

***Elassoma evergladei***  
**Hard To Find But Easy To Maintain and Spawn**

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Recently, a friend and NANFA member sent me a few *Elassoma evergladei* at my request. I was always interested in these little fish and thought I would give them a try. They were just approaching maturity and would be ready to spawn soon. The breeding group consisted of eight females and three males. This ratio is approximate, as some of the fish were immature and could not be accurately sexed.

From my research, I found that typically these fish prefer soft, acid water. However, I know some who have kept and bred them in harder, more alkaline water. Since I already had Blackbanded Sunfish and was set up for soft, acid water, I decided to house them in a similar manner. The water has a hardness of near zero and a pH of approximately 6.0. To aid in breeding I also add Blackwater Extract and filtered the water through peat. A more detailed discussion of how I make this water can be found in my article on Banded Sunfish appearing in the June, 1995 *American Currents*. These fish prefer still water with heavy plant growth and do not require a lot of room. To accomplish some of these criteria, I utilized a one gallon fish bowl connected to a larger tank by a siphon filter unit (see figures 1 & 2).

The siphon filter has been around for some time. The only real difficulty with the siphon filter is that the water levels in the

main tank and the bowl must be the same. The bowl needs a platform to raise its water level to match the water level in the main tank. As shown in the figures, the siphon unit is air driven. The greater the volume of air, the greater the water flow. I found that by attaching a "Filter-Max I pre-filter" to the intake side of the siphon unit, I created a small sponge filter that would supplement the main tank filtration and effectively prevent young fish from being sucked into the unit. To complete the siphon filter, another siphon tube is required. This tube will discharge water back into the bowl. By placing another sponge filter on the main tank side of the second siphon tube you can eliminate waste and debris entering the bowl from the main tank. By altering the air flow a mild current is created that will not disturb the fish.

As for the plants, the bowl is half filled with Java Moss, as well as a small quantity of Water Sprite on the surface. The function of the water sprite will be made clear later in the article. The eleven fish were placed in the bowl in April, 1995. One month later, the first fry were spotted. Due to the dense plant growth, any type of nest building and courtship were not observed. Mature males in breeding condition turn almost black with blue iridescent spots along the sides of their bodies. Females remain a pale yellowish-brown. A positive effect of the sponge filter

and java moss is that they encourage the growth of infusoria. The fry are so tiny that they are unable to accept newly hatched brine shrimp when they become free swimming. They feed on the infusoria as their first food. To ensure that the young get enough food I regularly add "green water" to the bowl. The wigglers are so small and transparent that they become invisible. They become easier to see when the eye spots become apparent.

Undoubtedly, the adult fish will eat the fry if given the opportunity, however, as evidenced by the number of small fish I was able to collect, they do not eat many. I figured that the ample feedings of live foods kept the number of fry eaten to a minimum.

As the number of visible fry increase they tend to congregate at the surface and on the bottom. The flat leaves of the water sprite are perfect resting places for the young fish and makes their removal easier. Using a long glass pipette with a squeeze bulb I siphon the fry from the bottom and top and place them in a clear dish. A small quantity of newly hatched brine shrimp are placed in the dish with the fish and they are left undisturbed for about a half hour. The fry with pink bellies have obviously eaten the shrimp, and they are removed and placed in a grow-out tank. The remaining fish are carefully returned to the bowl. I tried to raise the pre-shrimp eating fry in another tank, but the losses were high. By leaving them in the main tank until they accept brine shrimp, the losses were dramatically cut.

The fry grow fast. They are young adults in about three months. Spawning continued until the temperature in the bowl reached about 85°F. At this point spawning slowed. Seventy-five to eighty °F seems to be

optimal. Since these fish are from Florida I am sure they experience higher temperatures from time to time.

The diet of the adult fish consists of live mosquito larva, blackworms, white worms, baby brine shrimp and daphnia. Because they can be obtained year round, baby brine shrimp are the staple food. The other foods are used when available. Mosquito larva and daphnia can easily be cultured in outdoor tubs during the summer in the Northeastern U.S. Small white worm cultures do very well in a warmer area of the refrigerator. The adults are fed twice a day, once in the morning and once in the evening.

When fry are noticed, it is safe to assume that they are in various stages of development. In other words, there will always be some needing green water. At the same time the adults are fed, I add one pipette full of green water. As long as the adults are spawning, always add green water twice a day.

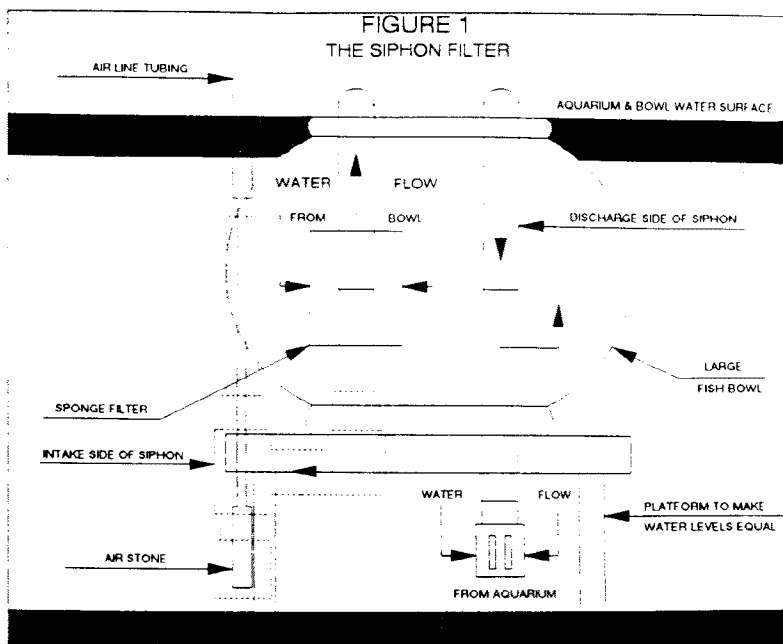
Green water can easily be made. Fill two one gallon jars with good quality aquarium water and add about six to twelve pond snails to each jar. Place the jars in a warm window that receives natural light but not direct sunlight. Every few days, place a small piece of boiled lettuce in the water. The snails will consume the lettuce and the waste from the snails provides food for the infusoria. During the feeding cycles the snails will freely reproduce. If there are too many remove the excess snails. The snails are the key to making green water. I tried to make green water without them and was not successful.

As soon as the water begins to turn green (one to two weeks), stop feeding. At this point the pale green water is ready for use and should have no odor. Draw green water from one jar at a time, replace with good quality aquarium water and feed sparingly once a week. Do not feed the other jar during this time. Every week or two switch jars. I have kept two cultures going for six months using this method and have had no problems. Over-feeding will cause the water to become too rich, leading to a massive die off of microorganisms. The water will turn yellow, have a foul odor and need to be discarded. Should any jar develop an odor, even if it is green, discard the water and make a fresh batch. It is a good idea to have several jars going so that if a culture or two goes bad, you will still have good cultures available.

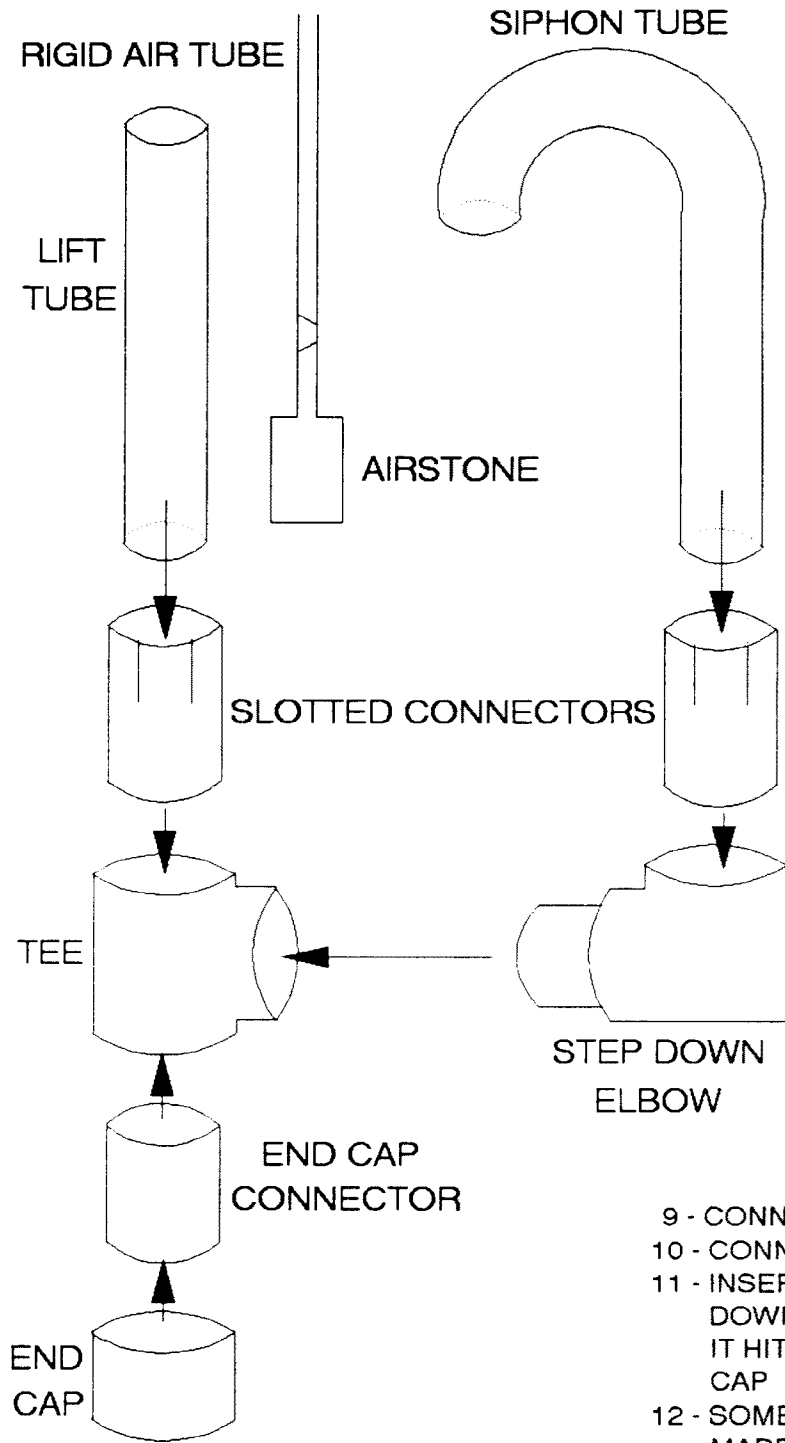
If all conditions seem optimal, but spawning activity decreases, I have found that removing the plants and fish, cleaning the bowl and returning everything back to the

bowl will stimulate renewed interest in spawning. You will also be surprised at the number of baby, half grown and new adult fish you will find once the plants are removed. All young fish except those not eating brine shrimp are removed from the bowl and placed in the grow out tank. The first time I did this, I found about six more adult fish than I started with, about six more half grown and about two dozen baby fish. I figured that the

population density became so great that it inhibited spawning. Regardless if it needs it or not, I clean the bowl every three to six months. It will give a good indication of the health of the fish as well as spawning activity. If after a year spawning stops or is minimal, it may be time to put the old fish out to pasture and replace the spawning group with younger, more vigorous individuals. These fish generally live for only a year or two, so regular replacement of older fish with younger fish will maintain spawning activity at a high level.



**FIGURE 2**  
SIPHON UNIT PARTS AND ASSEMBLY



**MATERIALS**  
(FROM PET SHOP)

- 2 - 3/4" O.D. SIPHON TUBES
- 1 - 6" LENGTH 3/4" LIFT TUBE
- 1 - 10" PIECE RIGID AIR TUBE

(FROM HARDWARE STORE)

- 1 - 1' LENGTH 3/4" CPVC PIPE
- 1 - 3/4" CPVC TEE
- 1 - 3/4" CPVC STEP DOWN ELBOW
- 1 - 3/4" CPVC END CAP

**ASSEMBLY**

- 1 - CUT OFF TWO 1 1/2" PIECES & ONE 1" PIECE FROM CPVC
- 2 - SAW TWO SLOTS 1" DOWN IN THE 1 1/2" PIECES
- 3 - INSERT THE 1 1/2" SLOTTED CONNECTORS IN THE TEE & STEP DOWN ELBOW
- 4 - INSERT SIPHON TUBE (LONG END) INTO THE CONNECTOR ON THE ELBOW
- 5 - JOIN ELBOW & TEE
- 6 - PUSH THE LIFT TUBE INTO THE CONNECTOR ON THE TEE
- 7 - PUSH THE 1" CONNECTOR IN THE BOTTOM OF THE TEE
- 8 - PUSH THE END CAP ONTO THE CONNECTOR
- 9 - CONNECT AIR STONE TO RIGID TUBING
- 10 - CONNECT TO AIR PUMP
- 11 - INSERT THE AIR STONE ASSEMBLY DOWN THROUGH THE LIFT TUBE UNTIL IT HITS THE BOTTOM OF THE END CAP
- 12 - SOME ADJUSTMENTS MAY NEED TO BE MADE DEPENDING ON TANK SHAPE