



Dedicated to Sharing the Joy of Keeping Koi



February 2008 Volume 20, Issue 2

Inside this issue: AKC Calendar Koi Show Calendar On the Road ... to Nature's Coast ORP 101 ORP 101 continued Tabiii: Pick Your Perfect Pond Koi Show Trophy Sponsorship

well. **Trophy Sponsors continued**

Growing Up in the Mud 11 (part 2) Continuing Series on Water Quality Water Quality (cont.) Water Quality (cont.) Meeting Hosts Needed Membership 15

Year End Budget Report Year End Budget Report Meeting Minutes 10 **Meeting Directions** 16

By the Pond



David Boyd, President AKC

The Atlanta Koi Club would like to thank Steve and Laura Castel for hosting our January meeting. The Executive Board reviewed and approved the budget to be voted on by the membership at the February meeting. The upcoming auction was discussed as

Our club was fortunate to be invited to Steve Castel's warehouse for our meeting. There were many new faces as well as old faces at the meeting. It was amazing to see the robots that are Steve's profession and to listen to Steve as he gave us a tour of his warehouse. The only bad part was seeing all these wonderful toys and not being able to play with any of them.

This year's budget was discussed at the officers meeting and a few changes were made. The auction was also discussed and the possibility of having to buy water due to the current water restrictions was brought up. Steve Castel, our auction chairperson is going to check into what is required so that our club is not violating any codes. I am looking forward to seeing everyone at our next meeting.

KOIBUCK\$

At the January meeting we introduced KoiBucks. KoiBucks are certificates in a \$10 denomination. They cannot be redeemed in cash from the club, but they can be used to purchase fish at our 2008 annual auction in April. They can also be used to purchase fish or other products from the 2008 show vendors in September.

How do you get KoiBucks? Simple. You earn them. At the club meeting the attendees divided up into 4 teams. All the teams received the same 25 question quiz based on the information in the January Koi Chronicles. Team B won with a score of 92 points. Congratulations to Team B members who each won KoiBucks: Robin Scott, David Pugh, Jay Drew, Herve Rijneveld, David Marier and, David Boyd! As I told all the teams, "You know more than you think you do!".

Atlanta Koi Chronicles is a monthly publication of the Atlanta Koi Club. Material is selected for its interest to Koi and Pond enthusiasts. AKC Koi Chronicles accepts no responsibility for the accuracy of the contents. Reproduction is permitted provided that this newsletter and/or the original source are credited. Articles may be submitted to the editor.



President

David Boyd pres@atlantakoiclub.org

Vice President

Michael Anderson

Secretary

Peggy Fricke scribe@atlantakoiclub.org

Treasurer

Steve Castel money@atlantakoiclub.org

Property Manager

Hervé Rijneveld stuff@atlantakoiclub.org

Appointed officers

Membership

Susan Brown join@atlantakoiclub.org

Koi Show

David Pugh koishow@atlantakoiclub.org

Koi Auction

Steve Castel auction@atlantakoiclub.org

Pond Tour

Held on odd-numbered years

P.R. Director

Harvey Siskin pr@atlantakoiclub.org

AKCA

Michael Anderson rep@atlantakoiclub.org

Newsletter Editor

Toni Anderson report@atlantakoiclub.org

Webmaster

Mike Hutson wizard@atlantakoiclub.org

AKC CALENDAR

I encourage all members to attend our monthly meetings and also consider hosting a regular meeting or one of the two socials. The currently planned meetings and

events are:

February 10: Meeting at Senior Activity Center in North Park (http://www.alpharetta.ga.us/index.php?p=216) in Alpharetta, GA.

March 16: Meeting at Splendor Koi (http://www.splendorkoi.com/) in Marietta, GA.

April 12: (Saturday) Auction at Coastal Pond Supply (http://www.coastalfountain.com/) in Tucker, GA.

May 18: hosts needed

June 8: Summer social, hosts needed

July 13: hosts needed

August 10: hosts needed

September 14: hosts needed Koi Show Planning and Set-up @ Coastal Ponds

October 12: hosts needed Election of Officers

November 9: Winter social, hosts needed

Please contact me (vp@atlantakoiclub.org or 678-297-7926) if you are interesting in hosting one of the May-November meetings or socials. Please share your pond and koi with other members of the club.

Michael VP@atlantakoiclub.org



Members figure out the quiz answers.

Koi Events!

Central Florida March 7-9 2008 www.cfks.org

Koi Health Seminar February 15-17 2008 www.koihealthseminar.com

South FL — February 23-24 2008 Tropical Koi & Watergarden Society

MAKC 2008 —September 12-14. 2008 Westminster MD

Grant Fujita to Speak at Charleston Showa Club

The Charleston Showa Koi Club will be getting Grant Fujita to come from California to speak to our club. Grant will be talking about his experiences in Japan for the first part of the day and after lunch he will give us a talk on judging.

Our club will do the best we can to have some fish for him to judge for us. This is a free event for you to attend. Grant doesn't make it to the East Coast very often, so this should be a very good event.

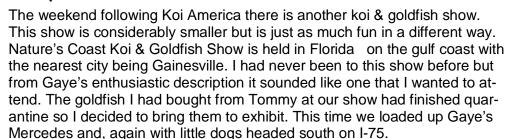
All we ask is that you let us know if you can come. The date is Saturday. April 12th it is a so it should give you time to get home. We don't have a venue as of yet. However, we plan to have one soon. I will keep you up to date. You can contact me at robe8lew@aol.com or our president at president@charlestonshowakoiclub.org

Robert Lewis



Steve Castel takes us all on a tour of the robots in his shop. This one handles wheels for a car manufacturer.

ON THE ROAD TO.....NATURE'S COAST





Surrounded by palm trees and hanging Spanish moss we were warmly greeted by the show chairman Johnny Foster. This show is held outside of our motel room. Koi tanks were set up within a roped section of the parking lot near some large shade trees. Aquariums were next to the tanks under a tent. Partially surrounding the koi tanks in a "L" shape are motel rooms for the exhibitors. One can also opt for a room in another area of the motel, but why? I was introduced to some of the friendliest koi kichi people. It was great to come out of your motel room door and be only steps away from the tanks. Friday evening everyone enjoyed casually sitting outside their rooms and talking about koi and goldfish.

The judges for this show were the infamous Pete Ponzio judging goldfish, then Pete and Tom Ayers of Arizona judging koi. This show is so laid back and quietly southern that the goldfish judging didn't start until late morning and was followed by the koi judging. Shadowing Pete while he judged goldfish was a lesson in efficiency. With a keen eye he evaluated, eliminated and promoted the fish accordingly. Following the goldfish judging Pete moved on to nishikigoi with Tom and again I shadowed. With two knowledgeable and experienced judges koi were perused and evaluated. Just as judging was moving toward the larger sizes the Floridian heavens opened and the rains came. The downpour only lasted 30 minutes or so but as Tom stated, within that period he experienced more rain than he would normally in a Phoenix summer. The koi loved it! Although this show would be considered small by many, the quality of koi exhibited was outstanding.

While the show just outside the motel rooms the banquet was about another 500 feet beyond. We walked to the restaurant where the club had reserved a room. The delicious food and amazing trophies could have rivaled that of a larger show. The awards started with the goldfish. Gaye won the American Goldfish Assoc. Award for her Ochiba Ryukin and the Chairman's Award for her red and white Ranchu. I took home Reserve Grand Champion with my Goshiki Telescope. Gaye's winning streak continued when she won Grand Champion with her red and white Ryukin. This was her 5th consecutive Grand Champion win this year with 3 different goldfish. With an entry of 101 koi Tom Ayers announced Nature's Coast had graduated from a small show to a medium show but, it still retained that small show warmth and friendliness. The quality of koi was superb but there was one tank that seemed to have the best and that tank was owned by David Hardcastle of Florida. David went home with Grand Champion for his Kohaku and Reserve Grand Champion with his amazing Kujaku. Longfin over 16 inch was presented to Johnny Foster.



Gaye and I had AKC Friendship awards for both goldfish and koi. For goldfish we decided on the largest Pearlscale both of us had ever seen. This leviathan turned out to belong to Johnny. The koi recipient was a very large Doitsu Ochiba Shigura. As she moved through the water her smooth leathery grey skin gave her a whale like appearance. When Gaye presented the award she said we came to Florida looking for Manatee and this was the closest we could find. The proud owner turned out to be Wanda Pawlak mother of Blackwater Creek's owner Joe Pawlak.

Nature's Coast is a small, excuse me..."medium" show with everything within walking distance. The only time we drove was to go to breakfast less than a half mile down

the road at the *all you can eat breakfast buffet*, yum. Although there were a handful of vendors I still managed to snag 3 premium Kohaku tosai. They may or may not be ready to return with me next year but I will return, and next time I'll be bringing koi, too.

Introduction

No, I am not talking about an *Optional Retirement Program*. That is an "ORP" you might find discussed in AARP's magazine. We are discussing **O**xidation **R**eduction **P**otential. Boy, that was a mouthful. What is it? Do I have to be a rocket scientist to understand it? Is it anything of *real* interest for the average nishikigoi keeper? No, you do NOT have to be rocket scientist to have a working knowledge of ORP for our hobby. ORP as one more tool you can use to care for your Living Jewels.

What is ORP?

ORP is one more those three letter acronyms (TLAs) you get to learn when you read books and magazines about nishikigoi keeping. Simply put, ORP is an indication of how free the water is from organic pollution. In general, cleaner, less polluted, water is better for our nishikigoi. Cleaner water means our nishikigoi can spend their energy on growth and skin quality. They will not have to spend energy trying to overcome poor water conditions. Oxidation and reduction were originally thought of as the adding or removing oxygen from another material. This is like adding oxygen to iron to create rust. Now oxidation and reduction are thought of more in terms of the ability to steal an

How ORP is Measured

OK, so how do we measure ORP? ORP is about the ability to move electrons. Therefore an ORP meter uses a special probe in the water to measure the potential for moving electrons in the water. This potential is displayed by the ORP meter in millivolts.



electron (oxidation), or to give up an electron (reduction).

Personally I use an ORP meter that I can calibrate. I follow the manufacturer's instructions on how to clean the probe and calibrate the meter. I definitely clean and recalibrate before any chemical treatment such as the use of potassium permanganate. I want to know the impact of the dose, not just the theoretical calculated impact. Neither the nishikigoi nor I like surprises when it comes to pond chemistry.

Measuring the pond passing through the skimmer (from left to right): Digital temperature reading 82.0F, calibrated pH meter reading 7.48, and calibrated ORP meter reading 326.

ORP Levels

Can ORP be too high in a pond? Can the water be too clean? Simple answer...yep. Water can indeed be too clean or oxidative for our fish. In our pond we are NOT trying to create sterile water. Sterile water means no filter bacteria, no algae, and no fish. Bad karma. Bad joss. No thanks. Here are some ORP ranges you might see in a nishikigoi pond and what they can indicate:

<120mv: The water is very polluted. The pond filtration and aeration has not kept up with the organic load.</p>
120-200mv: The water is polluted. The pond filtration and aeration is struggling to keep up with the organic load.
200-300mv: The water is relative clean. The pond filtration and aeration are keeping up with the organic load.
300-400mv: The water is extremely clean. The pond filtration and aeration are more than keeping up with the load. This should be the target range for all nishikigoi ponds.

400-500mv: This range may be too oxidative for long range good nishikigoi health. May indicate presence of a

chemical oxidizer such as potassium permanganate, chlorine, or ozone.

500-550mv: Very oxidative water suitable for killing parasites. Exposure should not be longer than 8 hours.

550-650mv: Too oxidative for nishikigoi long term or short term.

650-700mv: In this range bacteria are killed within a few seconds and the water is considered sterile enough to be

potable.

Items that Impact ORP Readings

There are several factors that will change the ORP level of the pond water.

Organic Load: The most obvious thing that will change the ORP readings is the absence or presence of organic pollution. After all, for most of us hobbyists, this is one of the key reasons we purchased and use an ORP meter.

- **Dissolved Oxygen**: Remember how we said that originally ORP was thought of as the adding or removing or oxygen to another substance. If we increase the dissolved oxygen levels in the pond, the ORP values will go up. This is one of the reasons folks always hear me preaching for more aeration.
- **pH**: ORP moves inversely with pH changes. If the pH drops, the ORP levels go up. Bring up the pH, the ORP levels decrease. For example, if your pond ORP is 400mv or higher and there is no oxidizing chemical present, double check the water pH. The pH might be lower than you think it is and lower than you want it to be.
- **Calibrated Meter**: Sounds like a no-brainer. You need a meter that has been calibrated and has good batteries, or an AC adapter. A inaccurate meter might be more dangerous than no meter at all if you are using the meter readings to dose oxidizing chemicals.

Using ORP

There are many practical uses of ORP for the average nishikigoi hobbyists.

- **Checking Filtration**: Measure the ORP of a stable pond system. This will tell you how well the pond's filtration and aeration are handling the load. Expand the filtration and aeration as needed. You can monitor the ORP over time to see if there is any indication that with a growing load (i.e., larger fish, more fish) the pond system is nearing its current limits.
- **Measuring Pond Treatments**: You can ORP reading to help you perform a pond treatment for parasites with an oxidizer such potassium permanganate. Slowly add the chemical and constantly monitor the ORP levels using a calibrated meter. Bring the ORP level to the target level for the target duration.
- Checking Dechlorination: Chlorine is one of the most potent oxidizer chemicals available. That is why it is used by government agencies to provide potable water to your home. As koi keeper we do not want the chlorinated water (ORP typically around 650mv) to drive up the pond's ORP. We can use the ORP readings to add enough dechlorinating chemical, such as sodium thiosulphate, to just offset the impact of the chlorine. Ideally, when all the new water has been added, the ORP is the same, or only slightly higher, than before the new water was added.

Summary

ORP readings give you a snapshot of the pollution levels in the pond system. ORP is measured in millivolts using an ORP meter. ORP readings can help you decide if the filtration and aeration should be expanded or the load should be reduced. The readings can also help you more accurately use oxidizing chemicals for parasite treatments. ORP is simply one more tool you can use to better plan and maintain the home of your Living Jewels.

Reprinted from Koi Nations (October/November 2007)

Michael Anderson

Tabiji: Pick Your Perfect Pond

OK, there is probably no such thing as a truly perfect backyard pond. But there are several different types of ponds. Part of our Tabiji or journey is to pick the destination. In the context of a backyard pond, this means picking the right type of pond(s) for your situation. Picking the best type of pond for your situation can make all the difference in how frustrated or happy you will be with the pond in the future. There may also be restrictions in your deed, Home Owners Association (HOA) covenants, or local ordinances that also influence your pond decision. Before building a pond be sure to know your budget for initial cost (i.e. parts and labor) plus operational costs (i.e., water and sewer bills, electric bill), a plan for doing the maintenance, and have any needed approvals/permits from your HOA or local government agencies. You do not want to be filling the pond only to find out it is illegal.

What do I mean by different types of ponds. Let's consider three broad categories of outdoor ponds: the water feature, the water garden, and the koi pond.

Water Feature

This type of pond is a landscaping device about the sight and sound of water. The could be still such as in a reflecting pool. The water could also be moving such as in a fountain in a basin. A relatively new type of water feature is a pondless waterfall. A pondless waterfall uses a submerged pump inside a plastic vault in the bottom of the pond. The pond is then filled with gravel above the water level. The pump delivers the water to a waterfall. The water cascades down

(Continued on page 7)

Banquet and Trophy Sponsorship

Each year at the award's banquet the generous folks who have sponsored an award are asked to present that award to the lucky exhibitor whose fish was judged most deserving. This is a chance for you to meet some really great folks from all over the Southeast and to have a great meal. The banquet will be catered by the same restaurant we used last year and we look forward to the same great food.

One other great part of the banquet is that there is an auction for some great items. Last year this included a weekend at the Buckhead Towne Suites, an original Koi flag, two AKC directors chairs, and an original art piece. The money raised from this auction goes directly to KHV research.

Award Sponsorships allow our club to continue in the tradition of having some of the best trophies in the AKCA (sure we are prejudiced). Sponsorships range from \$25 to \$200. We hope you will consider sponsoring a trophy for your favorite variety.

For that small amount you get to present the trophy at the banquet, have your photo taken with the winner, and have your name listed on the AKC website, unless you request anonymity. Then you can "Google" yourself and get a result.

One complimentary ticket to the Banquet will be given for each Trophy category at or above the \$100 sponsorship cost. These trophies have been highlighted.

To sponsor a trophy contact:

David Pugh by phone at 678.357.2707 or via email at atlantakoishow2008@yahoo.com

Trophy Sponsorship Cost

Grand Champion	\$200
Reserve Champion	\$200
Adult Champion (Size 5 and 6)	\$100
Young Champion (Size 3 and 4)	\$100
Baby Champion (Size 1 and 2)	\$100
Best Jumbo (size 6)	\$100
Most Unique	\$50
Best Novice — (Exhibitor is showing koi or longfins for the first time)	N/A
Best in Size 1, 2, 3, 4, 5, 6	\$200
Best Kohaku	\$25
Best Sanke	\$25
Best Showa	\$25
Best Utsuri	\$25
Best Bekko	\$25

Koi Trophies



Best Asagi/Shusui	\$25
Best Koromo/Goshiki	\$25
Best Kawarigoi	\$25
Best Hikari Muji	\$25
Best Hikari Utsuri	\$25
Best Hikari Moyo	\$25
Best Tancho	\$25
Best Gin Rin "A" (Kohaku, Sanke, Showa)	\$25
Best Gin Rin "B" (Utsuri, Bekko, Asagi/Shusui, Koromo/ Goshiki, Kawarigoi, All Hikari)	\$25
Best Doitsu	\$25

Grand Champion longfin	Spon.
Best in Size 1, 2, 3	Spon.
Best Longfin "A" (Kohaku, Sanke, Showa)	\$50
Best Longfin "B" (Utsuri, Bekko, Asagi/Shusui, Koromo/Goshiki)	\$50
Best Longfin "C" (Kawarigoi, All Hikari)	\$50



Long-fin trophies above



Goldfish trophies are on page 7



(continued from p. 6) Goldfish Trophies

Grand Champion Goldfish	\$100
Reserve Champion Goldfish	\$100
Baby Grand Champion Goldfish	\$50
Novice Exhibitor — (Exhibitor is showing goldfish for the first time)	N/A
Best in Size - Mature*, Young**	\$100
Best Oranda *	\$25
Best Oranda **	\$25
Best Ryukin *	\$25
Best Ryukin **	\$25
Best Ranchu/Lionhead *	\$25
Best Ranchu/Lionhead **	\$25
Best Eye-growth *	\$25
Best Eye-growth **	\$25
Best Pearlscale *	\$25
Best Pearlscale **	\$25
Best Single-tailed *	\$25
Best Single-tailed **	\$25
Best Wakin/Jikin *	\$25
Best Wakin/Jikin **	\$25
Best Special Varieties *	\$25
Best Special Varieties **	\$25

^{*} young — under 3 inches

^{**} adult— over 3 inches



Our hosts Steve & Laura Castel and V.P. Michael Anderson visit during lunch. Thanks again, Steve & Laura. (Continued from page 5)

the waterfall into the gravel. This type of pond might be a good choice for those that want a more natural looking landscaping device that minimizes the risks of ponds of water around small children or pets. Here is an example of a water feature installation: http://www.hgtv.com/hgtv/gl design water features/ article/0, HGTV 3575 5239752,00.html

Water Garden:

This type of pond is also a landscaping device that is primarily about growing and presenting aquatic plans, hence the name water garden. Smaller ornamental fish, such as the many varieties of goldfish, can make a great complement to the plants. The goldfish is a highly adaptable creature, living in shallow water of minimal quality and quite happy in a water garden setting. Their small size and hardy nature allow then to live among the plants with only a small filter or waterfall and moderately running water to provide for oxygen needs and ammonia removal. Water gardens with sloped sides and depths of 10 inches to 36 inches are fine. And water turn over as infrequent as six times a day should be adequate to keep one goldfish per 20-25 gallons of water. These hardy fish require only minimal care and are well suited for the average water garden. Here is an example of a water garden installation: http://www.hgtv.com/hgtv/

gl design water features/ article/0,1785,HGTV 3575 1388521,00.html

Koi Pond

This type of pond is one that is designed to grow and display nishikigoi, commonly called koi. Note that in this description I did not say a koi pond is a landscaping device that happens to contain koi.. While a koi pond can indeed be build in a variety of different styles and shapes, it is first and foremost a home for large fish. So a koi pond is an environment for growing and displaying koi. Koi are riverine carp and are much larger that then their cousins the goldfish. While a gold fish will be typically grown at 4-8" long, koi will commonly be 24" long with some koi growing to over 36". Note I said koi are riverine carp. That means they do best in larger ponds with at least 4' depths (more is better). While 20-25 gallon is adequate for a goldfish, each koi should be allocated at least 250 gallons (more is better). Bottom drains and skimmer send the pond water to external filter systems. The filter systems are needed to handle the significant levels of waste produced by these large carp. To provide such fish with a suitable home, koi ponds have vertical walls with depths of 4' to 8' (deeper is better). Another aspect of emulating a river is to provide current. The currents can be provided by columns of air rising from the bottom drain domes. The currents cause gas exchange

(Continued on page 9)

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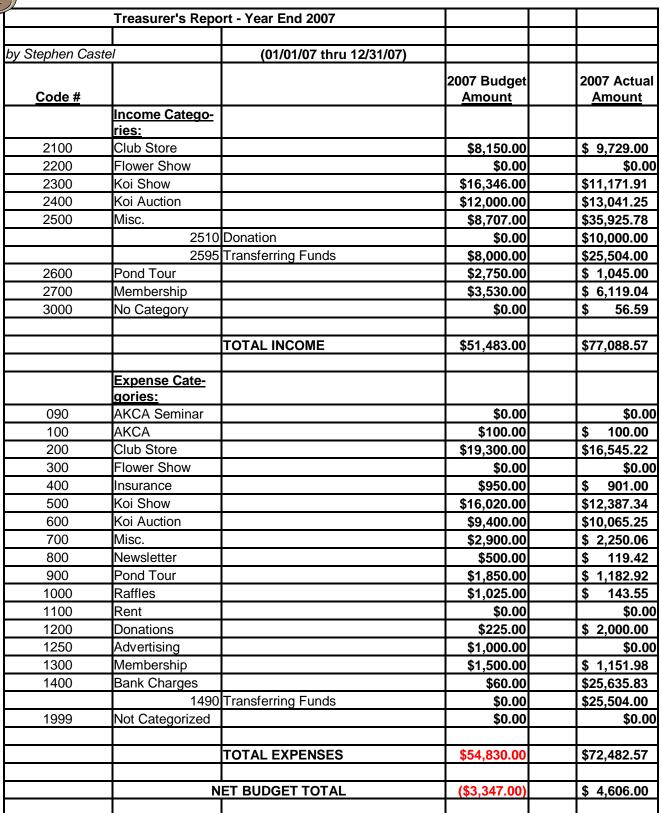
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January meeting pictures



Budget Report continues on page 9

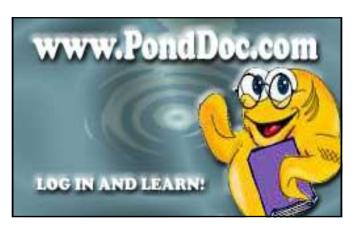
<u> Major Events:</u>		
Flower Show	\$0.00	\$0.00
Income	\$0.00	\$0.00
Expenses	\$0.00	\$0.00
Koi Auction	\$2,600.00	\$ 2,076,00
Income	\$12,000.00	\$ 2,976.00 \$13,041.25
Expenses	\$9,400.00	\$10,065.25
Pond Tour	\$900.00	\$ (137.92)
Income	\$2,750.00	\$ 1,045.00
Expenses	\$1,850.00	\$ 1,182.92
Koi Show	\$326.00	\$ 653.91
Income	\$16,346.00	\$13,041.25
Expenses	\$16,020.00	\$12,387.34
General Notes:		
01 11 01 (10/01/07	A 0 000 05	
Checking Balance as of 12/31/07	\$ 3,823.35	
Savings Balance as of 12/31/07	\$20,302.59	
Donation Balance as of 12/31/07	\$ 8,000.00	
(KHA Scholarship Program)		

(Continued from page 7)

(nitrogen out and oxygen in) at the surface, push floating debris to the skimmers and sweep sinking debris to the bottom drains. The pond water should be circulated through the filters at least once every 2 hours (less is better). Here is an example of a high end koi pond made of concrete floor, block walls and a fiberglass sealant: http://www.koicymru.co.uk/construct.htm.

Summary: As one steps from the simpler water feature, to the water garden, to the purpose-built koi pond, the commitment from the owner rises. This commitment is in many forms such as the initial capital expenditure for parts and labor; it is also in operational costs such as water and electricity costs. Another commitment is to gain the knowledge and skills needed by the pond owner to maintain the pond equipment and the resulting water quality so that the inhabitants thrive, not just survive. So if you are planning a new pond or a pond rebuild, consider very carefully which type of pond is best for your site, abilities, and budget. All three types of ponds can be a great asset to your home. But remember, each of these types of ponds are designed for specific purposes and each makes a poor substitute for either of the other pond types. Form does indeed follow function. In future Tabiji steps we will focus on koi and koi ponds. Remember, do your research....and then pick your perfect pond.





January 2008 Meeting Minutes



Atlanta Koi Club Regular Monthly Meeting
TEC Automation Inc
10 Hickory Springs Industrial Drive
Canton GA 30115
January 20^h 2008 Meeting Minutes

Executive members present were: David Boyd, Michael Anderson, Steve Castel, Herve Rijneveld, and Peggy Fricke.

Treasurer Steve Castel gave club members a very interesting tour of his businesses' specialization of robots and their uses in business.

Club President David Boyd called the meeting to order and welcomed new board members Vice President Michael Anderson as and Treasurer Steve Castel.

Steve Castel Treasurer presented a working budget to the board and the board voted to approve the working budget and will bring the final budget to the membership for a vote at the next months meeting.

David Pugh then updated the club on the progress of the 2008 Koi Show. David informed the membership that the club should consider purchasing water for the show as well as the auction due to the lingering drought in Atlanta. It was mentioned that we could use this water purchase as an opportunity to showcase our club and how we are concerned about our local environment.

Steve Castel reported that the Koi Auction will be held again at Coastal Pond Supply (thanks Bill Dowden, you're the best!!!) on April 12th. Steve has offered to investigate the costs for having water trucked in for both the Auction as well as the Koi Show. He will then add the costs to the working budget.

A Volunteer list is being drafted! Be ready for a call to action!!!!

A request was made to the board to review and clarify the clubs bylaws. President David Boyd will appoint a committee to review our clubs bylaws and bring any possible changes to the clubs membership for discussion and vote. If you have any questions or concerns please send your responses to bylaws@atlantaloiclub.org.

Michael Anderson then tested the membership on their knowledge of our club and the latest newsletter. "Koi Bucks" were given to the team with the highest score. Koi bucks are monetary credits that can be used for the monthly raffles and at the auction and Koi show.

The club was then treated to good food and an informative video, "Everything you would want to know about Koi".

Thank you Steve for showing us your VERY cool robots!!



Growing Up In The Mud (Part Two)

Stephen Castel

Last time I wrote about the journey I have taken over the years, first with the pond construction, filtration and then koi selection and my growth in the hobby. I recently came to the conclusion that if I did not want to foot the bill for a mature koi that could win a grand champion event, then I would need to purchase a younger koi and grow it out in Japan and hope for the best. It's a tough decision but for a first go at it I was pleased with then results. In the last newsletter I published year one and two of the Showa that is still in Japan. The following picture is this koi at 19 months. It measured 18.1".



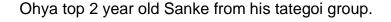


This next picture is of the same koi one year later at age 31 months. As one can see, most of the color has come to fruition and a dramatic change in appearance has been revealed. I am still waiting to hear what the length of the koi is at this age. I am slightly concerned that this is a malkoi. It was advertised and guaranteed to be a female. If male, I will not accept it and I am sure that the breeder will offer an exchange for a comparable female. This is just the way the Japanese breeders are. They are very trustworthy and look out for the well being of their customers and wet pets. So for now, I will hope it is a fe-

male and am anxious to find out.

I must love the long drawn out process because this year I purchased another koi that is being

grown out in Japan. Again, the koi is guaranteed to be female and will stay in Japan several years. This time it's a Sanke. Sanke are one of the most hardest koi to get right as far as the pattern. For the money I spent, I am pleased with the pattern. The body could be better but I decided on this one for future potential. "ONLY TIME WILL TELL" So tune in next year to find out the fate of both koi.









Continuing Series on Water Quality Harold Biggio, Certified Master KHA¹²

As koi keepers, we do not need to know the full composition of the water that we use for our ponds. The important message is that the ultimate cocktail we call water is complex and is really a weak solution of several dozen dissolved substances. Some of these are beneficial to fish, some are not. This month we'll look in more depth at the interrelationship between alkalinity, acid/base balance, carbon dioxide and hardness which is called the carbonate buffering system. We will also present a protocol for reversing a pH Crash.

Many of us get "hung up" on the fact that there are two different types of hardness. Forget all that and just thinks of Alkalinity (KH) as buffering capacity and GH as hardness.

Let's review: Alkalinity (KH) measures dissolved minerals (anions) -- mainly carbonate (CO3--), bicarbonate (HCO3-) and hydroxide (OH-). Alkalinity should be around 100 ppm, but koi will tolerate a range of from 0 - 200 ppm and bead filters are most efficient at about 200 ppm. Alkalinity also acts as if there were a big sponge in the middle of your pond sopping up acid generated by normal biological activity. (In chemistry this is known as a buffer and reflects the waters ability to prevent radical changes in pH). As Joe said, and the reason I love it, is that it can also be used as a "red flag" to warn of a possible pH Crash. Alkalinity between 40-80 ppm predicts, and alkalinity below 40 confirms a pH Crash. (Roark, 2000) You can increase alkalinity with sodium bicarbonate (baking soda) without changing hardness by adding 1 2/3 ounces / 100 gallons of pond water. However, pH, as Joe stated can also rise and baking soda lasts only for a short period of time. In my treatment tanks that period of time is about 1 1/2 weeks.

Hardness (GH) measures metals (cations) -- mainly calcium (Ca++) and Magnesium (Mg++). Hardness of 100 ppm or greater (moderately hard) is ideal. (Saint-Erne, 2002) Partial water changes will reduce both alkalinity and hardness, assuming the replacement water is of a lower value. You can increase both alkalinity and hardness with Calcium carbonate (oyster powder) or calcium hydroxide (slaked lime).

Acid / base Balance (pH)

Here's a quick note on high pH before we discuss a pH Crash. Increasing pH trends that raise pH above 9 pH points carry the risk of a Koi developing alkalosis. Generally, the only symptom is an opaque dulling of color because of excess slime coat, if that. The most often occurrence is in concrete ponds that were not properly cured or ponds that have been overplanted. When pH goes off the high end of the scale take the following actions.

рН	Established pond
9.0 – 9.4 pH points	Daily 10 % Water Change until you drop to 8.5 pH points
9.5-9.9 pH points	Daily 25 % water change until you drop to 9.0 pH points, then follow previous rate of change
10 pH points	50 % water change until pH falls below 10 then follow previous rates of change
> 10 pH points	Move any survivors

(Continued on page 13)





Two important points: 1) If the source water has a higher pH than the pond you may exacerbate the problem with a water change if you don't treat the source water first. 2) This is a *personal opinion*, but I don't think it's prudent to chemically lower the pH.

Now to the dreaded pH Crash



When pH drops below 7.0 pH points the fish start to become stressed. For pH between 6.0 – 7.0, there is time to determine the cause (which is 9 times out of 10 because of exhausted buffering capacity) and to adjust the pH chemically. There are two chemicals that can be used to raise pH. One is more of a short-term solution as it only lasts a week or two – Sodium Bicarbonate (aka Arm & Hammer Baking Soda). The other, Calcium carbonate, in the form of oyster *powder* is much longer lasting and simple needs replenishment every few months.

As the pH drops to around 6 pH points your koi start darting around the tank and are very excitable. If it drops below 6 the koi's own blood pH begins to fall, leading to acidosis and eventual mortality.

A reading of 6 confirms that a pH Crash has occurred and emergency action is required



Recovery

Since ammonia increases in toxicity with increasing pH, recover needs to be carefully executed when ammonia is detected during a **pH Crash** to avoid killing your fish.

Do the following steps in order and exactly as written.

Step 1: When ammonia is detected, detoxify the ammonia and increase dissolved oxygen (DO). Otherwise go to Step 2.

Test Result	Frequency	water change		
pH 6 - 7	Chemically raise your pH by adding unscented Baking Soda @ 1 cup / 1000 gals			
If pH under "normal low" by 0.5 or more		work or on to sweld a DH. Crash	8	
KH under 80 but over 40 ppm	You probably have a week or so to avoid a pH Crash.			
pH under 6.0	Variable a suffer	- A - DU Crash Tale amangan and a		
KH under 40	rou pond has suffer	ed a pH Crash. Take emergency action		

Step 2: Reverse the crash with sequential doses of Baking Soda Add unscented baking soda at 1 cup per

Ammonia	Pending	Confirmed	Hard
Present	Crash	Crash	Crash
1000 (1000 gals		00 gals

Add the dose to a 5 gal bucket of pond water; dissolve; distribute evenly around pond Wait

Ammonia	Pending	Confirmed	Hard
Present	Crash	Crash	Crash
5 mi	ns	15 – 20 mins	5 mins

Retest

Ammonia Present	Pending Crash	Confirmed Crash	Hard Crash
pН	pH & KH		KH
If below 7.4	If pH < 7.4 or KH < 80 ppm		If KH < 20
Repeat steps 6-8			
However, if ammonia is present, re-dose at 1 cup / 5000 gals			

Step 3: *When ammonia present* complete a 25 % water change, remembering to declorinate the amount of water changed. Otherwise go to Step 4.

Step 4: Follow-up over next 2 months

Retest pH & KH in 12 hrs.	Adjust either/both in upward direction only to achieve plot 7.4 pH points or higher and KH between 80-120 ppm		
	pH will often rise to 8.0-8.4 so don't be alarmed		
Continue aeration for 24 hours (for	or 48 hrs if ammonia is present)		
Retest pH & KH daily	Adjust either/both in upward direction as in step 2. How- ever, if ammonia is present resist further adjustments in any direction until no ammonia is detected.		
For next week	Cut food ration in half		
Retest ammonia daily	Stop feeding for 7 days if ammonia detected.		
	Add Amquel + at 0.5 times label directions for entire pond volume		
	Change 25 % of water adding Amquel + for the amount of water changed		
	Until no ammonia is detected		
Watch nitrite for next 2 mos.	Change 25 % of water		
	If detected add salt at 0.1 % (1 ¼ cups/100 gal) of entire pond volume		
Carefully inspect your fish for sign	ns of opportunistic disease for next two months.		

News Flash!

Pan Intercorp — Joel Burkhart ... Proudly announces the FIRST EVER American owned Grand Champion of the All Japan Show.

Congratulations to Andrew Filipowski & "Alexandria" daughter of Rose Queen 2008 Grand Champion Best in Variety Kohaku Dealer: Pan Intercorp Breeder: Sakai of Hiroshima

Meeting Hosts Needed!!

We have hosts for our club meetings through March. April will be our Auction Event. Starting in May we need hosts for our club meetings. I ask all club members to volunteer to host a club meeting. Take the opportunity to show off your pond and garden. Hosts receive a stipend to cover the costs of the refreshments. We also have two meetings that are designated as socials. One is typically in June and the other in November. OK folks step up and be counted. Don't make me send the koi cops after you! ©

Susan Brown

Membership

2008 DUES ARE DUE

Please join me in welcoming John Ruckart and Dennis Beavers as new members of our club. We are looking forward to meeting you and are very happy to have you as members.

I want to thank all of you that have been so prompt in renewing your membership. AKC has such a great group of members that I would not want to loose a single one. I sincerely hope that any members that have not had a chance to renew as yet will do so soon. I am looking forward to hearing from you. If your information has changed, please fill out the application below and mail it with a check made out to Atlanta Koi Club to the address at the bottom of the page. If no changes just mail the check.

The January meeting at TEC Automation was fascinating, who knew what all robots could do and we have a member who actually builds them. The food was great, the company even better and Michael's program was very impressive. I am looking forward to future programs, way to go Stephen and Michael. Thanks go to all that made the meeting possible. We had 32 members attend and 3 guests. Our membership is now 167.

MEMBERSHIP APPLICATION ATLANTA KOI CLUB

"Dedicated to Sharing the Joy of Keeping Koi" www.AtlantaKoiClub.org

Date:	Check No.:	Check Am	ount:	-
Type of Membership: (Check One) Other:	Household: \$50 for Individual: \$30 for Sponsor: \$150 for KOI USA Magazine S*Name Badges: \$5 each	1 Yr; or 1 Yr; subscription: \$20 for	\$90 for 2 Yrs. \$54 for 2 Yrs. 1 Yr.	
Names:First		&		
First Address:				
City:	State:		Zip:	
Best Phone:	Be:	st Email:		
In which of the following Host Meeting, Pond	areas can you help? I Tour, A uction, vide our newsletter in co	Koi Show, Hold Cor via email several d	Office, Flower Sho	
	nbership roster annually. olish your address, phon			A, the Associated Koi Clubs
	o <u>Atlanta Koi Club</u> and s san G. Brown, 191 King			
	g Name Badges . For or time you wear your bad	, , , ,	know and be known by	y everyone and also receive

February Meeting Sunday, 10 February 2008

Officers meet @ 1:00 P.M.

Members meet @ 2:00 P.M.

North Park has an entrance on Cogburn Road (West of Highway 9) and entrance on Bethany Bend Road (West of Highway 9). The February meeting is at the city of Alpharetta's North Park facility Senior Center.

http://www.alpharetta.ga.us/index.php?p=216

13450 Cogburn Road

Directions from GA 400.

Exit from **GA 400** at Exit 11 **Windward Parkway** Travel West on **Windward Parkway** for 1.5 miles.

Continue straight ahead onto **Cogburn Road** (road changes from 4 lanes to 2 lanes)

Travel West on **Cogburn Road** for 0.6 miles Turn left into **North Park** facility and travel a few hundred feet.

Turn right into parking lot.

Meeting is in the Senior Citizen Activity Center

Alpharetta, GA 30004

