

Tadpoles are Extraordinary Creatures

The trough across the highway from the house no longer functions for livestock purposes but does hold when it rains. Because of the threat of West Nile virus, I have been cautious of any stagnant water. I had noticed several different kinds of bugs in the shallow holdings, but no mosquito larvae. After another week or so I thought I should check again and found it was teeming with tadpoles in different stages of development. By this time the water was nearly gone so I hauled a couple of 5 gallon buckets full to replenish what had evaporated and hoped it would soon rain to keep enough water for the tadpoles to develop. Then I decided to also refresh my knowledge of the lifecycle of frogs.

Tadpoles are extraordinary creatures, and go through a metamorphosis that never loses its magic. Different frog varieties have different reproductive methods. Most species, however, start life as tadpoles and grow into adult frogs. Many people find this process fascinating to watch and raise tadpoles in captivity so they can watch the tadpole grow and change. It can take from 11 to 16 weeks for a tadpole to fully mature into a frog, depending on the frog species.

Before they are tadpoles, baby frogs are eggs. Frogs and toads tend to lay many, many eggs because there are lots of hazards between fertilization and full grown frogness! The lucky ones that actually manage to hatch still start out on a journey with many perils—including, but not limited to, being eaten by ducks, fish and insects.

Tadpoles emerge from the fertilized eggs anywhere from three to 25 days after fertilization. To stay safely hidden from predators, a newborn tadpole immediately attaches itself to a plant in the water. At this stage, the tadpole is very small and looks like a head with a long tail attached to it. The newborn feeds on tiny algae plants that are drifting through the water. The tadpole breathes using gills and cannot leave the water at this stage of development.

It does not take long before tadpoles need to eat more food than what floats by the plant they are attached to. At about six weeks old, tadpole's tails become longer so that they can more easily swim through the water to find food. At this point, the tadpole will begin to grow back legs, which are quickly followed by front legs. Eyelids and thicker skin also form. The tadpole's body starts to slowly absorb the gills. After the legs are fully developed, the tadpole's longer tail will shrink and eventually be absorbed into the body.

At birth, a tadpole is essentially a head with eyes and a tail. Many internal changes must occur before a tadpole is ready to be a land dwelling frog. As a tadpole grows, it will develop bones. Teeth and the long tongue frogs are known for form while a tadpole is transforming into a frog. The tadpole must also grow some new internal organs, the most important of which are the lungs. Unlike tadpoles, adult frogs live on land rather than in the water, making it necessary to trade gills for lungs.

Once metamorphosis is complete, a tadpole is considered a froglet. Froglets look like miniature versions of adult frogs with small, stubby tails. Once tadpoles have become froglets, they can start eating insects along with plants, and yes, they are good at mosquito control. Froglets must remain in the water until they become full-grown frogs. When all of the necessary changes and adaptations have been made, what was once a tadpole hops onto land as a fully formed adult frog. The mature frog will occasionally swim through water but will spend most of its time on land, feeding on insects. Frogs produce a wide range of vocalizations, particularly in their breeding season and exhibit many different kinds of complex behaviors to attract mates, to fend off predators and to generally survive. When mating season comes around again, the frog will

find a mate and lay or fertilize another batch of tadpole producing eggs and start the process all over again!

Go outside & play and don't forget to check those waterholes for all the fascinating critters found there!