

The

Goldfish Report

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Local Goldfish Clubs

By Terry Cusick

The GFSA is a great organization and it has its niche, that is disseminating information nationally or should I say globally about all things goldfish and setting universal standards for judging. However, it is a much more satisfying experience to have face time with people who share your joy about goldfish and to be able to interact with them. And, if you are a novice to goldfish keeping, it is a lot easier to learn, particularly from people who share similar local problems in keeping goldfish. For the experienced goldfish aquarist, there is the satisfaction of mentoring a fellow goldfish keeper.



The problem with joining a local goldfish club is finding one. Back in the 1950's and for many years before, goldfish keeping was one of the major hobbies and though I think it could be again, goldfish keeping has fallen on hard times. I believe that this is due to goldfish getting an undeserved bad rap. Most people today believe that goldfish do not live long and that they are not that attractive if they did. They have no idea what fancy goldfish are, or that they can be quite beautiful and colorful. When you say goldfish, most people think of the feeder goldfish sold in pet stores, but I digress. My point is that you may have to be a little creative about finding a local goldfish club, like starting your own or joining a

related club and then get goldfish converts.

My own story kind of followed that line - my brother, that had been into koi for many years, asked me to go with him to the meetings of this newly formed koi club about 10 years ago. It was a real eye opener. Though I had been keeping goldfish for 20 years, I learned 10 times more about fish keeping in the next two years than I had learned on my own in those 20 years. I also convinced the club to call itself a koi, goldfish, and water garden club, converted some of the koi bigots into goldfish fanciers, and recruited some goldfish keepers to join the club. We now have an annual goldfish show and it grows in size every year.

So if you're interested in forming a goldfish club I would be glad to help find like minded members. Speaking of that I have already had two requests: one from a member in the Eire PA area and the other from Orange County CA. You can contact me at:
 PO Box 551373
 Fort Lauderdale, FL 33355
 Or Email:
info@goldfishsociety.org
 For those interested in joining a koi/goldfish club, check out the Associated Koi Clubs of America web site: www.akca.org for the club closest to you or write or email me at the above addresses.

Membership Renewal

Please check your mailing label and if it is time to renew, send us your name, mailing address, and a check for \$25 for US members made out the GFSA to:

**Goldfish Society of America
 PO Box 551373
 Fort Lauderdale, FL 33355**

You can also get a membership form and additional information about membership in the GFSA from our web site:

www.goldfishsociety.org

Or you can write to us at the above address.

Thank you!

Local Clubs

Florida GF Association
 Terry Cusick (954) 423-0663
 Northwest Koi & GF Club
 Larry Christensen
 Texas Koi & Fancy GF Society
 Joan Berryman
 Miami Valley Water Garden
 Steve Grainer
 Potomac Area GF Enthusiasts
 Pat & Jon Huff
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From the Fish House

By Joe Lightcap



Just heard that the G.F.S.A. is 30 years old. Where has the time gone? Time goes along leaving just memories but in memories we can relive very enjoyable times. Let me share some Pre-G.F.S.A. days with you.

In the 1950's I became interested in goldfish. I took home a tank of goldfish from a school I worked at. The results were tragic and I vowed to learn the secrets of keeping goldfish.

In New York City, actually lower Manhattan, I located the Aquarium Stock Store at 27 Murray St., the best and biggest fish store.

Aquarium Stock, the center of my quest for goldfish knowledge, led to finding out about Al Thomma. Al lived at 87-13 95th St., Woodhaven, New York, just a 30 minute drive to Queens from the Flatbush section of Brooklyn where I lived.

A call to Woodhaven got me an invite and as I recall, it was on a Saturday that my wife and I drove out to meet Al.

His home then was a large Victorian house located in a very quiet neighborhood; blessed with an expansive backyard containing two in ground pools plus a variety of tubs -- the tools of a goldfish breeder.

The highlight of this meeting besides greeting the dynamic Al and his lovely wife, June, was the walk down into his cellar fish room.



The fluorescent light bathing the tanks gave the place an eerie glow. What could be hidden in such dark brilliance? I will never know! Only one picture remains that of a single blue fish with a very large broad tail. Al was very proud of that fish and it shows his early interest in the American Veiltail goldfish. Al did get real Veiltail goldfish from John Anderson of Philadelphia and they came from the Barrett line.

Visits to Al produced another door into the world of goldfish. This time I learned of Neal Teitler who lived in Rego Park, Queens.

I tagged along with Al to Neal's apartment on as many times as I could. It was a chance to meet with people who knew goldfish.

Neal was a young man in his early twenties who was studying at N.Y.U. He had goldfish in his blood and was going to let everyone know this.

He could rattle a typewriter and cut a mean mineo-stencil and turn out reams of paper on his mineo machine, all for the good of goldfish.

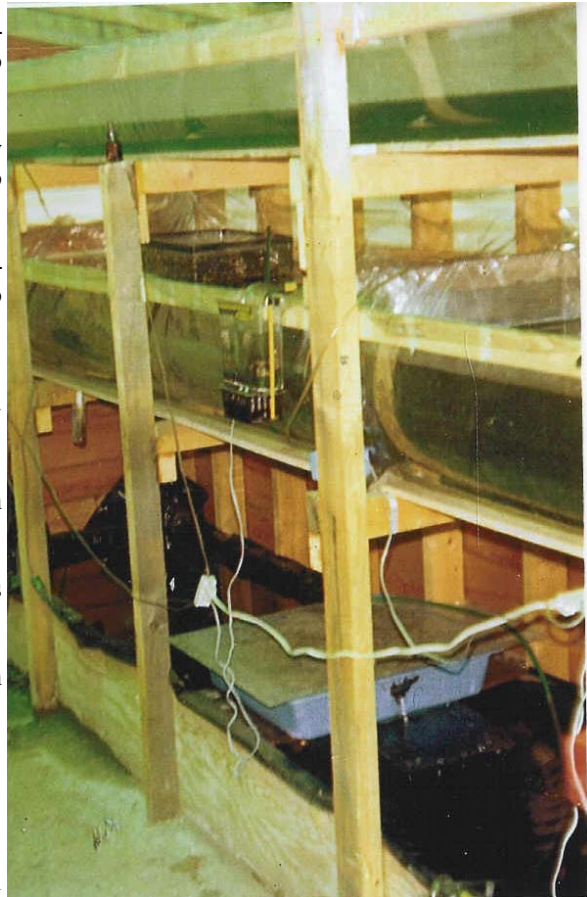
Not long after these early visits, Neal produced a book on goldfish published by T.F.H.

At Neal's apartment the inter play from the many visitors led to the formation of the American Goldfish Society.

Full credit goes to Neal and Al for all the work they did in starting the A.G.S.

In 1967, I became the A.G.A.'s secretary and meetings were then held in my old 1898 Brooklyn farm house, picture enclosed. The other pictures are of the fish house.

The Society met at my house until the end of 1969 when Al moved to Cleveland, Ohio and then in short order Neal was a lieutenant stationed at Fort Eustace, Virginia.



I was left in my old farm house with a beautiful backyard fish house and my English Veils. Besides knowledge of where and how to fish for goldfish in N.Y.C-knowledge of the cause of the blue color in calico goldfish-explanation of the words heterozygote and homozygote as they apply to breeding and how to chill goldfish. For breeding; the G.S.A. had died!

They were good days of friendships and learning. What more can you ask of the dear little goldfish!



Buying a Microscope

By Matt Lyon

With the improvement of information available to today's goldfish hobbyist, many practices and accessories that were previously thought to be used only by advanced hobbyists are becoming more commonplace. More and more, advanced hobbyists and professionals are promoting the use of a microscope by all hobbyists. Truly, without using a microscope to diagnose goldfish ailments, it is impossible to accurately pinpoint the cause. Hobbyist microscopes range in price from around \$20 for cheap children's models to \$500 or more for high quality high school lab instruments. Cheap models can actually be used to identify larger parasites, such as flukes. In order to accurately identify smaller parasites and protozoa, plan to pay between \$100 and \$300. I received a Model P, Microscope Depot 'scope for Christmas. Researching the various microscope information sources in various koi and goldfish books and websites, I was left with a lot of unanswered questions. I hope to clear some of these things up here for all you prospective microscopists out there.

Features to Look For in a Microscope (in alphabetical order)

Achromatic Glass Lenses:

Lenses specially designed and coated to correct for the tendency of light to separate into colors when passing through glass. An achromatic lens corrects this such that colors are more accurate after being magnified. Provides truer colors and clearer views at high magnification.

Diaphragm: The mechanism under the stage that controls the amount of light allowed to reach the specimen. Usually this is either a disk diaphragm or an iris diaphragm. An iris diaphragm is infinitely variable while a disk diaphragm allows only 5 or 6



settings. Either way, some kind of diaphragm is essential, as most specimens must be viewed under very low light conditions to provide proper contrast.

Electric illumination:

Rather than using a mirror, get a microscope that has a built in electric light source. There are several different types of electric illumination and any one of them will work fine. One thing to consider would be fluorescent illumination, which runs much cooler than common tungsten lights, and will keep your slide preparation alive longer. Of course, fluorescent-lighted scopes tend to be a little more expensive than others.

Mechanical Stage:

A mechanism mounted on the stage that allows the operator to move the slide smoothly and precisely in any direction by turning a knob. Very valuable at higher magnifications as it can be difficult to move the slide by hand otherwise. Some come with a graduated scale so you can see how far the slide has been moved or keep track of the position of various objects on the slide. Make sure the microscope either comes with a mechanical stage, or that one can be added at a later date. Once you've used a mechanical stage, you'll never want to be without one.

Minimum 400x Magnification:



The consensus among hobbyists and professionals seems to be that you need a microscope with a minimum of 400x magnification. This will allow you to identify pretty much all goldfish parasites, including protozoa such as Chilodonella and Costia. There are a few scopes out there in the \$200-\$300 range that will magnify up to 1000x. Using the 1000x objective usually requires that you place a drop of immersion oil between the lens and the cover slip of your prepared specimen.

Retractable Lenses: Microscopes sometimes have retractable lenses on the 40x and 100x objectives (the ones that give you 400x and 1000x magnification). Retractable objectives have a spring-loaded mechanism that allows the end of the objective to retract upon touching the slide. I assume that this prevents damage to the lens itself and/or the objective.

Separate Coarse and Fine Focus Adjustment: It doesn't matter how high your microscope can magnify if it doesn't allow you to focus precisely. You will miss seeing a lot of parasites if you only have one focusing adjustment.

Recommended Accessories (in order of importance)

- Glass Slides (standard, \$5 or so for 72 pkg)*
- Plastic and/or Glass Cover Slips (\$2.50 and up for 1oz. pkg.)*
- Rubbing Alcohol (for cleaning slides and slips)*
- Cotton Swabs (q-tips, for cleaning slides and collecting samples)*
- Dust Cover for Microscope (usually included with the

- microscope)*
- Mechanical Stage (\$40 and up)
- Eye Droppers (I'd have 2 or 3)
- Forceps
- Spare Bulb for Electric Light Source (\$2.50 to \$6.50)
- Immersion Oil For 1000x Viewing (\$5 or so, essential if you have a 1000x 'scope)
- Concavity well slides (very handy for viewing larger parasites, brine shrimp, etc. \$1 each)
- Carrying Case (\$39-\$49 or so)

*Accessories marked with an asterisk should be considered essential

Mail Order and Internet Microscope Sources

Microscope World
1-800-942-0528
www.microscopeworld.com

Microscope Models Available:

- Explorer Series ranges from \$121-\$138
- Investigator Series ranges from \$195-\$291 (accepts mech. stage for \$38)
- Researcher Series ranges from \$354-\$854

Microscope Depot

1-800-721-8835
www.microscope-depot.com

Microscope Models Available:

- Model M microscope \$89.95 (no fine focus, no mech. stage option)
- Model O microscope \$129 (\$179 w/mech. stage)
- Model P microscope \$259 (W/mech. stage and 1000x mag., highly recommended!)

EBAY There are always many

microscopes listed here for auction
www.ebay.com

Sources of Microscope Use Information

There are now several sources of detailed information on microscope terminology, use, etc. It is beyond the scope of this article to define all of the terms discussed. Please refer to the excellent resources listed below to learn more about microscopes and how to use them for goldfish pathogen identification.

www.koivet.com

Includes basic info on microscope use, and several videos and photos of common koi/goldfish pathogens. You can also order Dr. Johnson's Koi Health & Disease textbook and video, which include comprehensive coverage on microscope use and pathogen identification. Dr. Johnson's section in the fairly new book Fancy Goldfish: A Guide to Keeping and Collecting also contains good instructions on basic microscopy.

www.fishdoc.co.uk

Includes comprehensive info on microscope use and many para-

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Spring Viremia of Carp Virus (SVCV)

Edited by Matt Lyon

Information Provided by Andy Goodwin,
University of Arkansas at Pine Bluff Fish Disease Diagnostic Laboratory

History and Intro

Spring Viremia of Carp Virus (SVCV) is one of five fish viruses that are listed by the OIE, an international organization that issues guidelines used by member countries to prevent the spread of animal diseases. It is a deadly disease that is at this time, essentially untreatable [except by elevated temps]. This is a very scary disease as we are still missing some important details like how dangerous it is to other cyprinid fish, if fish act as carriers, and if other animals can act as carriers. It usually occurs in early spring, when the water temperature rises into the 50's and higher. Infected fish show symptoms of bulging eyes, swollen bellies, red rashes, red hemorrhaging adjacent to scales, and mucus trailing from their vents (sometimes bloody mucus). When it occurs, it may wipe out a large percentage of the fish in a pond. Survival time is variable.....it may take anywhere from two weeks to two months before fish stop dying from the disease.

The first known North American occurrence of this disease was confirmed in the U.S. during the summer of 2002. A large koi farm in North Carolina noticed a new disease problem on their farm so they submitted samples to the UAPB Fish Disease Laboratory in Arkansas. The fish were found to carry SVCV and when the outbreak was reported

to government officials on July 3rd, 2002 the facility was quarantined that same afternoon. It is possible that infected fish were distributed to many other koi dealers throughout the country before the disease was diagnosed.

Almost simultaneously, Cedar Lake in Wisconsin experienced the death of 10,000-20,000 pounds of wild carp. A virus was isolated and sent to UAPB for identification. It once again proved to be SVCV. The mystery is that thus far, officials and



Bulging eyes and hemorrhages on a common carp experimentally infected with Spring Viremia

researchers have been unable to determine how the lake was infected. The event cannot be linked to the North Carolina koi infection.

The Mississippi River had also experienced a large carp die off the previous fall (2001). It was found later that samples taken from these fish showed antibodies against SVCV, evidence that this kill may also have been caused by SVCV.

What We Know About SVCV
SVCV is a viral disease caused by Rhabdovirus carpio.

SVCV is extremely contagious. It can be transmitted from fish to fish, by parasites, and possibly by birds and other animals that travel among different watery locales.

SVCV affects a broad range of fish species, including all cyprinids (koi, goldfish, carp, minnows, etc.).

It affects fish of all ages and usually kills them in 14-60 days when water temperatures are right.

SVCV symptoms can be very similar to those of Aeromonas, the symptoms are bulging eyes, red rashes, swollen bellies, mucus trailing from the vent, light pressure causes bloody mucus to ooze from their vents.

It is a disease that relishes fairly cold water. The symptoms are brought on by water temperatures between 50 and 70 degrees F, usually in early spring.

Raising the temperature above 70 degrees F brings the symptoms to a halt, and any fish that survive will be immune to future infections. It is not yet known whether survivors of an infection can transmit the disease to other fish.



Where Spring Viremia Came From

European fish farmers have been dealing with the disease since the middle ages. One of the reasons it has been so prevalent there may be due to the popularity of carp as a food fish in those countries.

Officially, Asian countries claim that all their farms are free from SVCV. Interestingly, the international SVCV Reference Laboratory in Weymouth England has on several occasions found that imported Asian fish were carrying the virus before they were even removed from the box they were shipped in.

The SVCV that has appeared in North America seems to be most closely related to that found in imported Asian fish, suggesting that the disease was most likely introduced through ornamental fish rather than by other means.

Where SVCV is Going in North America

So far, the disease has only been confirmed in North Carolina and Wisconsin. Remember that the symptoms are normally brought on as water temperatures warm in the spring, and that SVC is just about to experience its first spring season following the infection in North Carolina. There is currently a lot of controversy over what the introduction of SVC might mean to the North American koi and goldfish world. Government officials, food fish farmers, ornamental fish breeders and importers, koi and goldfish retailers, and hobbyists across the country wait in anticipation of

what spring 2003 might mean to this vast network.

Currently, the only fish imported into North America that are required to be inspected are trout and salmon. There has been little or no inspection of any other food or ornamental fish at all. Within the next few months, we may see some serious regulations put into place on all imported fish, and possibly even interstate transport of carps, goldfish, and other related species. The implications of this for the ornamental koi and goldfish trade could be staggering, but may well provide many benefits for hobbyists.

APHIS and the USDA are currently working with aquaculture researchers to develop a SVCV control program. It will be only the second of its kind for North American fish. This will help decide how future occurrences of SVCV are to be dealt with, as well as determine the specifics of regulations regarding the inspection of imported fish and interstate transport of fish. It has been speculated that farms harboring SVCV will be quarantined, depopulated, and disinfected, and that they will be compensated monetarily for their loss. It has also been speculated that the fish collections of any retailer or hobbyist found with infected fish will also be quarantined, depopulated, and disinfected. This prospect has caused many individuals to feel hesitant about reporting possible occurrences of SVCV, in the event that their business or hobby might be shut down. According to Goodwin, it is unlikely that the repercussions for individual hobbyists will be that ex-

treme, and that at the present time, all of this is nothing more than speculation anyway. At the time of this writing, the final policy will come following a meeting in Washington during mid March, and many of the outcomes may be well under way by the time you read this. In any event, it isn't hard to imagine how widespread the disease could become in a single season if potentially infected farms and retailers continue to distribute fish to the public without being tested for SVC.

What We Can Do As Hobbyists

Don't panic. There are several other goldfish disorders that can result in very similar symptoms. Be sure to rule out the other possibilities before fingering SVC as the culprit. Bacterial infections can mostly be ruled out if the symptoms started at lower water temperatures (50-60 F), as they are unlikely to occur in water this cold. SVCV symptoms may be similar to protozoan infections, but protozoa will not cause the telltale bloody mucus from the vent of the fish. It can be differentiated from KHV by the temperatures at which the symptoms begin; KHV affects fish above 70 degrees F. If you experience the SVCV symptoms listed above, consult a veterinarian or local fish disease diagnostic center for advice. If SVCV seems likely, you will need to send fish to a laboratory equipped to diagnose SVC. One laboratory that can help is the one at UAPB. You can call or email Andy Goodwin at UAPB Diagnostic Lab to find out how to submit fish for testing. Phone: 870-543-8137
Email: agoodwin@uaex.edu



DIY Continuous Siphon Overflow:

Part II

By Matt Lyon

This is Part II of a two part article on building your own continuous siphon overflow. Please refer to the Jan/Feb 2003 Goldfish Report for Part I, which explains the form and function of traditional overflows. In this continuation, I illustrate how to modify the traditional design to make it more useful for the goldfish hobbyist. Also included are photos and instructions to help you build your own modified continuous siphon overflow. It's not very pretty, but it works great and hides behind your aquarium with about 6" clearance.

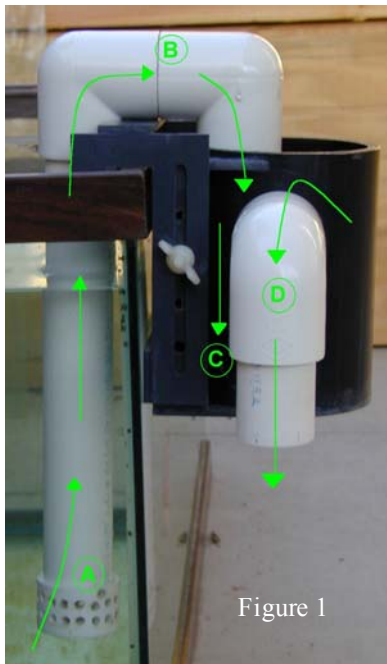


Figure 1

Modified Design (Please refer to figure 1)

A. Note that we have eliminated the inside skimmer box. Here, water from the lower portion of the aquarium (instead of from the surface) is drawn into the siphon tube.

B. Unfiltered water flows via siphon tube over the side of the aquarium and down into the overflow chamber.

C. Water enters the overflow chamber (Note that the end of the siphon tube is below the outlet level. In case of power outage, pump failure etc., water will only siphon out of the tank until the water level drops below the overflow outlet. This means that the siphon stays intact when water flow is interrupted and starts automatically when water flow resumes. Because the overflow chamber and aquarium are connected by siphon, the water level in the aquarium will be equal to that in the overflow chamber. This means that when water flow is interrupted, the aquarium will never drain more than an inch or so!

D. Water overflows into exit pipe, and flows via gravity to the filter below the aquarium. Note that the overflow box is not fitted with a prefilter of any kind. A large capacity, easy-to-clean prefilter should be fitted before the main filter, to remove all solid waste.

Tools Needed

- Table Saw (optional)
- Band Saw
- Jig Saw
- Variable Speed Drill
- 1 5/8" Hole Saw
- 5/16" Drill Bit
- Drill Press (optional but recommended)
- Hand Saw and Miter Box
- Sandpaper 200 Grit
- Rattail File

Parts Needed (refer to figure 2 for a view of parts A through E and their measurements)

Hanging Bracket

- Qty 2 Part A 3/16" PVC Cutout
- Qty 2 Part B 3/16" PVC

Cutout

Exterior Chamber Assembly

- Qty 1 Part C 3/16" PVC Cutout
- Qty 1 Part D 3/16" PVC Cutout
- Qty 2 Part E 3/16" PVC Cutout
- Qty 2 1.5" Section of 1.25" Diameter PVC Pipe
- Qty 1 6" Section of 3" Diameter ABS Pipe (used in this design) or 3" PVC Pipe

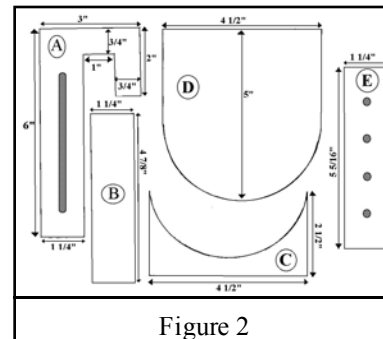


Figure 2

Siphon Tube

- Qty 1 2.5" Section of 1.25" Diameter PVC Pipe (connection between the 90 deg fittings)
- Qty 1 5" Section of 1.25" Diameter PVC Pipe (outlet to the overflow chamber)
- Qty 1 12" Section of 1.25" Diameter PVC Pipe (intake from the aquarium)
- Qty 2 90 Degree Elbows for 1.25" Diameter PVC Pipe
- Qty 1 End Cap for 1.25" Diameter PVC (drill with 5/16" holes to make an intake screen)

Fasteners, Adhesives, and Miscellaneous

- Qty 1 Can of Purple Pipe Primer
- Qty 1 Can of All Purpose



Pipe Cement (I'm using Oatey brand all purpose cement for PVC, ABS, and CPVC. Just make sure your cement specifies that it can be used on pipes for potable water, to ensure safety for your fish. It wouldn't hurt to ask someone at the store if it's safe for fish.)

- Qty2 Nylon Bolts 1/4" or 5/16" X 1"
- Qty2 Nylon Wing nuts 1/4" or 5/16"

Procuring Materials

I purchased everything except the flat PVC sheets at Home Depot and Lowe's. The flat PVC is sold in sheets of different thicknesses by plastics suppliers. You will find this stuff at the same places that sell acrylic, lexan, and other plastics. I would recommend using either 3/16" or 1/4" PVC. By searching through the scrap bins at a plastics supplier, I found enough flat gray PVC to build three overflows, for less than \$10.

Construction

All flat PVC parts were cut out using a band saw. A standard fine-toothed band for woodworking worked great. The slots on both Part A's were first laid out with a ruler and pen, then drilled on both ends with a 5/16" wood bit, and last cut out using a scroll saw. All pipe sections were cut using a hand miter saw. When cutting the flat PVC, for really precise cuts and tighter joints, I would recommend using a table saw for the straight cuts, a band saw for round and corner cuts, and a router for cutting the slots in both part A's. Lightly sand the cut edges on all flat PVC pieces and pipe sections with 200 grit sandpaper. Measure, mark, and drill the holes in both Part E's. For folks who don't have a shop full of tools, a Dremel tool with bits for cutting, drilling, and sanding could actually be used for the entire project. If you go this route, I would recommend using Dremel's router attachment for making most of the cuts.

Prepare surfaces to be joined by lightly sanding and applying purple primer. Apply light coat of pipe

cement to both surfaces within 1 minute of applying purple primer. Join cemented surfaces while still wet. Work on a flat table and use clamps, bricks, blocks of wood, etc. to hold parts together while they dry. Allow to dry for 1/2 hour before handling. Next, apply light coat of cement around all sides of all joints, to ensure joints will be strong, with no gaps between joined surfaces. It should be possible to glue all flat PVC parts together in one sitting for either the hanging bracket or exterior chamber assembly. I would recommend allowing the cement to cure for 1-2 weeks before using your over-

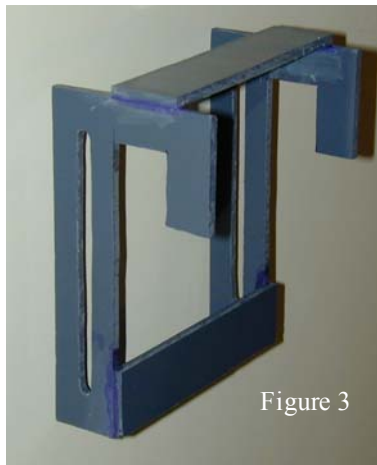


Figure 3

flow, to allow it to cure. Wait until there is no more smell of cement fumes.

Notes on Hanging Bracket

Please refer to figure 3 for a view of the completed hanging bracket. During assembly, take care that all joints are tight and flush. When the assembled hanging bracket is viewed from the side, the Part B on top of the bracket should be at least 1.25" away from the 6" edge of both Part A's. After assembly, take care when filling gaps with glue that you don't build up too much glue on inside surfaces. The hanging bracket must be assembled such that the space between both Part A's is wide enough that the Part E's on the assembled external chamber can fit between them.

Notes on External Chamber

First, place the ABS pipe section on Part D, making sure the curved edges

are flush. Trace a light pen line around the ABS pipe section, onto Part D. Next assemble parts C, D, and E (qty 2) as shown in figure 4 (keep the surface of Part D with the traced line facing up). Next, drill a hole in the 3" ABS pipe section using a 1 5/8" hole saw. Center the hole 2" from one end of the pipe (it doesn't matter which end). Carefully use a Dremel tool and/or rattail file to enlarge the hole until the 1.25" diameter PVC pipe fits SNUGLY. Prime and glue the 2" long section of 1.25" diameter PVC into the hole, letting the pipe extend 1/4" inside the ABS section. This is a critical joint, try to make sure the fit is as tight as possible with no gaps. Next, apply primer and glue to the curved interior edge of Part C, on the flat surface of Part D inside the pen line and curved edge (1/4" wide ring of glue), and around one cut edge on the ABS pipe section (make sure it's the edge furthest away from the PVC pipe). Position the ABS pipe section on Part D, so the 1.25" PVC pipe sticks straight out to the side. The joint between the ABS pipe and Part D is critical. Try to make sure the fit is as tight as possible with no gaps. After the cement has cured, apply a bead of aquarium silicone around the inside of both critical joints mentioned above, to ensure water tightness. Allow the silicone to cure 48 hours.



Figure 4

You can also add a 90 degree PVC fitting to the PVC section protruding from the external chamber assembly to direct the water flow downward, if desired.



Notes on Siphon Tube

Pipe joints on the siphon tube **MUST** be airtight for it to function. For cleaning purposes, do not glue the end cap on. For aesthetic reasons, you may opt to use a commercially made clear siphon tube. It is important that you use a siphon tube considerably larger than the return from your pump, so the pump cannot overrun the siphon and flood your living room. Remember that the overflow box is fed via a siphon and gravity, and therefore cannot flow as quickly as your pump. To give you a general idea, I use a 3/4" pump line with a 500 GPH pump, and have never had a spill (knock on wood). If in doubt, it is much better to err with a siphon tube being too large. Two smaller siphon tubes could even be used in unison.

Installation and Operation (refer to figures 1 and 5 for assembled view) Rinse the siphon tube and ABS chamber with clean water. Slide the hanging bracket onto the external chamber assembly, so the holes and slots are aligned when viewed from the sides. Place one nylon bolt through the second hole down on each side, with the wing nuts on the outside (you may need to reposition the bolts later depending on your aquarium and water flow). Hang your overflow in the desired position. Loosen the wing nuts enough that the chamber can slide freely off the hanging bracket. Adjust so the top of the PVC pipe is at the same level as your water's surface and tighten the wing nuts. Connect the exit hose/pipe that feeds your filter to the PVC protruding from the overflow chamber. I found that 1.5" ribbed white poly drainage tubing from the hardware store fit the 1.25" PVC perfectly. I secured it with a metal hose clamp. Submerge the siphon tube upside down in your aquarium, filling it completely with water. While both ends are still submerged, Use a plastic bag (plastic Ziploc-type bags work great) to cover the outlet of the siphon tube, hold it in place with one hand, forming a water tight seal. Next, keeping the intake end of the siphon tube submerged in the aquarium, lift the outlet up and over the side of the aquarium, and down into

the overflow chamber. This may take a few tries; you have to keep the outlet sealed until it is below the water level of the aquarium. Remove the bag used to seal the outlet end. There should now be a great rushing of waters as the overflow chamber fills and the water begins to flow down to the filter. Before doing this, if you have a wet/dry filter system, be sure that your sump can hold 1-2" of aquarium water. This is not an issue with sealed canister filters. Wait for the water to stop flowing. Make certain that the siphon remains unbroken and turn on the water flow to the aquarium. Watch the aquar-



Figure 5

ium very closely and be ready to turn the pump off if the aquarium is going to overflow. Using the wing nuts, adjust the level of the overflow chamber 1/8" to 1/4" at a time until the aquarium stays at the desired water level. After each adjustment, it may take up to 5 minutes for the water level in the aquarium to reach equilibrium, so make sure you allow the pump to run long enough before adjusting, unless the aquarium is overflowing!

Cautions

I have been very lucky and have spilled almost no water with my system (notice I said "almost"). Before starting the siphon or plugging in your pump, make sure you have double checked all connections and thought thoroughly through everything. If you aren't extremely careful, it's easy to pour many gallons of water all over the floor in a hurry.

I learned the hard way (here comes the "almost no water" part) that it's a bad idea to position an airstone anywhere near the siphon hose. In my case, an airstone got under the intake of the siphon and the air bubbles gradually reduced the flow of the siphon until "almost no" water spilled on the floor (*meaning that some water did spill*).

In conclusion, I can think of many other ways of building the same device. Some ways would be simpler; some ways would cost ten times the price of this one. Since my time costs me nothing (not directly), I decided to build the least expensive design I could come up with, while keeping it very durable and reliable, even if it took a little more time. The time and effort saved over installing a bulkhead also makes this design very appealing to me. After two years of continuous use, I have had no leaks and no failures of any kind. I have an actual size schematic of the PVC cutouts, which I will send for free to anyone who asks. Just send an email to ranchumatt@yahoo.com. Have fun!

New Canadian Video G.F. Show

The brand new Canadian Goldfish Society is having a video G.F. show. Because their membership is spread all over Canada, the USA and around the world. This is a first try at a goldfish video show.

To find out more about it, go to:

www.canadiangoldfish.com/

Jackie Chan of the Tung Hoi Aquarium Co. is donating prizes!

Check it out,
Scott Taylor



Something New to Judge Ranchu By

By Vic Medore

In my fish room now, there is again a family of ranchus from a few sources. I've been looking for the right ranchu to breed for a long time now, learning as much as I could about each and what is the right one. Seeing a Japanese page on the net and the best ones here seem the same as the best there. So how do we pick? First we start with the degree of curve in the back, next we look at the tail angle, tail attachment and which tail shape is best. Then we evalu-

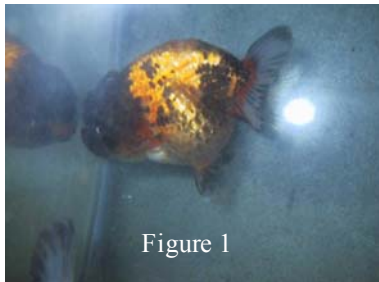


Figure 1

ate to what degree the headgrowth should be developed and what is excessive. Finally, we look at the way the fish carries itself; the swim line, balance, etc. Of all the strains I've seen, every one has had some merit to it and different as they are, they are all correct. So then it has to be a matter of preference, as my friend Isaak Kroshinky comments.

Rick Hess says I'm the pickiest customer he has ever had. He is right and the rest of my goldfish friends agree. Figure 1 has what I feel the American needs are, great from the top but also from the side as we keep them in aquariums primarily. So this type of ranchu has a market for this reason here and will stay in the foreground for the next two dec-

ades. Years ago they called these Lichus; pronounced "lie choose". The Lionhead blood in them is far enough behind that they are Ranchus now by standard.

As a side note, I am presently moving more toward a paste food following discussions with Gary Hater and other members of the breeders circle. Still I see some fish floating upside down for a while, even when fed soaked pellets. It's the same over time; I think I can do better for them with the red wiggler earth worm set up I had a few years back when I was breeding some veil moors. They are high in protein and can be fed color enhancers to improve their food value. They also have a laxative quality to control the swimbladder issues we all face sooner or later.

So in my fish room I've been trying to select pairs for breeding. The fish I have are very good to begin with, so I've been trying whether I should trade off for a weakness, if I should breed best to best, etc. Some breeders have advocated the "whatever fish are ready to go get bred and the others don't" method. There's even some merit here. In years past I would not breed a single anal, it was always my best to my best. This I now find is not the way to go as the genes for the best are in each of the related fish. What we seek to select and breed for is something I now feel differently now about.

After sitting and looking at them for an hour the other

night at my 3 AM feeding, I was dropping the Hess pellets in when I heard a loud thump on the aquarium. I remembered back to all my best fish (and there were many in my life). All of them made this thump sound at feeding time. This observation drew me to individual fish in each of the ranchu strains. I see clearly it

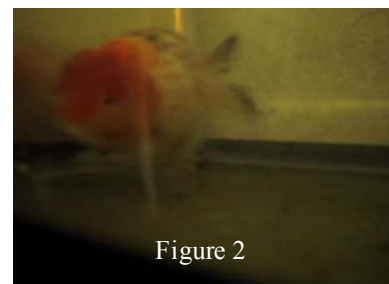


Figure 2

is not just in the movement but in the power of the fish. The solid-as-my-wrist types and the ones that seem to feed hard and hit the glass like a fish that imitates a bull whose horns are caught in the fence. The way they snap and chomp an earthworm with a bass-like twisting power and vitality. I'm remembering a Chinese orange oranda that I first had 30 years ago that would attack Friskies this way.

I think this is how you breed them. I would say that this is the first trait to look for, even in a fish that may have a small fault. It seems I was seeing but not digesting over the years what was right in front of me as I looked at the fish from side to top and back again. The genes are all in there even with a fish that has a slight fault. The winner here is vigor. You breed for vigor over all else! Without this your strain will fade to no strain at all.



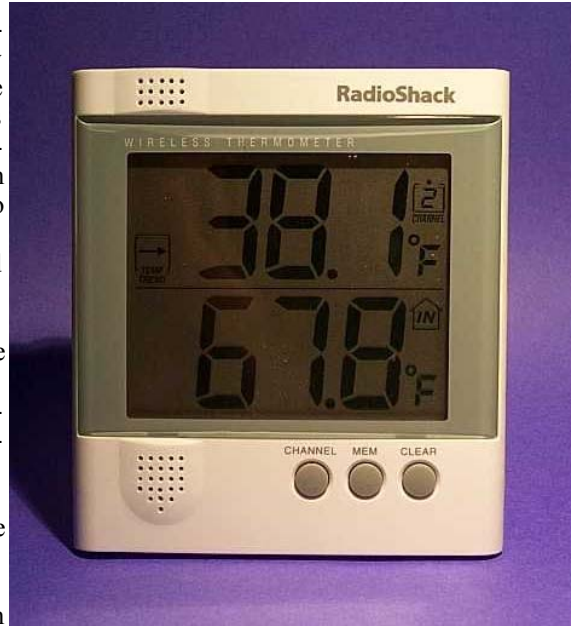
Useful Products, Clever Ideas

By Russell W. Taylor

The most prosaic contrivances, intended to simplify our lives, are as often the bane of our existence, as they are a boon. With technology, this is true in spades. We buy gadgets to liberate ourselves (remember computers and the mythical "paperless" office?), only to find we are disappointed slaves to some unexpected tyranny of accommodation and compliance. It is against this backdrop of wary, jaded experience that I find myself writing this column to sing the praises of a thermometer.

Of course, this is not an ordinary thermometer. But let me start at the beginning. I have an above ground fish pond of about 400 gallons here in northern Virginia. In it was a standard pool thermometer, which did an admirable job of measuring the temperature. Sadly, though, to do this feat, it had to be in the pond and therein lies the rub. In the winter, I cover the pond with plastic and fasten it down rather thoroughly. To check the temperature, I would have to go out and undo the securing strap, lift the plastic and pull out the thermometer. Add to that put on my boots and wade out through the snow at midnight when it was 10 degrees Fahrenheit, to see how the pond was doing, and perhaps you follow my interest in improving this activity.

My technological liberation in



this case occurred at my local Radio Shack. I had wanted one of those indoor-outdoor thermometers with a big digital readout. For Christmas I had received one with a miniscule display and a feature that was threatening my sanity: an alarm that sounded, every 30-seconds, when the temperature was below 36F, and which could not be turned off. So I took it back to Radio Shack to exchange. For whatever reason, this particular Radio Shack had all of the digital thermometers behind the counter. So the clerk was forced to try to explain the differences to me, at length, for the ten different models they carried, in an effort to effect the exchange and leave me a little less disgruntled.

They had exactly what I wanted, a wireless unit with nice big dis-

play on the indoor unit and a remote unit that could be located wherever one wished (for reference, the part number for the pair is 63-1026). But in the process of conducting the parade of thermometers for my inspection, the clerk put down something wonderful in front of me: a spa thermometer (part no. 63-1037). This is a wireless external unit, compatible with my new indoor unit (which can monitor up to 3 remote sensors), with a six-foot wire tail that can be inserted into whatever thing the temperature of which you wish to measure. In my case my pond.

For a month or so this set of products has been working like a champ for me, during the coldest winter we have had in a number of years. Besides reassuring me that my fish are not embedded in ice, I also expect this to help me with another problem. In the late winter and early spring, before I uncover the pond, sometimes the temperature rises more than I expect and I miss fish spawnings. With my highly simplified ability to monitor the temperature, I now hope to avoid being caught off guard.

The base unit with a remote sensor, plus the spa remote sensor cost about \$70 altogether. Plus AA batteries to power them. Watch for sales; these units are often available at \$10-\$20 off.



Continuous-Drip System

Alleged to be: "The most extreme way to control water quality"

By Taylor Moffitt

Part I
of a
Three Part
Series

Water quality is everything. If you are interested in better water quality, you are *really going to like* this series.

Time is money. If you are lazy, like me, or just plain having trouble getting the water changes done, I'm here to tell you that you are just going to flip when you try this.

We are going to learn about the continuous-drip system's benefits and caveats in the first part. Next, we'll see a rather expensive example system, and a cheap one too, in the second part. Finally, we'll see how anyone can build their own system (two different types!) in the third part.

If you're going to have nice fish, you're going to have water quality of a satisfactory level, or you're going to have nice *dead* fish. The purpose of this series is not to belabor that point. I've heard stories about people who had sick fish, and they were tossed into a continuous-drip tank, and, as if they were in a magical healing water, they got better. (Notice the pattern here, water quality = good.) Since I converted my tanks, I've had drastically healthier fish, and I don't have to have garbage cans of aging water sitting around either.

Now, I *know* what your weekly routine is like. You probably have too many tanks (according to my wife, that would be one or more) and you have to treat &



age water, scrub (thank goodness for floating algae-scraper magnets!), siphon, fill, then put away the hose, et cetera. Well, last week when you were doing all of that, the folks with continuous drip systems were just sitting by their favorite tank, leisurely watching their fish swim.

I learned this system from a man named Heip (Pronounced "hip." Later, you'll see his system), who is from Vietnam. He claims that he learned this method by way of a fellow from China, whose family raises fish for a living. The story goes that this method was passed down from father to son, as the family secret. Heip told me, "But I don't care!", so here I am, happily blabbing it all over the place.

Here's how it works. There's a little drippy thing that lets water into your tank, at a rate which you control (for example, two tank changes per week). The fresh water comes so slowly that the fish are never in shock, and the slow dripping gives chlorine time to dissipate into the air, and the fish are never exposed to enough to hurt them. A low-cost

array of pre-filters removes sediment & chemicals from incoming water before it hits your tank. There is an overflow drain, which is a bulkhead fitted to a hole in the side of the tank. You don't need a bunch of filters, just something to house bacteria and oxygenate the water, like an under-gravel filter, or a wet-dry tower.

This all sounded very odd to me when I first heard it. I thought, "What, no salt?!" This took me a while to get over. You also have to have incoming water lines, and drain lines, which can be hard, or flexible. The salt becomes unnecessary when your water quality is near perfect. I took a week to slowly acclimate my fish to salt-free living, and they never complained once. Oddities aside, the only reason I could think of for not wanting to do this is if your water is too acidic or has some other unusual quality.

To be continued...

Until then, enjoy changing your water. ;-)

In the next part of this three part series, you will see an expensive example and a home-brew cheapie example, all with photos. "But wait, there's more!" In the final part, you'll learn how to do both, all by yourself.

If you enjoyed this article, photocopy it, photocopy the GFSA membership application, and give them to your friends!