Amphibians and Reptiles

With the demise of so many ponds in the agricultural countryside during the last century, garden ponds have become important havens for our native amphibians. **Common Frogs** breed in even the smallest of ponds providing there is enough water depth. I have even seen frogs spawning in an old discarded plastic washing up bowl filled with rainwater. One of the first signs of spring in late February or March is the activity of spawning frogs, when stiff winds still ruffle the water surface and an uncertain sun glints wanly down to provide a slight increase in temperature. Better still are mild wet evenings when numbers of frogs in breeding 'balls' can make the dark water churn with frenzied life. Males always arrive first at these breeding ponds from their winter quarters, which may be the pond itself or nearby ditches or even dry land, and they can be heard croaking in chorus. They make this sound by closing the mouth and nostrils and gulping air backwards and forwards over the vocal cords. The mating calls are further amplified by distension of the throat pouch. At mating, large masses of spawn may be laid and these can always be told apart from toad spawn as they are in grapefruit-sized clumps, unlike the toad's strings of spawn wrapped round water plants. The skin colour of frogs can vary widely, from pale greenish-grey, through bright yellow, to a dark olive-coloured brown marked with spots, blotches or marbling in black brown, or red. This can be darkened or lightened, depending on ambient temperature and humidity, by the contraction or spreading of pigment cells beneath the frog's skin.

Most garden ponds in the village probably harbour frogs, although residents may not always be aware of this, especially since frogs are only obviously visible for short periods in the spring and summer and quickly disappear beneath the surface at the approach of a human or animal. The other clue is the finding of spawn and later tadpoles. These are algae feeders initially but later become carnivorous, as witnessed by Walker's book : *'Tadpoles late in development 1876, cluster round decaying animal and vegetable substances (such) as a dead bird or a fungus thrown into the pond, or a dead hedgehog as noticed May 1877'.*

Only a few of the tiny dark frogs seen hopping around the pond margins in late summer survive to adulthood, as they fall victim to a host of predators. People can assist in mid-summer by taking care with grass cutting immediately adjacent to garden ponds and by leaving a good part of the pond margin with shelter and refuges in the form of dense vegetation and a few rocks or log piles.

Much slower-moving, with a walking or running, rather than hopping gait, the **Common Toad** is our other familiar garden amphibian. With a warty, rougher skin, unlike the frog's smooth one, toads spend a large part of the year in damp, dark hiding places until time for the spring migration, when the animals can cover considerable distances to the breeding ponds. The famous toad migration at Madingley to the large pond in the grounds of Madingley Hall is one of the largest movements of toads in the country and the operation there by numerous volunteers to reduce the previous high incidence of road deaths of the migrating animals has been highly successful. Here in Dry Drayton, toad movements are on a much smaller scale, but each spring a few toad corpses are picked up on the back road to Madingley just past the churchyard. Again, gardens are important sanctuaries for the survival of toads, whose diet consists of worms, snails, slugs, beetles, ants and other insects, which may indirectly be of benefit to the gardener. Toad tadpoles wriggle free from their eggs in the spawn strings after about two or three weeks. At first they feed only on algae, later progressing to animal food. They are poisonous to newts and fish and therefore escape being eaten. When they ultimately reach their adult shape, the toadlets leave the water. During summer, toads feed in the same place each night for maybe weeks at a time, unless extreme weather conditions prevent this, before moving on to find a new feeding place.

Two of our three native newt species are present in the village - the **Common** or **Smooth Newt** and the **Great Crested** or **Warty Newt**. In the breeding season, male Smooth Newts also have a small breeding crest along the length of the back and are handsomely marked on the underside with dark spots and some fiery red colouration. Females are drabber and brown in colour. On average, Smooth Newts are about 8 cm long, being smaller in size than the Great Crested Newt, which is over 10 cm in adults. The peak of Smooth Newt records is in April and

May when they are most obvious in their breeding displays in ponds. Of 1115 Smooth Newt records where clear habitat information was given in the 1995 Atlas of Amphibians and Reptiles in Britain, 23% were in gardens. The smaller garden pond, including more recently dug ponds, can harbour Smooth Newts, whereas the Great Crested Newt prefers older-established, larger and deeper ponds.

As for toads, there is also evidence for a limited migration of Smooth Newts in spring, probably to the pond on the Park. This normally happens after dark, especially on damp and mild nights. Smooth newts have a wonderful courtship dance in water, with complex waving and lashing movements of the male's tail, swimming just ahead of the female, until mating takes place. The male deposits a packet of sperm (spermatophore) on the bottom of the pond, over which he manoeuvres the female until she can take this into her cloaca. The sperm is stored within the female's body until her eggs are ripe for fertilisation. Between 100-300 eggs are laid, each wrapped individually in an underwater leaf to conceal it from predators. Newt tadpoles have feathery, ruff-like external gills; their hind limbs develop after about six weeks and metamorphosis is complete in 10 weeks. Dragonfly and diving beetle larvae are voracious predators on newt tadpoles and take a heavy toll. Although some later-hatching tadpoles have to overwinter in the pond, aquatic development resuming the following spring, adult Smooth Newts otherwise leave the pond in late summer to seek cover under stones or logs.

Male **Great Crested Newts** in breeding colours are a magnificent sight. Dark wavy crests run along the back and their bellies are a bright orange, spotted with black. Because of the unique patterning, they can be precisely identified on an individual basis. Great Crested Newts have been around more or less in their present form for more than 20 million years. They are now fully protected under the Wildlife and Countryside Act and handling or disturbance of the newts requires a licence from English Nature. They have probably been established in one or two of the older village ponds for a very long time. Walker mentions this species, which he confusingly called the Common Newt, although rather surprisingly, did not list the Smooth Newt. Great Crested Newts spend at least half of each year on land, entering the water during late March or early April and leaving again any time after mid-July. These movements are partly affected by weather, since they will not occur under very cold or dry conditions. Mass immigration of newts into one pond in Leicestershire occurred during a sudden rise in temperature to 15ºC, following two months at or below 2ºC. Another important feature is that newly metamorphosed adult Great Crested Newts will not return to water until they are sexually mature, around four years later. Care not only of ponds harbouring this newt species, but also care of the surrounding land where they occur are equally important. The Leicestershire study also found three Great Crested Newts in mild mid-winter weather at 500 metres and 1.1 km from the home pond, all in excellent physical condition, so it is clear that these amphibians can range sizeable distances from water.

Of our reptiles, the **Common Lizard** may still be present here and the best places to search for it would be in dry warm habitats such as old garden walls or rockeries in summer. There is only one definite record, from the Coach House in the village, since 1993. The species is however, easily overlooked and is present in scattered localities in Cambridgeshire.

Our only other reptile in the parish is the **Grass Snake**. This is easily identified by its bright yellow collar contrasting with its dark greyish olive-green, black-patterned body. Fortunately we are more tolerant of snakes today than in Walker's time : *'Two snakes 3 ft and 2½ ft in length respectively killed in March in the Icehouse Spinney. One 2½ ft in length in the frames* (presumably cold frames) *on August 7th'.*

I have received very occasional records of Grass Snakes from ponds and old damp grassland sites in the village. Two young grass snakes were seen in a Pettitts Close garden in October 1999, which is evidence of probable nearby breeding. It would be worth looking out for the Grass Snake basking in spring at sites near water and also considering likely egg-laying sites in July and August, particularly in old compost or manure heaps, where the warmth from the decaying material assists egg development. Snakes are excellent swimmers and take newts and frogs. A note in Walker tells us : *'Common snake seen swimming in pond at bottom of lawn, also in that of Three Corners'*. A Grass Snake can sustain itself on one frog every two or three days, or even fast for periods of a week, without obvious ill effect. They are also known to climb

trees occasionally in search of bird chicks or eggs. Usually Grass Snakes are only seen slipping rapidly into the undergrowth or water when disturbed by humans but when faced with other would-be animal predators they can feign death - rolling on their side or back, jaws agape and with tongue hanging out. Whether this fools the hedgehog or badger is another matter !