"FEEDING TINY FRY" SWAM, Jan/Feb 1985

by Chase Klinesteker

Newly hatched Rainbow fry

Since Lyle Marshall asked for an article on feeding fry too small to eat baby brine shrimp, I thought that I would put in my 2 cents worth. I have probably had failures numbering well over one hundred for this reason alone (I won't talk about the many other reasons why spawns have not survived for me). My ratio of attempts to successes is about five to one for egg laying fish in general. So, taking the advice of this article may be like asking a .200 baseball hitter to instruct you in batting techniques, but here goes anyway.

THE PROBLEM

The biggest enemy of tiny fry is pollution and bacteria in the water. It seems they both go hand-in-hand. Organic debris particles and molecules are slowly broken down by bacteria. Decaying plant leaves and fish wastes are good examples of organic debris. In a normal aquarium that is not overcrowded or overfed, the bacteria grow in numbers. But, just as quickly, tiny single celled water animals (infusoria) reproduce and consume the excess bacteria, not allowing them to overpopulate, consume oxygen, and produce excess wastes. It is the infusoria that are excellent food for the tiny fry, whose mouths are so small that they can't consume newly hatched brine shrimp. This may be true for a few days to 2 weeks for some fry. The real dilemma in culturing infusoria is that their food (bacteria) is deadly to the fry. Getting a good infusoria culture

to its' peak with maximum populations of infusoria and minimum populations of their food (bacteria) is a challenge I have been unable to master consistently. I submit that many failures in raising tiny fry to the brine shrimp stage result from the addition of bacteria-heavy cultures, especially if it is overfed.

NATURAL APPROACH

One approach is to use Nature---with a little help. Instead of using a separate infusoria culture, grow them in the fry tank. We know that heavy aeration and filtration will stop infusoria and bacteria from growing much in an aquarium. Yet by slowing down filtration and aeration to minimal, we can encourage a natural biological balance of bacteria breaking down waste and infusoria thriving on the bacteria. In a tank with live plants and a moderate amount of waste, infusoria will blossom and be available to feed tiny fry if all the bigger fish are removed. If the tank is too clean, a small amount of mulm or sponge filter squeezings added will begin infusoria growth. Wait a day or two for the culture to be established. Infusoria cannot be seen by the naked eye unless a light is shined from behind showing tiny specks moving in the water. A larger tank (10-20 gallons) is best and will support more infusoria, and these tiny fry usually don't eat that much.

The fry are introduced immediately after they become free-swimming. Most fry seem to be fairly tolerant of water chemistry changes if they are done over a period of hours. The live plants will supply enough food for a small spawn for 2-3 days.

SUPPLEMENTAL FEEDING

For larger spawns or longer times, you will need to add nutrients for the culture. This can be done with Liquifry Egg Laying Formula in a tube to use sparingly as a supplement. Use only a drop or 2 two or three times a day, but not enough to see any cloudiness in the water. Swirl it around and have light aeration to keep the water gently circulating. As the fry get several days older, I may add a very small pinch of staple flake food that has been ground to a very fine dust with a mortar and pestle. Some fry will take this as food. For others, it is the organic "waste" that encourages infusoria growth. In 3-5 days, most species with tiny fry will take newly hatched brine shrimp although some, like Badis Badis and some rainbows will take 1 ½ weeks or more before they accept baby brine shrimp. To check to see if the fry will take baby brine, add 1 drop of the shrimp to the tank, stir it around, and wait 10 minutes. Then check with a flashlight for tiny orange tummies. If the fry are not ready, you have not added much to pollute the tank, and you can try again in 24 hours.

This is by no means a 100% successful method, but it has helped me to succeed with a number of difficult species. Good luck with your tiny fry. It's a great feeling to get a tank full of fish from a bunch of tiny slivers you can hardly see that would fit in a couple drops of water!