Frogs

by

*Eyes Right*

**Springfield, VA –** There is a light coating of ice on our pond today, as the weather has been unseasonably cold so far this December. In the pond are perhaps 40 small goldfish and a few frogs. It is challenging to obtain a firm count on either species even when I drain the pond for cleaning every other year. Several of the fish are over or under counted as they are scooped out, and most of the frogs simply jump out on their own into the azaleas at the edges before I can net them in the murky water.

Frogs are amphibians. Unlike many other amphibians, as adults, they do not have tails. Apparently, they have been around on Earth for at least the past 250 million years. In our pond we have both smooth skinned, green frogs and their rather warty cousins, toads. Actually, young frogs (tadpoles) do have tails but soon metamorphose into adults while somehow discarding that tail. This change process occurs rapidly, often within 24 hours, except that the tail hangs around (so to speak) for a few additional days while the legs are developing to allow them to swim. The frogs in our pond are carnivorous; they feast on insects and any other small invertebrates they can capture with their mouths or tongues. They are excellent helpers in controlling mosquitoes.

I have often wondered how frogs survive winter under the ice in our pond. I had been told that they simply find a home in the muck (decaying vegetable material) in the bottom of the pond and “sleep” away the winter. It turns out that frogs need more oxygen than available while buried in muck. So, they mostly lie on top of the muck and even swim about occasionally. Our frogs are obviously not breathing through their lungs while hibernating underwater, so how do they survive? CR!! (Cutaneous respiration)

CR means that the frogs have a second means of obtaining oxygen and discharging carbon dioxide. They do this *through their skin*. Their heart rate slows and the frogs “breathe” by absorbing oxygen from the water and also expelling the carbon dioxide. They can do this because their skin is very thin and porous with a large number of blood vessels. The oxygen in the water diffuses through this thin membraned skin and is absorbed in the frog’s blood vessels.

I have some serious frog guilt issues. As a young teen on our farm in Kentucky, I spent many a summer night stealthily sneaking through the woods with my buddy, Billy Blenke (pronounced Blenky). We carried a flashlight in one hand and a long bamboo pole with a gig on the end of it in our other hand. The gig is basically a spear with sharp prongs (usually three). Our target was nearby farmers’ cow ponds which had large numbers of tasty frogs croaking away the night.

Once Blenke and I reached a pond, we would use the flashlight to find a fat frog croaking in the weeds on the edge of the pond. As we quietly approached our prey, one of us would shine the flashlight in the frog’s eyes causing it to essentially freeze in place. The other of us would then carefully aim the gig at the unsuspecting frog before rapidly driving the gig into the frog downward into the mud. We would then jubilantly yank the frog out of the mud, pull it off the gig, then toss it into our sack to take home for some fine frog leg eating the next night.

Our adventures were not without risk. Most of our fellow Kentucky farmers were not happy about poachers such as us and all – all – had junk yard dogs which would often signal our presence on their property by barking like hell. Upon hearing this, we would quickly retreat into the woods and take off for the next farm. The dogs were generally not the threat, because they were mostly tied up. The problem was shotguns. On several occasions angry farmers shot in our direction. Since it was total darkness, they could not see us, much less hit us, but hearing a gun fired in your general direction will change one’s priorities.

Now that I have my own pond and its resident frogs, I feel protective of these creatures. I cannot imagine eating them…they are our pets. And I do have my shotgun at the ready.

I thought you might like to know.

E-R