



Mike and Carol Herndon's House
August 26
Education Starts at 3:00

North on Oracle, stay to the right and continue on AZ 77 toward the town of Oracle, East on American Ave, South on Calle Fortune, which becomes Walnut. 400 Walnut Place, Oracle AZ

SAKA, Inc Club Officers

<i>President</i>	Bob Panter sakabob@cox.net (520) 747-7278
<i>Vice President</i>	Burt Ballou burtb@socal.rr.com
<i>Secretary</i>	Karen Johnson (520) 400-2073
<i>Treasurer</i>	Dan and Martha Cover mardan79@msn.com (520) 297-4071

Committees/Points of Contact

<i>2013 Pond Tour</i>	
<i>33rd Koi Show Co-Chairperson(s)</i>	Brent VanKoeving bvankoeving@longrealty.com (520) 780-3980

<i>AKCA Representative</i>	Debby Young debbyt@akca.org (520) 682-7697
<i>Newsletter Editor</i>	Brent VanKoevering bvankoevering@longrealty.com (520) 780-3980
<i>Koi Health Advisor</i>	Noel Shaw koidoc@noelshawdc.com (520) 400-0335
<i>Membership Chairperson</i>	Faye Hall (520) 297-1253
<i>Education Committee</i>	TBD

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:

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E. Benson Highway, Tucson AZ
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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 August, September and October meetings in 2012. Please contact Brent VanKoevering if you are interested.

Business Meeting Minutes

Koi Meeting Minutes

July 2012

Bob Panter call to order.

Education: Deb Young talks of plumbing problems caused by corners, and tree roots. Advice to pipe far from trees, and use fewer corners.

The Shaws advice was to use fresh lava rock. Possible bad bacteria build up with older lava rock.

Treasurers report: Checking \$10,700.41

Savings \$5200.00

Dues paid \$360.00

Correspondence: None

Committee Report: AKCA, Legal issues at AKCE re: election.

70 clubs petitioned to stop ballot. Petition can and was thrown out. Also after 6 years of teleconference, it was determined that it must be in the bylaws, since not, then teleconference is no longer used.

AKCA has insurance of \$400.00 for regular meetings only.

Show Committee Report: We have trophies, judges, and vendors lined up. The tanks we own, we need to insure.

Show raffle: Jeanne Marie asks for donations.

A large koi oil painting was donated.

Pond Tour report: none

Old business: Dan and Martha are Koi Person of the Year.

Picture and plaque.

The tank trailers are in Phoenix and will be brought down in September. SAKA to insure our own trailer/tanks.

New business: Bob suggests we get our own tanks.

Motion to price new tanks. Deb Young suggests "PolySystems" tanks with installment and service set up system.

Seconded and approved.

Allstate insurance will insure for \$51.00 per year.

Motion to adjourn. Seconded and approved.

Featured Articles

Teach your Koi to Eat From Your Hand

Koi are very sociable critters and love to stay in a group. They also are less shy when in a group. Your koi can be trained to eat from your hand if you have enough patience to earn their friendship and trust.

Feed them in the same place every time. Drop a small handful of feed in the water and stay there and observe their actions. They must see you when they eat. Do not walk away from the pond before they start to eat. They need to learn that their food comes from you and that you are not a predator. The bravest and hungriest will start to eat and the others will follow. Withhold food for a day or two if they will not eat during your presence, then try again.

Gradually your koi will equate you with their food. Place your hand close to the water and tease them closer to your hand with sprinklings of food. Put your hands in the water while they eat. Start with just a few pellets and they gradually will understand that their food comes from your hand. Eventually the bravest will start nudging your hand for food. It will be just a matter of time that their friendship and trust will be yours. Soon all your fish will swim, jump and splash toward you every time you approach the pond. With some patience, you will be able to tickle their chin, rub their backs, and they may even suck on your fingers.

In the summer months, koi will have big appetites and when water gets colder, the amount of food they want will be less. Make sure that you do not over feed your koi, because uneaten food will deteriorate your water quality. Since koi have no stomach in which to store food, it is best to feed them less at more frequent intervals. As a rule of thumb, koi should be fed at least twice per day.

Koi will eat almost anything that a human does, including meats, vegetables, fruits and cereals. They enjoy treats such as Cheerios and chopped fruits and vegetables. They may need some time in which to get used to strange food. The best diet for them is a well-balanced commercial koi food with a fish derived protein of 30 to 40 percent.

Make sure you have adequate filtration for the waste produced by the number of koi you have and amount of food that you feed. Nothing is more important for the health of your koi than good water quality, and water quality is greatly dependent on adequate filtration.

Many pond owners are unaware that while koi are basically bottom feeders in nature, they eat quite a bit of algae. Although large amounts of pond algae are unsightly, koi enjoy the benefits of being able to eat algae when they want and as much they want. They generally eat the short “fuzzy” string algae that form on the pond bottom and sides, and ignore the long stringy algae. Some amount of algae is a healthy condition in our ponds. In the presence of no feed available (such as vacations), koi will survive on algae for a considerable period of time.

Don Harrawood

Southwest Koi and Pond Association

Relevant Koi Diseases:

Dr Eric Johnson DVM

reprinted from [1994 AKCA Seminar Binder](#)

ICH: Ichthyophthirius multifiliis.

Freshwater Ich causes small white spots all over the fishes body. In some cases, Ich spots may not be grossly visible, but you may see them under the scope. This has to do with a fishes' immune response or lack thereof. The disease is a ciliated protozoan, and it kills smaller fish, while sparing the larger ones. Damage to the gills is the primary way it kills. Its life cycle is roughly 2-5 days, but can be longer (5+ weeks) if the water is cool, much shorter if the water is warmer. To treat, elevate water temps and add salt. Using salt may harm plants, so if you are looking for an alternative, I would use Formalin 37% and Malachite Green, applying 1cc Formalin 37% per 10 gallons water every 3rd day after a 30% waterchange. The Malachite green is not that important in this, but would be used to give the Formalin an emerald color. Overdosing is unlikely with the Malachite fraction, used this way. Three or four treatments covering 10-14 days would be necessary. I always urge people to use salt first. Simply remove the plants and treat them outside the tank with Formalin 2cc per 10gal for 6 hrs before re-adding them to the system, to remove any latent Ich.

CHILODINELLA:

Chilodinella is one of the hottest fish killers there is. Under the scope you may see a beanshaped organism, or a large round organism full of tiny bubbles. Alive, the Chilodinella resembles a heart shaped onion with a flizzy end where you could imagine the onions roots would be. These are actually cilia. Dead, Chilodinella are motionless round balls full of tiny bubbles. They may resemble Ich but they do not have crescent nucleus nor do they move in their dead, rounded state. Chilodinella clears EASILY with salt. Leave the salt in for 14 days, and be sure to supplement aeration, as gill damage from Chilodinella may be severe in the survivors. Chilodinella should be suspected anytime large numbers of fish are dying on the surface or who roll over on their sides except when disturbed, the Koi dash madly.

COSTIA/ICHTHYOBODO:

Costia or Ichthyobodo necatrix, is a ciliated protozoan parasite of freshwater fish that also has the capability to kill fish in great numbers and in no short time-span. The only good fortune in this is that it perishes readily when salted. Costia may be attached, or freeswimming. Attached Costia look like little commas stuck into the skin (or gill) by the thin end. Freeswimming Costia are graceless wobbly swimmers that look like commas or almost like half open Conch shells. Costia clears easily with salt, and this infection should be suspected when alot of fish are dying, fins may be reddened, and it appears

that the fish cannot breathe very well. Spiderweb lesions in rapidly dying fish are also characteristic; as well as excess mucus on the skin.

TRICHODINA:

This saucer-shaped parasite is over-rated in its pathogenicity although, I have seen it cause spiderweb lesions in the skins of Koi. The most serious damage it may do is to the gills of smaller fishes. This is one of one of two or three parasites that causes scratching in Koi, with no serious side effects. The most important thing about Trichodina, is that when it is discovered, it belies a problem in the System Housekeeping department You can bet your license that there is some accumulation somewhere of mulm, and lots of it. TRICHODINA clears easily with SALT, and in very short order. You need only leave salt in for a few days to clear Tricho for good. Here again, if salt cannot or will not be used, Formalin is the next choice.

OODINIUM:

Oodinium is the causative agent in Velvet disease. This pearshaped sessile organism gives a velvety, gold dust look to affected Kol. It is reported that this may not clear with Salt, but I have yet to see this type of resistance. If it didn'tclear with Salt, I would use Formalin. I have only encountered Velvet/Oodinium very rarely in Koi. It would be more common in freshwater aquariums or on recently purchased Goldfish.

EPISTYLIS:

Epistylis is relatively uncommon, but, like Trichodina is more common under circumstances of poor water management, especially where water changes are not, or not frequently, done. Epistylis will live opportunistically in wounds and ulcers, and looks alot like Saprolegnia, (FUNGUS). It forms white tufts in smaller wounds. Epistylis clears on its own when you begin good water quality practices, and can be helped out of the system with a good dose of what? You guessed it, SALT. Epistylis is obvious under the scope because it has a long, stick-like stalk.

LERNEA:

Lernea elegans, the most common type of Anchor worm affecting Koi, is a real threat. They attach ventrally, they hold on for about 14 days, and they reproduce copiously. The wounds they create almost always infect with Ulcer disease bacteria, Aeromonas, and then you have two problems. Treatment can be undertaken with Malathion, Fenthion, Trichloffon, Dylox, Dimilin, and SALT. Salt works by killing the freeswimming reproductive forms. Malathion just kills the Lernea dead, but is dangerous to the fish. Fenthion is slow but safer Dimilin is great if you can get it EPA and FDA will trounce you for having and using it. I do recommend removing any adults you see attached and swabbing the wounds with Iodine or mercurchrome. I do recommend also feeding an antibiotic food when you see Lernea to head off problems.

ARGULUS:

Argulus lice are obvious when they hit. They are greenish, disc shaped parasites that 'suck' onto the fins and sides of the fish. They can cause damage great enough to permit Ulcer formation. They do NOT respond well to Formalin. They DO respond very well, and very quickly to Organophosphates like Fenthion and also Dimilin.

GYRODACTYLUS:

Flukes, of the class Gyrodactylus and Dactylogyrus, have long been separated into Skin Flukes, and Gill flukes. There is no need. Because while there are even subdivisions within Gyrodactylus and Dactylogyrus, and they can be distinguished by their eyespots and Hooks, and embryos; they all die the same. Flukes cause flashing in Koi and other species of fish, more than any other parasite. Rarely fatal to any but the smallest fish, Flukes eat slime and create bleeding microscopic wounds on the gills and skin of fish These wounds can, and often do become infected with Aeromonas bacteria, which is

far worse than the original Fluke problem. Their lifespan is roughly 14 days, but they complete a reproductive-maturation cycle in 4 days, and they can be treated with Formalin 37%, Salt, Organophosphates, Droncit (Praziquantel) and Potassium recommend salt first, and if that has not cleared the problem, (as proven microscopically) then use Formalin as a clean up. Formalin as a clean up. Dactylogyus has eyespots, Gyro does not. Gyro has an embryo inside, Dactylo does not.

Dropsey/Bloater:

Dropsy, also known as Bloater or Pinecone disease, is usually caused by bacterial invasion of the fishes' kidney. A herpes virus may also contribute. There is a sporozoan parasite that can damage the Kidney this way, called *Mitraspora cyprini*, but I have yet to see this on a necropsy. Dropsy is, for all intents and purposes, untreatable, based on 2 years experience, using the following drugs: Azactarn, Baytril, Chloramphenicol, Gentamicin, and Amikacin. I have tried a Sulfa drug, brand name Albon, and that did not resolve the problem either. Bacterial dropsy is usually caused by *Aeromonas* or *Pseudomonas* bacteria. I have also seen cases infected with *Mycobacteria*. By the time and the scales protrude from the body, the damage to the kidney is so profound that recovery is impossible. If you must try to save the fish, isolate the specimen, elevate temps while elevating oxygenation, and begin injecting antibiotics intraperitoneally. You could also feed the antibiotics in a medicated feed.

Saprolegnia:

Fungal infections of Koi and other ornamental fish are usually caused by *Saprolegnia*, a common, if not ubiquitous fungus. Other types include *Achlya*, *Dermatocystidium* and *Branchiomyces*. None of the fungal infections I have EVER diagnosed from Koi in 2 years of clinical practice have been anything other than *Saprolegnia*, and NEVER has *Saprolegnia* struck where there was not SOME sort of stressor. Surviving 'jumpers', (fish that have cleared the pond and flopped around), are always affected. Healing ulcers often become infected with fungus. The disease looks like cotton-wool protruding from the lesion, and may become stained with algae. Diagnosis is by microscopy, and this is important, as very often, *Flexibacter columnaris* will look just like this, and it will not respond to anti fungal agents, because IT is a bacteria! Treatment of fungal infections is only possible where immaculate water quality and good diet prevails. Then, a variety of drugs are effective, to include my favorite, Methylene Blue. Formalin is effective but only worsens stress on the fish. Malachite green can be swabbed on fungal lesions if the specimen can easily be captured daily. Potassium permanganate effectively kills fungi, perhaps better than anything, but this is a VERY dangerous drug to use on fish, unless you have great experience and don't mind a risk.

Scoliosis:

Scoliosis is caused by a variety of conditions, none of which is infectious. The most common cause of scoliosis is Vitamin C deficiency. But there are 3 other causes. 2) Tryptophan deficiency: An amino acid protein building block that may be absent in foods due to improper formulation, hyper extended storage, excess heat in processing, or because no variation was permitted in the diet. To avoid this, always use two different high quality staple diets, and supplement periodically with earthworms or other bait worms. Mealworms and crickets may also be accepted, especially if partially crushed. 3) Trauma: The muscles of Koi and other teleost fish are assorted in bands called 'somites'. When a somite is damaged, by intra Muscular injection technique, for example, or a sharp blow, the somite may die, which then shrinks, and kinks the fish, especially when swimming. It may straighten at rest. 4) Organophosphates, like Fenthion, Trichlorfon, or Malathion to name but a few, can cause kinking of the body due to hyper contraction of the muscles. (A side effect of these drugs on the fish is to prevent relaxation of muscles) and this may kink, or break the fishes back.

Vitamin C deficiencies may be avoided by feeding a varied diet to include the following greens: Spinach, Turnip greens, Broccoli heads, and Dark leaf lettuce. NOT PLAIN LETTUCE!!! Additionally, store no food longer than 90 days, and be sure the label has added ASCORBIC acid. Once scoliosis is noted, the fish is better removed to fresh water, and better attention to diet is advised.

As a side note, the biggest, fastest growing fish are most likely to kink, as they need the most Vitamin C and calcium in their diet, to support their rapid growth.

Ulcer Disease

Ulcer Disease is almost always caused by *Aeromonas* bacteria or more rarely *Pseudomonas* bacteria clinically, I wouldn't know which because I rarely culture the pathogen. Why not? Because the results could take a week to return, and by that time, all the affected specimens would be dead. I have treated ulcer disease with the following drugs: Enrofloxacin, Chloramphenicol, Gentamicin, Amikacin, Tetracycline, and recently, Azactam. I inject these drugs. Suffice it to say, that to save these fish, my core recommendations would be to get the fish into a heated environment, provide impeccable water quality, swab the wounds with iodine or Mercurachrome, Feed Romet chow, Inject Enrofloxacin and or Chloramphenicol, and hope that the next spring that the fish does not bloat due to retention of latent bacteria in the kidney after clinical cure.

LYMPHOCYSTIS

Of all the viruses affecting Kol, perhaps the most common is LYMPHOCYSTIS. This is a viral pathogen that is poorly transmissible between your specimens. It strikes fish when some damage has occurred to mouth or fin, and sometimes on the body. The lesions are warty and rough. They may be singular or numerous. I see this viral infection in fish in immaculate waters, and so I cannot verify that this is a stress related disease I do know that it is merely disfiguring, not fatal. Lesions may be scraped off; but this could open the skin or fin to bacterial invasion. The only lesions that should be addressed surgically are mouth lesions that interfere with eating. Often, the lesions clear spontaneously, usually, but not always, the SECOND summer after infection, at the peak of the heat. There is a commercial remedy sold for this, but it does not work, and is being sold purely to flim-flam the trusting hobbyist. It is merely acriflavine which is a useless dye.

CARP POX

is another virus of a dermatological nature, that also has a low transmissibility from fish to fish, and is again, not fatal, merely disfiguring. The lesions are soft and waxy, not warty and rough. The lesions should not be scraped. They may be differentiated from Lymphocystis because they do NOT cause the cells to become huge (megaloblastic) in size. The way Lymph does. There is no treatment, and lesions do not resolve as well as Lympho lesions do. You should be aware that CARPPOX lesions are very, very rare in North America.

RHABDOVIRVS CARPIO

was reported to be a primary pathogen of cyprinid species, particularly KoI and Carp. The virus causes what the British try to call Spring Viremia of Carp, which is the grossest misnomer; that tries to bundle a multifactorial process involving cold water, depressed immunity, opportunistic pathogenic bacteria, and then, only possibly, a virus like Rhabdovirus carpio; into a simple viral disease. Rhabdovirus carpio has several other names, as several scientists have found the same particle and given it different names. We do know that it can cause swim bladder inflammation and a reddening disease of the skin called Carp Erythrodermatitis. You should know that Rhabdovirus carpio, and Spring viremia of Carp, have not been isolated from any fish on the North American continent, so before you cry VIRUS, read a little. Almost always, *Aeromonas* bacteria, (and a septicemia from same), are concurrent players with this virus, and it is hotly debated whether Rhabdovirus carpio can even act alone.

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.

From Aric Shook:

“Everyone that comes to the sept meeting will receive a small koi of thier choise and a plant from the green house. Come see our 11,000 gal pond and our other tanks. We will have a raffel for a larger koi with porceeds going to the SAKA club. if you have something you would like to donate to the drawing please bring it down. Sience it is a bit of a drive down Barb will make enchiladas. If you could let us know if you are coming so we will know how much food to make Call [520 678 9369. we are south of sierra vista to ramsey road. left on ramsey for 1 &1/2 miles to S White oak ln.. turn rt. go 6 homes on your rt to a ranch gate with wagon weels. your here. we have a circle drive. You can also park at the 5th home. tour here.”

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

Upcoming SAKA Education and Business Meetings

Date	Location
August 26	Mike and Carol Herndon
September 23	Rick Shook
October 28	John and LaDoris Goudy
November	No Meeting. See you at the show
December	

Shows, Pond Tours and Seminars

Event	Dates/Location/Links
Annual Koi Show and Auction	Kino Memorial Park. Ajo and Country Club. November 9-11.



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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