

SMALL TANKS

KEEPING AND BREEDING TROPICAL
FISH IN SMALL AQUARIUMS

By Chase Klinesteker

2 TYPES OF SMALL TANKS

- **1) Nano biotope aquascape with live plants**
- Is an art form requiring close attention to plant fertilization, light parameters, ecology, and minimal bioload.

- **2) Small tanks for breeding and raising fish**
- Small tanks requiring close attention to filtration, frequent water changes, feeding, cleaning, and low light.

NANO DEFFINITION

- **Nano**: A unit prefix in computing meaning one-billionth
- **Nano aquarium aquascape**: a small tank usually less than 10 gallons designed as a work of art with living plants.
- Ecological balance is maintained with close attention to water quality, light, and minimal bioload

1) BEGINNING NANO BIOTOPE



5 GALLON DISPLAY AQUASCAPE

2) SMALL TANKS FOR BREEDING AND RAISING TROPICAL FISH

- Years ago, I visited a fishroom where 200 swordtails were being raised to a healthy adult size in a 20 gallon tank
- This was accomplished by doing daily water changes of 90% and feeding mostly live foods
- Using aged water, not overfeeding, scavengers, and good filtration helped
- The key was good water quality
- Might this concept be applied to smaller tanks?

WARNING:

- A SMALL TANK SYSTEM AS DESCRIBED HERE COULD BE DETRIMENTAL TO YOUR FISHES HEALTH, AND IS NOT RECOMMENDED FOR BEGINNING AQUARISTS. EXPERIENCE, CERTAIN EQUIPMENT, AND DISCIPLINE ARE NEEDED TO MAKE IT WORK. However, it is hoped that concepts and equipment tips presented here will benefit people at all levels in keeping tropical fish.

SMALL TANKS IN MY FISHROOM



20-25 small tanks from 1-3 gallons used to breed and raise fish for over 30 years. Note observation platform.

SMALL TANK DISADVANTAGES

- Small tanks were usually reserved for killiefish
- They are more difficult to maintain water quality and are less stable than larger tanks
- Temperatures fluctuate quickly
- Light for plants can easily grow algae
- Nitrates build up rapidly
- Must be at eye level to enjoy
- Demand frequent water changing

ADVANTAGES OF SMALL TANKS

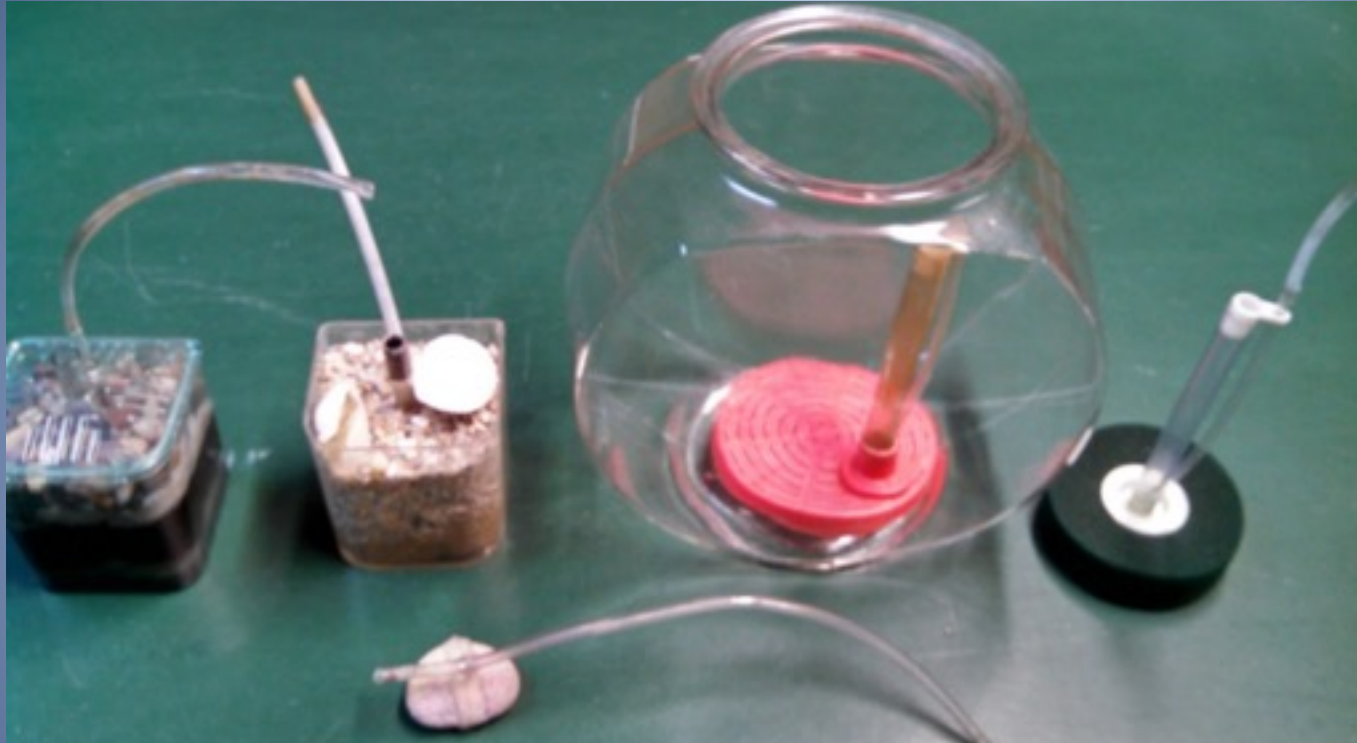
- Easily picked up and thoroughly cleaned
- Aggressive fish isolated
- Best visual observation of secretive fish
- Filters can be added
- Water changes can be easy and quick
- Low light: live plants not needed
- Ideal for breeding small tetras, barbs, live bearers, killiefish, apistos, and danios
- Effective for hatching eggs, begin raising fry
- Growth of fry is often faster

SOME TYPES OF SMALL TANKS



L to R, 2 gallon rectangular, gallon jar, gallon milk jug, gallon drum bowl, 2 ½ gallon drum bowl. All can be picked up and moved for fish observation or cleaning.

FILTERS USED IN SMALL TANKS



L to R, Small box filter with peat moss, box filter with gravel, undergravel bowl filter, and small sponge filter. At the minimum, use a weighted airline for oxygenation

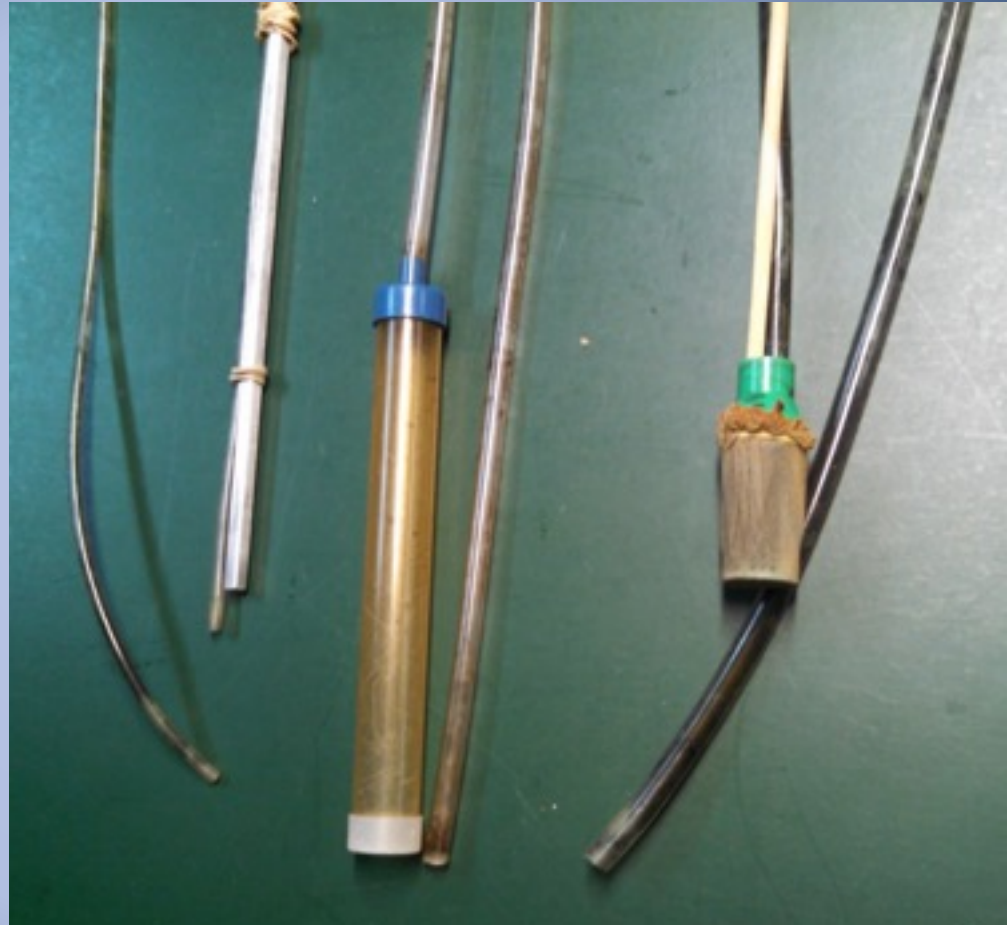
THE MOST EFFECTIVE FILTER

The undergravel bowl filter results in the clearest water, but will need frequent detritus removal, which is usually accomplished with a water change



SIPHONS USED

- A) Airline siphon for picking up eggs
- B) Small cylinder gravel cleaner for UG filters
- C) 3/8 inch siphon for changing water in fry tanks



A
C

B

MAIN WATER CHANGING SIPHON



A clear, flexible ½ inch plastic hose that is long enough to reach the sump is used to remove water fast. It can be pinched to stop the siphon when going from jar to jar. The plastic screen over the end will allow detritus through but not fish. The attached stick allows one to guide the siphon throughout the small tank.

EGG-HATCHING AND FRY STARTING



Gallon milk jugs used to hatch eggs and begin feeding fry, allowing easy monitoring and water changing

MOVE AND CLEAN



Small tanks can be picked up, moved to a sink, and quickly cleaned. Try that with a 5, 10, or 20 gallon!

EASY WATER CHANGING



30 gallon water reservoir tanks for aging tap and rain water. Submersible pump is used for replacing water in jars. Aged water allows water changes of 90% or more without major stress on fish.

FISH THAT NEED DIM LIGHTING



Breeding tanks for *Apisto c.f. luelingi* and *Taeniacara candidi*. Note black plastic to give low light and privacy.

CLOSE OBSERVATION OF FISH



Taeniacara tank moved to eye level observation platform for inspection. Note plastic plants, peat filter, mop, and small pot breeding cave.

MAINTAINING PROPER TEMPERATURE

Small tanks are best kept in heated fishrooms to maintain adequate temperature. On those which need higher temps, heaters can be added. Covers may have to be adjusted to prevent fish from jumping out.



TANK COVERS



All small tanks should be covered to prevent jumping out, maintain temperature, and avoid loss from evaporation.

FEEDING IN SMALL TANKS

- Live foods cause the least amount of waste
- Snails are especially helpful in fry tanks
- Daphnia, baby brine shrimp, microworms, blackworms and grindleworms work well
- Flake foods and frozen foods should be used sparingly and only for eager eaters. Add snails and siphon up any excess.
- Variety in foods is important
- Smaller, more frequent feedings are best

NEWLY HATCHED BRINE SHRIMP

Fed mostly. Eaten eagerly by all sizes of fish. Very nutritious. Can be saved for feeding up to 12 hours later if kept in a thin layer for access to oxygen. This allows daily hatching but twice daily feedings.



DAPHNIA

Can live many days after being fed to fish. Can be sifted for size. Nutritious but don't overfeed. Best to culture in at least 2 containers to assure a constant supply.



MICROWORMS



Nutritious. Eaten by most fish. Will fall to bottom, so best for fish that eat there. Heavy current or aeration will keep them available to free-swimming fry. Wipe side of container with finger and dip in water. Feed with eyedropper. Will live 6-8 hours under water.

FASTER GROWTH IN SMALL TANKS?

Often observed due to more frequent and larger percentage water changes, as well as greater use of live foods



Rainbow Shiner fry

JUG OF APISTO FRY



Place next to light for examination. Handle makes for easy moving. Detritus can be siphoned out with airline hose.

COLLECT RAINWATER

Used for keeping and breeding softwater fishes in small tanks. Much less volume need than for larger tanks. Note hose connected on bottom of barrel so rainwater can be drained through basement window into storage containers.



USE PLASTIC PLANTS AND MOPS



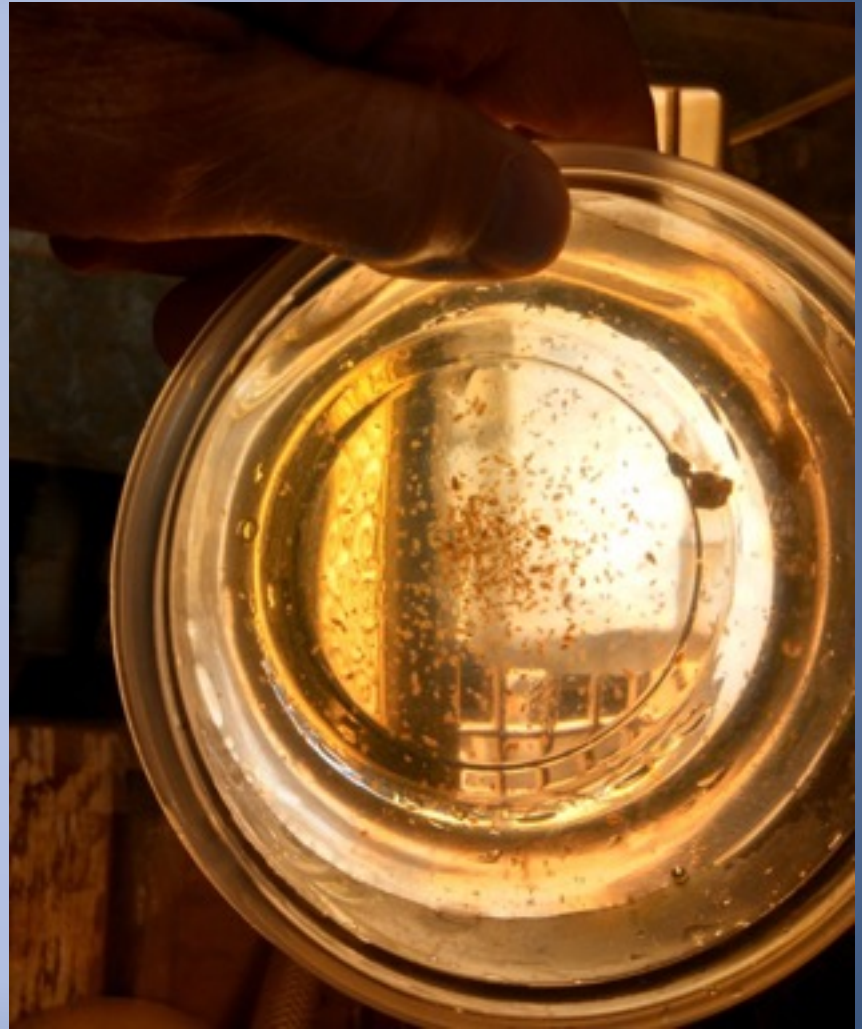
Used for cover and breeding fish. Easily cleaned. Have floating pieces for surface cover also. Include in grow-out tanks where fry are aggressive.

BREEDING FISH IN SMALL TANKS

- Small tanks often the best choice for pairs
- Proximity can trigger breeding, just supply enough cover for female to hide
- Volume of RO or rainwater needed is minimal
- Filtration is helpful
- After spawning, eggs can be removed, rinsed, and placed in fresh water with methylene blue

RINSING OF EGGS AND FRY

Use a translucent container with a light below and swirl the eggs or fry, which will collect in the center to be picked up with an eyedropper and placed in clean water (daphnia shown as substitute).



BREEDING TETRAS

1 ½ gallon hexagon tank used for breeding tetras in dim light. A small sponge filter keeps the water clear and oxygenated. Nylon mop, artificial grass, and large gravel are used to hide the eggs. Once the eggs are laid, a siphon is used to remove them from the gravel.



BREEDING LIVEBEARERS

Glass gallon jar can be used for females of smaller species to give birth. Note small sponge filter. Fry will hide in grass on the bottom or swim up to floating plastic plants. Swimming space for the female is in the center. Some live foods can be fed while waiting.



FINAL COMMENTS

- Daily water changes of 90% are usually not necessary. Changing 80-90% of the water 2-3 times per week works well.
- An eye-level shelf for the small tanks is necessary for comfort and convenience.
- It is best to underfeed rather than overfeed fish in small tanks.
- Cultivating/hatching your own live foods on a daily basis is critical to success with small tanks.
- Discipline and daily attention to your fish is needed

ENJOY YOUR FISH AND THE WONDERS OF CREATION



THE END