

Incubating and Hatching Annual Killifish Eggs



Incubation In Peat. I pack eggs for shipment the same way I do for storage, so the simplest incubation method is to just leave them in the zip bag as received. If considerable moisture accumulates in the bag, open it for a day and let it dry a bit. Then reseal and store in a dark place at temperatures between 70 and 80 degrees Fahrenheit. Likewise, if the peat appears to drying out excessively, a quick spray of clean water through a mister will prevent desiccation.

When to dunk 'em. The bag label includes a suggested incubation time, and for many species one can Google© up all sorts of range suggestions. It's important to realize that development is greatly affected by things like temperature and humidity, so each recommendation can be correct for that author's environment, but far afield from yours. So mark that suggested hatch date on the calendar, but at any point during the incubation period, feel free to poke around the peat and look for eggs. Killie eggs can be difficult to spot, as some are very tiny and the fine peat clings to them, but with the help of a lighted magnifier, most people can distinguish at least a few. In the early stages, eggs are clear and shiny; as they mature, they darken and lose some of their sheen. As they develop, eye spots become visible and as they near hatch time, you can see the eyes of the fry, complete with golden iris.

Some Notho breeders mist the eggs and reseal their bags about 3 weeks before the intended hatch date. The increase in moisture is thought to kick start resting eggs into their next stage of development.

When eggs appear ready or the calendar date arrives, it's time to attempt the **first wetting**. I pour the peat/egg mix in a plastic shoe box, and add a quart of water from a healthy aquarium. (Some breeders recommend tank water that has been refrigerated, and that may be useful for certain species.) If there are clumps in the peat, they should be broken up and the peat swirled a bit so it soaks up water and sinks.

Sometimes fry will start popping out in a few minutes, but more often I first see a few the next morning. Fry, too, can be difficult to spot in the shoe box until one develops an eye for them. I find that shining a strong light through the side of the clear box while viewing from above make fry more visible, and gently lifting one end of the box gets fry moving in odd directions and becoming more noticeable. I don't usually see the "popcorn" hatches one can find in online videos, where it seems like all the fry burst forth within a few minutes of getting wet. Sometimes everybody hatches in an hour, but more often it's days or longer.

After 72 hours, I use a turkey baster and some mild profanity to remove whatever fry have hatched to be reared in another container, then pour the peat within any remaining eggs through a fine mesh net, squeeze it dry, and bag it right back up. In addition to the

original sticker, I add one that tells me what date it was wet and how many fry hatched at that time. I return the bag to storage, and allow more time for development.

For *Nothos* and long-incubation South American annuals. I try a **second wetting** about 4 weeks later, or for short-term annuals I wait only 2-3 weeks. Part of an Annual's survival strategy involves delayed hatching for some eggs, in case the rain dries up after the initial batch hatched. For some *Nothos* like *rachovii*, I often get only a few fry on the first wetting, then many dozens on the second. If there appear to still be eggs in the peat, the process can be repeated for a 3rd and 4th wetting as well.

If after multiple wettings there are still visible eyed-up eggs, I sometimes resort to **Force-Hatching**. Three things are known to wake up resting eggs: carbon dioxide, agitation and warmth. If I want to apply all three, I put the egg/peat/water in a plastic bag, blow CO2 into the bag, tie it shut, shake the dickens out of it for 30 seconds, then place the bag on a fluorescent fish tank light for 10 minutes. I then return the mixture to the plastic shoe box.

It is worth noting at this point that sometimes eggs do not survive the rigors of shipping and storage, and no matter how we handle them we sometimes suffer inexplicable losses. A bag of 25 eggs might yield anywhere from zero, to a dozen, to even 20 fry. I do offer a free replacement shipment if you get a zero or meager hatch, so feel free to contact me after you've immersed the eggs several times and are seeing no fry or eggs. Best of Luck....

