



Dave and Debby Young

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From I-10:

West on Ina, Left on Wade Rd, Right on Picture Rocks to Address

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 VanKoeving bvankoeving@longrealty.com (520) 780-3980

<i>AKCA Representative</i>	Debby Young debbyt@akca.org (520) 682-7697
<i>Newsletter Editor</i>	Brent VanKoeving bvankoeving@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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Oasis Tropical Fish

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(520) 408-9700

Patty's Water Plants

By Appt Only
E. Benson Highway, Tucson AZ
(520) 294-0748

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 VanKoeving 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 VanKoeving if you are interested.

Business Meeting Minutes

Koi Meeting Minutes.....March 25, 2012

Opening remarks, we have 3 new members, one being a returning member.
Correction for prior minutes: Valley of Sun has 25 tanks.
Correspondence: None

Treasurer Report: Balance of \$11,907.24

Budget \$11,282.00 Spent 10,017.81

We are \$500.00 above budget in positive.

Committee Reports: AKCA

National vote on Invoice date, yes was the response. *(To vote.)

Officers Election Controversy...Motion: Yes or no to accept or deny.

The Nays have it, regarding the acceptance of the National board's agenda.

Discussion as to paying the dues now, agreement on paying.

Koi Show: Same place.

Old Business:

Tanks? Where did some of them go?

Tuller Trophy costs...SAKA pays.

Pond Tour Calanders, see JeanneMarie, some are still available.

Note: One of the koi club pumps needs to be replaced.

Scholarship committee abolished.

New Business: None

Meeting Adjourned.

Featured Articles

POND TREATMENTS (not for food fish)

Noel L. Shaw, KHA

November 2007

NOTE: Use the following treatments with caution and discretion. Do not allow the dust or fumes from these chemicals to get near your mouth, your eyes, or anything else that you want to live, such as your pets or children. They are generally safe for koi when used at the recommended dosage schedules. Avoid direct contact of fish with treatment chemicals.

Know your pond volume. Calculate volume with salt method (see "POND TREATMENT BASICS". Measure doses carefully. More is not better. These treatments WILL consume available oxygen. They may kill weak fish. They may disable a weak bioconverter (BC) / filter.

ALWAYS: • disperse treatment chemicals as evenly as possible; pre-dissolve and add slowly to a return water stream.

• maximize aeration and circulation to the pond (waterfall, air stones, extra pump, etc.) during treatments.

• bypass BC / filtration where noted. Flush BC thoroughly to waste before start up if BC is off line for more than a few hours.

• be prepared in advance (with dechlorinator, etc.) to perform massive water changes after treatment as directed.

• Treatment efficiency is maximized in clean water: clean pond well with initial 30 - 50% water change (dechlor except with PP)

SALT / SODIUM CHLORIDE - INDICATION: soothes new fish, helps maintain osmotic balance, control string algae, reduce nitrite toxicity. MAY control SOME parasites and protozoa. SAFE FOR BC. CAUTION: Salt is a cheap old school remedy that many people indiscriminately throw at pond problems as a safe first line of defense. Salt has become increasingly less reliable. It is not effective against crustacea, and salt resistant strains of protozoans and flukes have developed. Nonetheless, it does have significant benefits in certain circumstances. BEST BET – Scrape and scope FIRST to diagnose for parasites – if you end up with other treatments anyway, you may need to water change down to .1% salt to avoid oxygen starvation.

EFFECTIVE DOSE: **1 ppt (.1%)** helps with string algae, helps healthy koi maintain osmotic balance, is safe for almost all plants.

2 ppt (.2%) controls string algae, but may slightly brown the tips of pond plants. Eases osmotic balance in sick fish.

3 ppt (.3%) for two weeks clears some protozoans and flukes. Don't count on it. String algae becomes mush. Reduces nitrite toxicity.

6 ppt (.6%) for two weeks clears most protozoans and some flukes. **PLANTS WILL DIE.**

10 lb "SOLAR" salt per 1000 gallons yields a .12% (1.2 ppt) solution. 25 lbs of salt per 1000 gal yields .3% or 3ppt. Add over two days. In sudden fish mortality, add .3% all at once (but not directly through filter or BC). Maintain .3% for two weeks, then allow salt levels to fall with regular water changes.

DIMILIN / TRICHLORFON / ORGANOPHOSPHATES (hereafter "TRICHLORFON") –

INDICATION: Crustacea (anchor worms, fish lice), some flukes. SAFE FOR BC. TRICHLORFON is an organophosphate arthropod development inhibitor. TRICHLORFON stops the life cycle of Anchor Worm (Lernea) and Fish Lice (Argulus) by inhibiting molting and growth. TRICHLORFON is toxic to unintentional chitin shelled invertebrate targets as well (crayfish, water fleas, dragonflies, etc.); do not let treated water run into rivers or creek beds. Use responsibly. Trichlorfon (and its analogs) are available in several formulations: Neguvon [Miles or Bayer]; Dipterrex [Bayer]; Masoten [Miles or Bayer]; Dylox [Bayer]

EFFECTIVE DOSAGE: .25ppm (point 25 ppm)

1 gram (1/2 teaspoon) per 1,000 gallons. Dissolve in some warm water, and sprinkle the suspension over the surface of the pond. For QT's and small ponds, dissolve 1 gram (1/2 tsp) in 100 cc water. Use 10 cc (2 tsp) of the suspension per 100 gallons, and discard the rest. Apply weekly for four weeks. Repeat at 30 day intervals for season-long control.

CHLORAMINE-T - INDICATION: Bacterial gill disease, bacterial infection, flukes. **LETHAL TO BC FILTER BACTERIA.**

EFFECTIVE DOSAGE: varies with the pH of the system. Normal dose is 15 ppm (about six tablespoons per 1000 gallons of water).

Dosage increases with pH; 20ppm (eight tablespoons per 1000 gallons) at a pH of 8.0 (most Tucson water). Repeat every other day for four treatments. 25-30% water change after 4 hours. Dechlorinate for entire pond volume after each treatment.

WHEN USING FORMALIN (ProForm C or Rid-Ich) OR POTASSIUM PERMANGANATE AGAINST PARASITE OR FUNGAL INFECTIONS, MULTIPLE TREATMENTS ARE REQUIRED, AT INTERVALS BASED ON THE TEMPERATURE-DEPENDENT LENGTH OF THE PARASITE LIFE CYCLE.

- < 60° F, repeat every 4th day for 4 total treatments.
- 60-65 ° F, repeat every third day for 4 total treatments.
- Above 65 ° F, repeat every other day for 4 total treatments.
- 25-30% water change after every other treatment

FORMALIN / MALACHITE GREEN (F/MG) –"PRO-FORM C" &/or "RID-ICH"

INDICATION: Flukes, protozoa, fungi, some bacteria; disinfect new plants SAFE FOR BC AT 25ppm. Toxic to fish under 45° F.

EFFECTIVE DOSAGE RANGE: 15 - 25ppm

Proprietary formalin / malachite green products (Pro-Form C, Rid-Ich) recommend a dose rate of 10 ml per 100 gal that only yields 15 ppm of formalin. I adjust the manufacturer's dosage rate to achieve 25 ppm of formalin. Use a correction factor of 1.66 (25 ppm divided by 15 ppm) to yield 25 ppm with these products: 16.6 ml per 100 gallons. That is 166 ml (2/3 cup) per 1000 gallons of pond to achieve

25 ppm of formalin. (16.6 ml per 100 gal X 10 hundred gal). A 2000 gallon pond would dose at about 330 ml, or 1 1/3 cups of F/MG. 250 ml is about a cup.

DISINFECT NEW PLANTS - 125 ppm (5 ml (1 tsp) per 10 gallons) for 8 hours. NOT to be used for fish at this dosage, but used to disinfect plants.

POTASSIUM PERMANGANATE (PP, KMnO4) - INDICATION: Flukes, protozoa, fungi, bacterial infections. Have 3% drugstore hydrogen peroxide or sodium thiosulfate (chlorine neutralizer as well) on hand as an antidote. **LETHAL TO BIOCONVERTER FILTER BACTERIA.** You **MUST** bypass your BC to use permanganate at these dose levels. Potassium permanganate, a dark purple-grey granular powder, becomes vivid purple in water, stains skin dark brown for a couple of days, and clothing permanently. EFFECTIVE DOSAGE: 2.5 ppm to 4ppm.

1 tsp (6g) per 600 gal doses a pond at between 2.6 and 4 ppm (depending on your teaspoon – some hold 8g- both ends of the range are OK).

INSTRUCTIONS:

- 1) bypass BC (bioconverter), maintain full aeration and circulation
- 2) pre-dissolve permanganate crystals (1 gram of per 100 gallons of pond = 2.6 ppm ≈ 1 tsp per 600 gal) and disperse mix evenly around pond.
- 3) Goal is pink for 4 hours. If turns tan in less than two hours, add ½ more of 1st dose quantity. May repeat this additional ½ dose a second time if necessary, for a total of double the initial dose. When pond water viewed in a white cup appears tan, NOT pink, resume BC filtration. Always restart BC with a flush to waste.

• IF WATER TURNS TO “CHOCOLATE MILK”, FISH ARE GASPING, OR ACCIDENTALLY OVERDOSED, IMMEDIATELY ADD 16 oz OF HYDROGEN PEROXIDE (drugstore variety) PER 1000 GAL TO NEUTRALIZE THE PERMANGANATE, THEN PERFORM A 30-50% WATER CHANGE.

Time to “tan water” becomes longer with each treatment. After 4th treatment, neutralize residual Permanganate with Peroxide, 1 cup per 1000 gallons.

Questions? Comments? koidoc@noelshawdc.com

SPECIAL THANKS TO: ERIC JOHNSON, DVM (koivet.com) SANDRA YOSHA, DVM; NICK ST ERNE, DVM; AKCA Koi Health Advisor Program

LOCAL RESOURCES: Rancho Del Koi – 886-8797; Desert Pet Center – 745-5158; Mountain View Koi – Sierra Vista – 520 378-3710

UNDERSTANDING KOI BEHAVIOUR

Dr. David Pool
Tetra Information Centre, United Kingdom
reprinted from [1994 AKCA Seminar Binder](#)

Many Koi-Keepers watch their Koi for long period and admire their colouration, form and movement. However, have you ever paused to consider why or how the Koi moves as it does, how it changes colour, or what the various parts of the body actually do. This walk will examine some of the structures and functions of the Koi's body and, in doing so, hopefully provide you with a better understanding of your fish.

Fins

Each fin is comprised of a number of fin rays which support a fine membrane. The fin rays are of two

types. Spinous rays are used for protection in many fish (e.g. corydoras) and are often the first ray in any fin in order to provide added support e.g. Koi. Muscles are attached to each fin ray to allow the fin to be raised or lowered.

- Tail - used primarily for propulsion and as a rudder to change direction. The shape of the tail indicates how fast the fish can swim. Fish with forked tails (e.g. orfe) are fast swimming, whereas a rounded tail (e.g. tench) indicates a slow swimming speed.
- Dorsal and Anal Fin - provide stability in a similar way to the keel of a boat.
- Pectoral and Pelvic Fins - used for fine movements, directional changes and stopping the fish.

Scales

The scales are thin bony plates which cover the body of the fish to provide a flexible protective coating. The scales first form when the fish are 7-10 days old and increase in size as the fish grows to maintain a complete covering. This growth is achieved by the addition of rings of dentine around the edge of the scale. During periods of rapid growth (e.g. Summer in the British Isles) the rings are widely spaced. In the winter, or dry season, growth is slow and the rings are close together. By counting the bands of closely spaced rings the number of winters (or dry seasons) the fish has survived and therefore its age is known.

Colouration

The colouration of a Koi is due to the reflective iridocytes and the chromatophores, which contain the colour pigment. If there are no chromatophores present, and the iridocytes are on the outside of the scales, the Koi will have a silvery appearance; if the iridocytes are under the scales the Koi will appear white.

The coloured pigments are melanin (black), erythrin (red) and Xanthin (yellow) each of which occurs in different chromatophores. By combining different chromatophores and the iridocytes a range of colours can be produced. For example, orange is given by red and yellow chromatophores. Blue is caused by black chromatophores covered by iridocytes.

Colour pigments are not synthesised by the fish, but need to be ingested. Therefore to ensure good colouration it is important to feed with foods containing natural colour enhancers such as Tetra-Pond Koi Sticks.

Senses

The six senses of a fish are developed to different levels depending on the fish species and the environment in which it lives. The senses are:

- Sight - Compared to man, Koi are short-sighted, having a range of perfect vision of only 1-2 metres and blurred vision for approximately 10 metres. This is more than adequate underwater, where visibility is usually restricted by algae and sediment. Despite their "poor" vision, Koi can see in colour with their detection of yellow and green being most accurate.
- Smell - Koi have a very good sense of smell. The olfactory organs responsible for detecting smells are located all over the head and anterior part of the body, but are concentrated in the nares and barbels. It has been estimated that goldfish have a sense of smell that is fifty times better than in humans.
- Taste - Taste receptors are located both inside and outside the mouth, allowing the fish to taste its food before ingesting it. Outside the mouth they are mainly located on the lips and barbels.
- Touch - Touch and pressure receptors are present all over the body of the Koi, but are concentrated on the head and barbels.
- Hearing - Fish have an inner ear situated at the back of the head, which can detect vibrations, orientation and pressure changes. To increase its sensitivity the inner ear is connected to the swimbladder (which acts as an amplifier) by means of a chain of small bones. If the swimbladder is punctured sound perception is reduced to 2% of its original level.

- Lateral Line - The sixth sense of a Koi is the lateral line. This organ can be seen by means of a row of scales, each with a hole in it, running along the side of the fish. Under the scales is a canal which runs from the head to the base of the tail. The canal is filled with a jelly-like substance and contains many pressure wave sensors called neuromasts. Any vibrations in the water cause the jelly-like substance and consequently the neuromasts to vibrate. Nerve endings in the neuromast detect the movement. Slight differences in both the intensity of the stimulus and the time when each neuromast detects it, allow the Koi not only to detect movement but also ascertain from where it originated.

As the Koi moves it too produces vibrations. These vibrations bounce back from the underwater objects and are detected by the lateral line allowing the fish to build up a "sonar" picture of its surroundings. Using this system a Koi can successfully manoeuvre in the dark or in cloudy water.

From the preceding paragraphs it is obvious that the Koi we keep are highly adapted to life in an aquatic environment. I hope that the information presented will give you an insight into exactly why your Koi behave as they do and help you to get more out of your hobby.

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 Sponsored 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 VanKoeving at 520.780.3980 or bvankoeving@longrealty.com.

Upcoming SAKA Education and Business Meetings

Date	Location
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	
September 23	
October 28	
November	No Meeting. See you at the show
December	

Shows, Pond Tours and Seminars

Event	Dates/Location/Links
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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