koi or water feature, please contact us.

I'm excited about the Grow Out Contest the club is hosting. Please be sure to read more in the newsletter about the details. It is a great opportunity to get a nice koi and let it grow out like many high-end hobbyists do with koi in Japan.

Hope to see many of you at the March meeting!

Happy Koi Keeping!
Troy

2009 ALL JAPAN KOI SHOW



In January, the 40th Annual All Japan Koi Show was held in Tokyo. After the judging of over 1200 entries in over 200 show tanks, a 92 cm (over 3 ft) 6 year old Showa from Yamotoya Koi Farm won Grand Champion (see photos above). While a Dainichi Koi Farm Kohaku took Reserve Champion (see photo top right) being edged out in votes by 44-41. The two koi to the lower right are winners of Best In Variety.



(Photos courtesy of Mark Gardner and Russell Peters)

Share Your Passion by Mike Pfeffer

My pond is 6000 gallons plus another 1000 gallons of filtration; six feet deep. I currently have 12 koi in the pond ranging up to 26 inches in length. A number of years back I used to heat my pond with a Kozy Koi gas heater system. But the last 3 or 4 years I've found that my cover does such a good job of pulling in the solar heat that my pond water never goes below 48 degrees F. Koi are a fairly hardy fish but even in Japan, nearly all the breeders bring their fish into their greenhouses for the Winter. Koi were never really meant to see temperatures below 40 degrees F even though they can "survive" a Winter in the mid 30s. As I tell my friend Troy, do you want your fish to "survive" or "thrive"? I am able to feed my koi year around if I want but instead I give their digestive tracks a 6-8 week rest during the harshest part of the Winter. They reward me with a healthy Spring! The pond cover is temporary

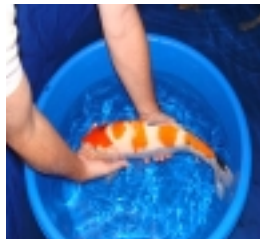


and goes on after Thanksgiving and comes off in late March. Maybe some type of pond cover would be useful on your pond?



GOSANKE GROW OUT CONTEST WITH A TWIST!

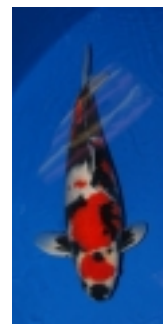
The Club has contacted a Koi Dealer (Wet Pets Inc.) who sells Japanese Koi from the Breeder Ogata. Any Club member can participate and here's how it will work. For the cost of \$99, you will get a 6"-8" Koi of one of the following varieties (Kohaku, Sanke or Showa). You choose the variety you want, but which koi in that variety will be from a blind draw. Example: If we have 5 people wanting Kohaku, the Club will purchase 5 Kohaku and each koi will have a number. If your name is drawn first from the "Hat" you will get Kohaku # 1 and so on. The same will be done with all 3 varieties. Here's the Twist! The Club has an opportunity to use a natural mud pond located in Kentucky for this Growout Contest. It's a known fact that Koi grow quicker & larger in a mud pond than a lined pond. All members will have their Growout Koi placed in the mud pond for the summer season with a "Club Member's Pond Harvest" on Oct 24th of this year, just like they do in Japan. At that time, AKCA Judge Charles Phelps will judge the koi and give an Award for what he believes to be the Grand Champion from the Growout Group. Because this is a natural pond there are risks of damage or even the loss of a koi. The Club will do what they can to prevent this, but it will not be responsible for any koi damaged or lost. We are limiting the amount of Koi in the Growout Contest to 25, so first come - first serve. To participate, send a check made out to GLK&GS for \$99 saying "Growout & which variety (Kohaku, Sanke, Showa) you wish to have purchased in the memo area of your check. The Deadline is April 30th or when we receive the first 25 entries. Good Luck!



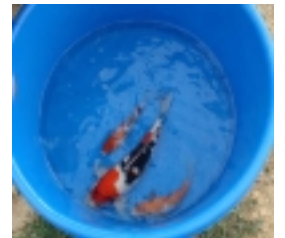
Kohaku



Sanke



Showa



Send check to **GLK&GS**
6806 Old Briscoe Lane
Louisville, KY 40228

Examples of last year's mud pond growth. Above photos are before and bottom photos are after 5 months.
Any questions, contact Troy Head at 502-243-6152 or headache6@bellsouth.net.

GLK&GS CLUB AGENDA 2009

March 5th - Meeting - Pond Opening Q & A
Judging Seminar - Kohaku

April 9th - Meeting - Bonsai Demonstration
Judging Seminar - Sanke

May 7th - Meeting - Show Planning
Judging Seminar - Showa

May 23rd - 24th - 14th Annual Koi & Goldfish Show

June 27th - Kentucky Mud Pond Visit

July 11th - Club Pond Tour

August 15th - Club Picnic

September - Program to be announced

October 24th - Kentucky Mud Pond Harvest

December 4th - Christmas Party - TBA

Cold Water Koi Keeping

(continued)

Cold Koi

As stated earlier, Nature has provided koi with the ability to withstand cold water temperatures down to 35 degrees F. Koi are primarily bred in Niigata, Japan, where winters are long and harsh, and snowfalls of over 20 feet are not unusual. Of course, we are not talking about rapid temperature changes but merely the “natural” cooling of the water as the seasons change. As the water temperatures decrease and stabilize at incrementally lower temperatures, the fish experience metabolic changes where their body functions slow and nutritional requirements decrease as well. As with most health issues for Koi, their immune systems can handle many water parameters changes – if they do not change rapidly.

At about 45 degrees F, koi start to become increasingly lazy. In fact what is happening is that they are lapsing into a condition called *torpor*. Webster’s Dictionary defines *torpor* as a condition of mental or physical inactivity or insensibility; lethargy or apathy. Many animals hibernate during winter, which is an almost complete shutdown of the body’s systems. Torpor is different in that it is **not** hibernation but a reduction of metabolism and related supporting body functions to the point where the fish is lethargic. Unlike hibernation, torpor allows the fish to understand its surroundings and still be able to react to threats. So, while there is mental activity, there is little physical activity. While the fish may be grazing around the bottom during this time, it is not a serious search for food.

It is also important to make sure that the Koi are not startled or stressed, as they almost completely lose their ability to manage stress situations. While have Koi a “fight or flight” capability (that which allows most animals to manage increased adrenalin build up), they will always flee a stress-producing situation and they do so with a great burst of speed. In order for the fish to burst away from a bad situation, they have a unique capability of producing great quantities of adrenalin and epinephrine hormones into the muscle. This is why fish can go from zero to warp-speed in a quick sudden burst. But what fish do not have is the ability to easily remove that hormonal build up. The net result is that fish maintain a higher level of adrenalin and epinephrine too long, and this results in an increased need for metabolic support and reduction of immune capability. So, it is easy to see that with a reduced metabolic capability, a sudden and dramatic increase in adrenalin build-up without proper release forces the fish into great stress. This high level of stress can actually kill fish in very short order.

Parasites, Bacteria, and Cold Water.

The next sets of organisms we need to discuss in the pond’s ecology are micro- and macro-organisms, more notably known as the parasites and the bacteria. Here we will differentiate between the nitrifying bacteria discussed above and the pathogenic bacteria that cause disease in our fish. Both of these bacteria types are aerobic bacteria, which simply means that they need oxygen to survive. Most parasites are basically warm-water creatures and as the water temperatures dip into the very low 50’s and high 40’s, the common micro- and macro-parasites begin to die off in great numbers. The lone exception to parasitic cold-water intolerance is costia. Costia, which is formally named *ichthyobodo necator* and not to be confused with common “ich”, is one of the smallest ectoparasites (lives on the outside) and is especially active in water down to about 38 degrees F. This is what makes it so dangerous to the fish during cold-water times. As the fish’s immune system and metabolic processes are reduced due to decreasing temperatures, costia parasites are still active and have the potential to cause significant damage through normal parasite attacks (cold water ulcers) and increased stress on the fish.

But the real problem we face as koi keepers is how to reduce the effects of aeromonas and pseudomonas bacteria on our fish during cold-water times. Aeromonas (and I will lump pseudomonas bacteria into this discussion as well) are the pathogenic bacteria that are the primary cause of ulcer disease, fin rot, and mouth rot. There is significant truth to the statement that aeromonas bacteria are ever-present in our ponds and they really only get to effect our fish when the fish become stressed or lack the ability to fight them off. Think of it this way: - cold germs are ever-present in our surroundings and we become significantly more susceptible to catching a cold when our resistance is low, such as when we are cold or tired.

The activity levels of aeromonas and the koi's immune system are compared. Note that aeromonas becomes active at about 42 degrees (F) and remain active well above 90 degrees (F). Now notice the koi immunity system activity. The fish only begin to have the ability to fight off infection at about 45 degrees (F) or so and by that time, the aeromonas are off and running at greater than 60 percent lead. But the real problem area we need to consider is that portion of time/temperature that we call Aeromonas Alley, where the net effect of the aeromonas activity is so great and the koi's immune system so weak that the potential for real trouble exists. Aeromonas Alley is the pond water temperature range between 40 degrees (F) and 62 degrees (F) and this represents the time where our fish are in most danger from aeromonas infections.

To counteract the potential for disaster, especially while temperatures are in Aeromonas Alley, ponders can take a number of steps to reduce aeromonas loads, including the following:

1. Reduce the amount of organics in the pond with a thorough cleaning of the pond bottom and filters. Remember that bacteria thrive in high organic environments.
2. If possible, treat the pond with therapeutic potassium permanganate treatments. PP removes the organic load through oxidation and also kills off significant, if not all, bacteria in the pond. A therapeutic dose of PP is 2PPM for 4-8 hours)
3. Add salt to your pond at a dose rate of no less than .2 % (that is two pounds per 100 gallons) and keep it there for at least two weeks. Then reduce the salt level to about .08 to .1% through water changes and salt at that level for the remainder of the winter. This will reduce the parasite load as well provide much needed chloride levels into the water. Consider water temperature before using salt.
4. Reduce feeding of the fish. The primary food source of aeromonas bacteria is fish feces. Actually, the slime coat on the feces. Reduced feeding causes less feces and so less food source for the aeromonas.

There are a number of other tricks for protecting koi such as feeding them immune system enhancing food, but the one that seems to work the best is the use of Lymnozyme or Koizyme. It is rare that I will specifically recommend any one product, but this is one product that every koi owner should use. Lymnozyme is a natural enzyme developed to help eliminate aeromonas bacteria by out-competing them for their primary food source. In effect, the presence of Lymnozyme starves out the aeromonas and reduces their numbers.

Hypothermia

Like all living creatures, koi and goldfish can suffer from hypothermia. Hypothermia occurs when the core body temperature becomes so cold that normal body functions begin to fail. In human beings, this temperature is about 93 deg F. For koi, this temperature depends on basically two things: how cold the water gets and how fast the water gets cold. Koi are poikilothermic, which means that their body temperatures are essentially the same as the water temperatures. And because of this, koi have no ability to regulate their body temperatures. As the water temperatures drop, so does the koi's body temperature and this affects the fish's immune system and physiology. So it is pretty easy to see why water temperature in a koi environment is so critical.

Hypothermia can become a factor when the pond water drops below 39 degrees and really is a problem when it approaches 35 deg F or lower. While all fish are susceptible to hypothermia, most fish do just fine under normal cooling conditions, but there are some fish who just cannot handle the cold. First evidence of hypothermia in fish is a loss in color followed by rapid breathing/gill movement. Additionally erratic swimming may occur that looks like that the fish is disoriented. The affects of hypothermia can lead to hypoxia, which basically means that the fish is starving for oxygen. While it is true that cold water has the potential to hold more oxygen by its nature, because the fish's metabolism is so slow it cannot adequately take up oxygen and suffers from low oxygen affects. Hypoxia can then lead to anemia and this puts the fish in a serious position. Reversing the conditions of hypothermia requires that the fish be removed to a tank that can be warmed slowly.

to be continued ...