

*Dan and Martha Cover's House*  
*Education starts at 3:00*  
*Meeting starts at 4:00*



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***Education starts at 3:00***  
***Meeting starts at 4:00***

From Ina, South on Shannon, East on Puccini to address

**SAKA, Inc Club Officers**

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<b><i>Vice President</i></b>	David Young <a href="mailto:koiman@mindspring.com">koiman@mindspring.com</a> (520) 682-7697
<b><i>Secretary</i></b>	Lynn Riley (520) 825-9066
<b><i>Treasurer</i></b>	Dan and Martha Cover <a href="mailto:mardan79@msn.com">mardan79@msn.com</a> (520) 297-4071

**Committees/Points of Contact**

<b><i>2010 Pond Tour</i></b>	Jeanmarie Schiller <a href="mailto:crankyjean@msn.com">crankyjean@msn.com</a> (520) 299-1876
<b><i>30<sup>th</sup> Koi Show Co-Chairperson(s)</i></b>	Bob and Darleen Panter <a href="mailto:dpanteraz@cox.net">dpanteraz@cox.net</a> (520) 747-7278

<b><i>AKCA Representative</i></b>	Debby Young <a href="mailto:debbyt@akca.org">debbyt@akca.org</a> (520) 682-7697
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<b><i>Koi Health Advisor</i></b>	Noel Shaw <a href="mailto:koidoc@noelshawdc.com">koidoc@noelshawdc.com</a> (520) 400-0335
<b><i>Membership Chairperson</i></b>	Faye Hall (520) 297-1253
<b><i>Raffle Chairpersons</i></b>	Wanda & Bruce Triebel <a href="mailto:wkt56@comcast.net">wkt56@comcast.net</a> (520) 572-0060
<b><i>Scholarship Committee</i></b>	Erin Riley <a href="mailto:eriley@aol.com">eriley@aol.com</a> (520) 818-6490

Editor's Note: Articles published herein are intended for the enjoyment of our club members and come from a variety of sources. The articles are not intended to replace veterinary advice. Pond owners, and not the club, are responsible for the health of their koi, water changes, what to do, and how to treat their pond. Reasonable effort is made to review these articles for accuracy before including them in the newsletter.

## Presidents Corner

8-11-09

### Presidents Corner

Just another wonderful summer day in the life of a koi, or is it? What does your pond thermometer show? How are your fish? What is your water quality like? These are just a few questions you can ask yourself. These questions will help you understand how things are in your pond, and with your koi. If you were at our last meeting, you would have answers to some of these questions.

Education is one of the keys to our club. There is always so much to learn. Every little bit you receive at our meetings will help in the long run or even right now. You can always ask questions at the meeting. Do not be afraid to ask, as someone will most likely have the answer.

Our 30<sup>th</sup> Annual Koi Show is right around the corner. Again, we need all the help we can get. Please give of your time. The show is for all of us, and the public to. This is our time of the year to show off what we have and what can be done. This is the time we let everyone know what the koi hobby is all about and then some. So again, I ask you to please help with what you can, and enter your koi so all may enjoy and marvel at what you have done.

For the love of Koi,

**Bob Panter,** President SAKA, Inc.

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## Club Meetings

**Hosting Meetings:** For those wishing to host an upcoming business/education meeting, the club will reimburse the host up to \$50 (with receipts) toward food/beverage for the meeting. **We would like to see your pond!** Please contact Bob Panter if you are interested in hosting a meeting.

## Club Announcements

January 17th, 2010 is the Valley of the Sun Koi Club meeting date. Nick Saint-Erne, DVM will be the presenter at a Koi Health Seminar on that date. The initial plan is for a 2-3 hour presentation and wet lab.

David Yee and Dennis Beard are the coordinators. Likewise, VSKC will be assisting members in a group purchase of hobbyist quality microscopes prior to the event. We also want to have some slides and covers to be available. Please contact Dennis or David for additional information.

## July Business Meeting Minutes

Date & Location: July 26, 2009 at Chuck & Phyllis Tampio in Tucson, AZ

Call to Order: Meeting called to order by Bob Panter at 4:14 PM.

June Minutes: Motion made to accept and second the June Minutes; motion passed.

Number of members in attendance: 19 members

Treasurer's Report: Current checking account balance: \$5568.78.

2009 Membership: 44 active members.

Correspondence: Bob received newsletter from the Water Gardners. Received a request for a vender packet for Litek and it was requested that he check what products they represented. Bob also received notification that it would take time to process the non-profit classification we are requesting from the IRS.

AKCA: No report

2009 Show and Auction Committee: Bob passed out samples of the Vendor Packets and Koi Registration for review. Set up for the show will begin on Friday, November 13<sup>th</sup> and will try to get the food vendor, Marie's, to cater that evening for

the Judges' Dinner at the Park and also for the Show. Bob is also confirming the hotels and Jean Schiller-McGinnis is confirming the entertainment for that weekend.

Old Business: Bob Panter will be doing the annual cooperative report for the Club.

New Business: Wanda Karlik will not be able to contact the vendors or do the raffle this year. She and Bruce will be out of town. We need a volunteer for this position right away. Wanda has her records and letters from previous years to help the new chairperson.

Adjournment: The meeting adjourned at 4:40 PM.

Educational Talk: Debby Young gave an informative talk before the business meeting on why knowing the temperature of the koi pond is so important – get a thermometer!

Lynn Riley  
Secretary

## Featured Articles

# GREEN WATER AND STRING ALGAE

Green water and string algae are different forms of algae. Both can cause considerable problems for ponds throughout the year. Green water differs from string algae in that it cannot be physically removed from the pond; whereas string algae is stringy or hair like, and can be physically removed.

### What Causes Green Water?

Green water is caused by the presence of millions of microscopic algae particles, each consisting of one cell. This algae occurs naturally in almost all bodies of water, and can be a problem in ponds during the spring and summer months. In order to grow, algae requires light and nutrients. An excess of either can result in heavy growth and very green water. The nutrients required for algae to grow are normally nitrate and phosphate. Green water is normally worse during summer months when days are longer, temperatures are warmer, and light is stronger. These factors greatly increase the rate at which green water can occur.

### What Causes String Algae?

String algae occur naturally in almost all bodies of water and is encouraged to grow by the presence of phosphate, nitrate and sunlight. Phosphate is a vital component of fish foods and therefore enters the water through uneaten food and fish waste. Nitrate is produced as the end product of the biological filtration and through the natural breakdown of organic matter in the pond. Nutrient concentrations tend to build up in the pond over time particularly in the summer when the fish are more active and being well fed. The increased sunlight plus these increased nutrient levels dramatically accelerate the growth of string algae with some species being capable of doubling its weight each day or two.

### Steps for Avoiding Green Water and String Algae Problems

There are a number of pond management techniques that can be called upon to help reduce the growth of algae:

- First, you should feed your fish only high quality fish food. Poor quality diets are not well digested by the fish, resulting in excess waste being produced that contribute greatly to a high nutrient load into the pond. This excess of nutrients will stimulate an increased growth of both types of algae.
- Adding plants to the pond can also help limit the growth of algae, since aquatic plants compete with the algae for the nutrients in the pond water. Water lilies in particular are great for this purpose, since their

leaves help cover the ponds surface and shut out much of the sunlight required to stimulate the growth of algae.

- Keep the pond bottom clean and clear of sediment. Decaying of this sediment increases the nutrient load for stimulating the growth of algae.

### **Controlling Green Water**

The most effective way to control green water is the addition of ultraviolet lights (U.V. lights) to the pond water circulation system. These devices work by irradiating the pond water that flows through them with ultraviolet light. This ultraviolet light kills green water algae, allowing it to clump together, so that it can be separated from pond water by a filter. This is an excellent method of keeping a pond free from green water year around. It is important to size the ultraviolet light correctly, as its effectiveness depends on the contact time between the light and the water passing through. In general, an ultraviolet light should support a flow rate that allows the pond total water volume to pass through the light every hour. U.V. bulbs should be replaced approximately once per year in order to keep the unit working effectively. The quartz sleeve containing the bulb should be checked and cleaned periodically. If it gets dirty it will cut down on the amount of ultraviolet light reaching the water.

There are other means of removing green water if you do not have an ultraviolet light. These methods are more temporary. There are many products on the market for adding to pond water to remove green water algae. One I will mention is called AlgaeFix. This product when added, as directed to your pond water, causes the green water algae to clump, so it can be filtered out with a pond filter, or can be skimmed off the water surface with a skimmer net.

The addition of aquatic plants to compete with the algae for nutrients, and to shade the pond to deprive algae of essential light are two natural means of reducing the green water effect. A large water change will remove green water temporarily; however it returns rather rapidly.

### **Controlling String Algae.**

The most effective way of removing string algae is by mechanical means; however this method is distasteful to most people. Again, there are numerous products on the market that will kill string algae. AlgaeFix does a very effective job of killing string algae and eliminating green water when used as directed. After the string algae is killed, you will need to remove the floating dead algae from the pond. Numerous plants in the pond will reduce algae by competing for nourishment from pond water. The addition of shade to the pond will decrease the growth of string algae, since it deprives it of needed sunlight in order to thrive.

Don Harrawood

## Forever a Tategoi

By Joel Burkard: Pan Intercorp

The Kumonryu is a Doitsu Koi that has an inky black pattern that emerges like billowing black thunder clouds against a snow white background. The variety is said to have been developed by breeding a Shusui with a Matsukawa Bakke.

Mr. Fiji Tsuchikata of Tokyo purchased a Kumonryu as an almost all white, one year old, 5 inch Koi in the spring of 1992. In September of 1993 a marked change in the pattern of the sumi,(black) and a distinct improvement on the clarity of the white background appeared.

At 17 inches the Kumonryu has a most striking pattern as it appeared in January of 1994 when it took top honors 45bu Kumonryu at the 26th Tokyo Taikai Show.

Because of the unstable nature of the sumi, the Kumonryu's pattern can change at the drop of a hat, from all white to completely black with every imaginable variation in between. Although it is still a Tategoi.

It is uncertain what exactly causes the changes, contributing factors can be: water temperature, water quality, diet, stress, etc. The ever-changing nature of the Kumonryu is what makes these Koi such a joy to own forever a tategoi.

Recently, the increasing popularity of the Kumonryu has prompted experimental breeding on the part of several Japan breeders. Mr. Hirasawa of Hiranish Farms in Nigata has been somewhat successful in stabilizing sumi pattern by breeding Kumonryu to a doitsu Siro Utsuri. The result is this Kumon-Utsuri, a one-of-a-kind Kawarimono belonging to Harry and Letha Jacobsmuhlen of Cornelius, Oregon. Mr. Hirasawa reports that subsequent breedings have not yielded any more Kumon-Utsuri, but assures us that he will continue in his efforts to create truly unique Koi.

## Water Quality

Water quality is probably the most important facet in keeping koi.

What's the big deal, you say? I drink my tap water all the time and it's just fine. Well, firstly, our wet pets do not drink the water – they breathe it.

Envision yourself living in the biosphere. Here you are contained, no where can you get rid of the toxic CO<sub>2</sub> that you respire and no where to get rid of the organic wastes that you produce – sounding a bit more like the habitat of your koi?? Yes – they live in a toilet bowl!!!

To top it all off – oxygen makes up 25% of the air, but even in the best of temperatures the oxygen content of your pond water is most likely to be under 10 PPM. Did I mention temperature?

### **TEMPERATURE:**

As the temperature of your pond increases, the amount of oxygen that the water can hold decreases. An inverse relationship. At 45F, water can hold up to 12 PPM (mg/L). At 70F 9PPM and at 90F under 6 PPM.

The temperature of the pond normally follows that of its surroundings but with a delay related to the volume of the water. Thus a smaller pond will change temperatures faster and more closely to the surroundings than a larger volume pond. Plants can help add oxygen – during the hot day light hours.

## **OXYGEN:**

During daylight, plants do photosynthesis. This is the reaction of taking in CO<sub>2</sub> and expelling O<sub>2</sub>. Sounds perfect for our pets. But at night, the reverse happens – respiration. The plants take up O<sub>2</sub> and expel CO<sub>2</sub>. So run your pumps 24/7. **DO NOT TURN OFF THE PUMP AT NIGHT, BECAUSE THERE IS NO ONE AROUND TO ENJOY IT – THE KOI'S LIFE DEPENDS ON IT!!** As the night passes and daylight is on the horizon, the buildup of CO<sub>2</sub> is at its highest point. This CO<sub>2</sub> combines with the free hydrogen ions in the water and becomes acidic, driving the pH down.

## **PH:**

pH is the measure of free hydrogen ions in the water. The more free H<sup>+</sup> (Hydrogen ions), the more acidic the water. Conversely the more OH<sup>-</sup> (hydroxyl ions), the more alkaline the water (less H<sup>+</sup> ions).

At 75F the pH is considered neutral = 7, having as many hydrogen ions as it does hydroxyl ions. At pH 6 there are 1/10,000,000 free hydrogen ions. At pH 7 there are 1/100,000,000 hydrogen ions- Note that this is 10 times less hydrogen ions. At pH 8 there are 1/1,000,000,000 hydrogen ions – 100 times less hydrogen ions than pH 6. So a change in pH of 0.2 can mean a really big change in the acidity or alkalinity of your water. Koi can live in a wide range of pH BUT even the smallest change in pH is stressful to your koi. .

## **AMMONIA**

Basically our fish take up oxygen from the water and give off CO<sub>2</sub>. But this is only the final step of respiration. Through the gills of the fish, ammonium NH<sub>4</sub> is respired by osmosis. In areas with alkaline water, like Arizona, one of the Hydrogen ions from the ammonium is almost instantaneously stripped off, leaving an ammonia molecule NH<sub>3</sub>– HIGHLY TOXIC. As pH rises, Ammonia becomes more toxic.

PH 7.2 Ammonia 0.25 = OK

PH 8.0 Ammonia 0.25 = STRESS

PH 9.0 Ammonia 0.25 = RAPID DEATH

## **NITRATES**

Nitrites are the result of the breakdown of ammonia by our filters. Less toxic than ammonia, but constant levels of 1 PPM can cause brown blood disease; leading to a slow death.

## **WATER TEST KITS**

**New set up** – test weekly – allow the new pond to establish itself.

**Add a couple of fish** – test daily – the test will show a spike in ammonia, then the ammonia will subside, a spike in nitrites will follow followed by the nitrites will subside.

**Adding more fish** – never add more than 10% of your ponds established load. Each time you will go through the ammonia spike – nitrite spike.

Establish a **NORM.** for your pond This is the only way to tell if something have gone wrong will your water quality.

## Kawarigoi Korner




If you have suggestions for the newsletter or items to be included in Karawagoi Corner or the Calendar, Please contact Brent VanKoevinger at 520.780.3980 or [bvankoevinger@longrealty.com](mailto:bvankoevinger@longrealty.com).

Koi and butterfly koi. 12"-20". \$75-\$225 each depending on size.  
Have 18 total. Call 574 1980 x144, ask for Roger

## Upcoming SAKA Education and Business Meetings

Date	Location
August 23, 2009	Host: Dan and Martha Cover
September 27, 2009	Host: Dave and Terry Johnson
October 25, 2009	Host: Bob and Darleen Panter
November 2009	<b>NO MEETING: See you at the Show</b>
December 13, 2009	Host: The Slonakers
January 2010	Host: <b>Open</b>
February 2010	Host: <b>Open</b>
March 2010	Host: <b>Open</b>
April 2010	Host: <b>Open</b>
May 2010	Host: <b>Open</b>

## Shows, Pond Tours and Seminars

Event	Dates/Location
 <p><b>30<sup>th</sup> Annual SAKA, Inc. Koi Show and Auction Koi Health Wet Lab</b></p>	<p><b>November 13-15, 2009</b> <b>Kino Veterans Memorial Park (To be confirmed)</b> <b>Tucson, Az.</b> <b>Contact: Bob and Darlene Panter</b> <b>(520) 747-7278</b></p>
	<b>January 17, 2010. Valley of the Sun Koi Club</b>



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Today's Date: \_\_\_\_\_

# of Koi \_\_\_\_\_

Years Keeping Koi: \_\_\_\_\_

Pond size: \_\_\_\_\_

Would you like to host a meeting?  
 \_\_\_\_\_

Would you like to serve on a committee?

\_\_\_\_\_ If yes which one?  
 \_\_\_\_\_

**Make Checks payable to: SAKA, Inc.**

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