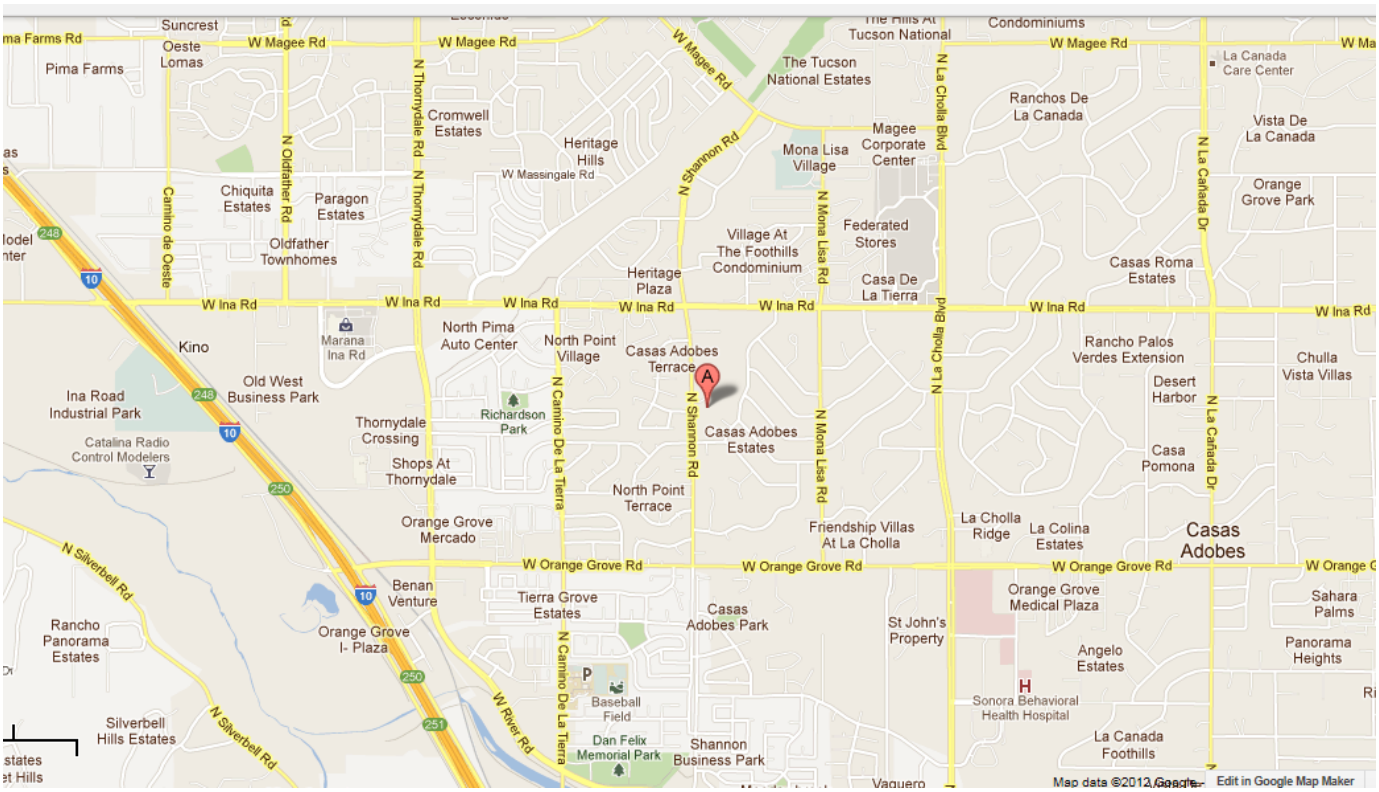

Dan and Martha Cover

2841 W Puccini

3:00 PM

From Ina, South on Shannon, East on Puccini to 2841 Puccini.

SAKA, Inc Club Officers

President	Bob Panter sakabob@yahoo.com (520) 747-7278
Vice President	Burt Ballou burtb@socal.rr.com
Secretary	Lynn Riley (520) 825-9066
Treasurer	Dan and Martha Cover mardan79@msn.com (520) 297-4071

Committees/Points of Contact

2011 Pond Tour	

31st Koi Show Co-Chairperson(s)	Brent VanKoevering bvankoevering@longrealty.com (520) 780-3980
AKCA Representative	Debby Young debbyt@akca.org (520) 682-7697
Newsletter Editor	Brent VanKoevering bvankoevering@longrealty.com (520) 780-3980
Koi Health Advisor	Noel Shaw koidoc@noelshawdc.com (520) 400-0335
Membership Chairperson	Faye Hall (520) 297-1253
Raffle Chairpersons	Wanda & Bruce Triebel wkt56@comcast.net (520) 572-0060
Education Committee	Erin Riley elriley@aol.com (520) 818-6490

Editor's Note: Articles published herein are intended for the enjoyment of all 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.

SAKA, Inc 10% Discount

With your SAKA, Inc Membership Card at:

Boyd Equipment Center
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3865 N. Oracle
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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 or Brent VanKoevering if you are interested in hosting a meeting.

Club Announcements

We are looking for hosts for our September and October meetings in 2012. Please contact Brent VanKoevering if you are interested.

Business Meeting Minutes

Feb 26, 2012
Meeting at Boyd Glendhill's pond. He told about building his pond. He had very good advice on all aspects of the project.
Bob Panter opened the meeting. There were 16 people present.
The minutes were approved.
Correspondence: Faye Hall said she sent a letter to Nina on the passing of her husband Everret.
Committee reports: Still need a pond tour chairman. Motion made and 2nd to postpone the pond tour until next year. Passes.
Budget: Accept the same budget from last year. Passed.
Old Business: Bob got the tool box and tools to be kept in the closed trailer. Not to be loaned out. Tools are marked.
Medical stations are set up. Brent, Bob and Dan have the supplies. The club is not liable for usage of the chemicals and the members who get any supplies will have to sign a "hold harmless" paper.
Liability insurance paid for the club. Also taxes paid by the accountant.
New Business: Faye made the motion to keep Bob Panter as president and Martha Cover as treasurer. Passed. Need a secretary as Lynn Riley has resigned.
Talked about moving some money into an account that pays more than the checking. Martha will check on it.
Bob wants to get 2 more hard tanks to bring our number back to 50. We will buy one for sure and will ask Phoenix to buy one. If not, we will buy both. Passed. 12 of the tanks belong to Phoenix.
Treasurer's report: Balance of $12,366.70 in checking. Savings is $5,197.72. Meeting adjourned at 4:22pm.

Featured Articles

GREEN WATER AND STRING ALGAE

Green water and string algae are different forms of algae. Both can cause considerable problems for ponds through out the year. Green water differs from string algae in that it cannot be physically removed from the pond; whereas string algae are 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 occurs 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 sterilizers (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 every 12 months of bulb life even if they are still burning at that time. U.V. bulbs lose their efficiency over time and become less effective after 12 months life. The quartz sleeve containing the bulb may need cleaning periodically. If the sleeve gets exceptionally dirty, it will cut down on the amount of ultraviolet light effectiveness.

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 on the container. Other products containing sodium percarbonate are very effective on string algae in very shallow water, like streams and waterfalls.

Numerous plants in the pond will reduce algae by competing for nourishment from pond water. The addition of shade over the pond will decrease the growth of string algae, since it deprives it of needed sunlight in order to thrive. After the string algae are killed, you will need to remove the floating dead algae from the pond.

Salt (non iodized)

Ben Plonski Laguna Koi Ponds

Ordinary sodium chloride is probably the oldest fish medicine known to man. Salt can be very helpful for treating parasites; however, it is not a cure all. Most fish have an internal salt concenration of 1.0%. Tap water typically has close to 0.1% salt concentration. An osmotic gradient exists between the fish and the water that surrounds it. Through the process of diffusion the fish will lose salt and gain fresh water. In order to maintain

proper cellular functions, freshwater fish must constanly replace these lost salts and expel excess fresh water. This is called osmoregulation and requires an engery expenditure. When salt is added to the pond the koi actually spend less energy osmoregulating. This saved energy may be saved for fighting disease. The osmotic balance of some parasites is upset by salt concentrations as low as .3% to .5%. Basically the parasite's cell dehydrates. This gives the koi a fighting chance.

Stronger salt baths of 2.5% for 10 minutes, can quickly rid a fish of many parasites and bacteria or fungus. However, when the fish goes back into the pond, it may still be in a weakened condition and might fall prey to a new parasite. This is why it is necessary to medicate the whole pond properly. Parasiticides or antibiotics may need to be added concurrently with salt treatments. Concentrations of salt stronger than 0.3% combined with formalin may be too harsh.

Salt has been used to control string algae at a concentration of .25% and higher. Killing large quantities of algae with salt may pollute the pond. Remove most of the algae by hand fisrt to reduce pollution.

Salt concentrations of 0.3% are effective at detoxifying nitrite. The salt interferes with the nitrite ion exchange at the fish's gills. Use until nitrites have cycled properly.

A 0.3% concentration is a good all around tonic for strengthening koi and improving disease treatments. This concentration will stunt your water lilies and stringy algae. You may choose to treat your fish in a separate container.

A 1.0% salt concentration is the same salinity as fish blood. This is called an isotonic solution. Salt does not transfer into or out of the fish's body. Under normal pond salinities (0.1%) ulcer disease can cause a loss of internal salts through the open sore. Addition of 1.0% salt to the koi in a separate hospital tank will limit this loss of internal salts. Limit this concentration to 2 to 4 weeks.

Always adjust salt levels gradually over 3 days to allow the koi time to adjust. Do not use salt continuously as parasites can become immune. The beneficial effects will be diminished. Use salt in the spring as a preventative for disease or when the koi are definitely sick. Monthly water changes will dilute salt to normal over time.

Note that the salt that should be used is **non ionized**, often refered to as **Ice Cream Salt** or **Rock Salt.**

Flukes: An Update

by DR Eric Johnson D.V.M.

Commonly encountered Flukes belong to one of two classes, either Gyrodactylus or Dactylogyrus. They are distinguishable by virtue of the presence, number, or absence of eye spots, and whether they are oviparous or viviparous. They have been shown to live on the gill, or on the body, hence the names Gill and Body Flukes, but there is considerable overlap. Flukes have been regarded, at least by this author, as one of the easier parasites to diagnose, but harder to treat.

Medications, in order of preference include:

1. The organophosphates, which imply some risk to the fish being treated.
2. The formalin containing compounds, which are famed for their effectiveness, but also their ability to burn fish and kill filters.
3. Mixtures of organophospates and insecticides, a group most prominently represented by "Fluke Tabs". This compound contains carbonate insecticide.
4. Praziquantel, which is too expensive for use in ponds, but works nicely in tanks.

5. Last choice compounds would include potassium permanganate, copper, and maybe others. This last choice class is dangerous, to say the least and should be reserved for professional fisheries personnel.

Impediments to treatment with Organophosphates include:
1. The minimum dose is 0.25 PPM but this should be increased in harder water or water with a lot of carbonate alkalinity or a correspondingly higher pH. Organophophates are bound by carbonates. Used in systems with a pH over 7.4, a hardess over 30 PPM or a total alkalinity over 80 PPM, the compounds need to be used at double and in some cases, based only on serial microscopy, quadrupled strength, to achieve a level that can influence the fluke population. Increases involve two different modifications of either amount or interval, including possible double or triple dosing at .5 PPM or .75 PPM or using the drug twice as frequently.
2. Cold water make organophosphates less safe because the fish do not metabolize the compounds as well as in warmer water. I have treated fish in 55F (springtime) water and seen them go corkscrewing. This is a reversible sign, simply by either changing out some of the water, warming the fish in a holding facility or simply suspending treatment and allowing the fish to revive.
3. Very warm water, over 80F permits the drug to be absorbed far too fast, and at regular dosing intervals, the fish become intoxicated as well.

The Formalin Compounds may Fail:
1. Formalin compounds sink in cooler water and are very hard to disperse for good effect.
2. Formalin is bound by organics so in dirty systems, levels of formalin may not remain high enough to kill adult flukes and intercept emerging larvae.
3. Oxygen consumption by the formalin compounds leaves caustic areas on the surface of the fish and destruction of precious filter bacteria are also hazards of its use.
Formalin is basically Formaldehyde in water. The most common is 37%. Unfortunately, most commonly available preparations contain some Methanol, which contributes heavily to the compound's toxicity to smaller fish. An important point to consider when using Formalin in fresh water systems is that the compound uses or binds free oxygen in systems and the following rule applies: for every 5mg/l (PPM) of Formaldehyde, 1 PPM free oxygen will be used. Formalin's primary use would be only in the treatment of Saprolegnia, (fungus) or Gill Flukes that had not responded to salt. The only other time to use Formalin is if the plants, which might be harmed by salt are more important than the fish. Formalin is used most effectively as a continuous treatment by adding 1cc per 10 gallons water, directly to the system. The most effective way to add it is to drop the water level to half of the pond's volume, then add the amount of Formalin that was calculated for the entire volume. Dump in the calculated amount, wait 2 hours and then top off the pond. You could do a 30 - 40% water change 2 days later and re-apply at full dose using the same drain, treat and top off method. Then repeat 2 - 3 days again, after a 30-40 % water change. A study done in 1976 suggests that Formalin will kill off a substantial portion of your nitrifying bacteria, causing water quality deterioration, in addition to the losses of Oxygen.

Fluke Tabs must be dosed high enough and long enough. Here again, in cool water, the parasites move through their life cycles slowly, so it is important to blanket the system and leave in medication long enough to intercept the emerging larvae. Praziquantel is expensive, but it is also effective.

Praziquantel (trade name - Droncit) is available in a cat and dog form from the Vet. You simply add 2 - 3 PPM to the tank you are deworming.

SAKA Emergency Supply Stations

Due to high cost, large quantity packaging or local unavailability of some koi supplies; SAKA has decided to stock some supplies for the benefit of club members.

Dechlorinators, along with oxidizers and treatments will be available, for a donation to SAKA, for our club members starting March 1, 2012. Please check on line at www.sakoia.com to see a complete list of supplies.

There will be 3 Emergency Stations set up around town for your convenience, see www.sakoia.com for phone numbers and emails of the stations.

Pick Up only.
Bring your own baggies and jars.
Call or email the Station for availability.

You must do your own research on your pond's problem.
You must know your pond's volume.
You must calculate your needed quantity of a supply.

Stations are NOT responsible for diagnosing your pond's problem.
Stations are NOT expected to recommend a product.
Stations are NOT expected to calculate dosages or needed quantities.

In order to take advantage of the SAKA Emergency Supply Stations, you must accept and sign a Hold Harmless Agreement (www.sakoia.com) and be a current member of SAKA (a current membership card must be presented at time of pick up).

If you have any suggestions for other supplies, please contact Debby Young
koicountess@mindspring.com

Kawarigoi Korner

Click Here to see new items for sale on the SAKA Website.

May 20,2012
ANNUAL AQUATIC PLANT SALE, 8:00-1:30 p.m., southwest corner, Reid Park. Terrific selection of plants for your pond Sponsosred by The Tucson Watergardeners. 760-1036

From Rick Shook at AAA Koi;
"Rick shook of AAA-KOI & Plants will be open the first of March. This will be with all new stock because the Coronado fire killed all KOI & Gold fish. 80 % of these will be PREMIUM SELECT. This is not just a quick dip with the net. These have been hand picked the last 2 months just for me. These KOI are domestic. NOTHING HAS BEEN BROUGHT IN FROM JAPAN FOR 10 YEARS. Our place is by appointment only so just call and we will set a special time just for you without interruptions.FOR THE FIRST THREE MOUNTHS. SAKA members will be able to buy one or more Koi and get one free."

If you have suggestions for the newsletter or items to be included in Karawagoi Corner or the Calendar, Please contact Brent VanKoevering at 520.780.3980 or bvankoevering@longrealty.com.

Upcoming SAKA Education and Business Meetings

Date	**Location**
March 25	Dan and Martha Cover
April 22	Dave and Debby Young
May 27	Alan and Karen Johnson
June 24	Noel and Debbie Shaw
July 22	Curt and Lisa Ogren
August 26	Mike and Carol Herndon
September 23	
October 28	
November	No Meeting. See you at the show
December	

Shows, Pond Tours and Seminars

Event	**Dates/Location/Links**
Valley of the Sun Koi Club at Chinese New Year Festival	Jan 27-29, 2012
Watergardener's Plant Sale	May 20, 2012. 8:00-1:30 p.m., southwest corner, Reid Park

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http://www.sakoia.org
Annual Membership
Dues are $30.00 per family from March 1 to February 28 or 29 of the next year.

Membership Type
_____ Renewal
_____ New Member

Name: _____

Address: _____

City: _____

State: _____

Zip: _____

Phone #: _____

E-mail _____

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.

Mail to: Martha and Dan Cover
2841 W. Puccini Place
Tucson, AZ 85741