

KEEPING AND BREEDING THE EUROPEAN GREEN TOAD (*BUFO VIRIDIS*)

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INTRODUCTION

The three Green Toads I originally obtained several years ago shared an (unheated) greenhouse with three pairs of Edible Frogs (*Rana esculenta*), two pairs of Common Toads (*Bufo bufo*) and a pair of Green Lizards (*Lacerta viridis*). Last year I purchased three more male Green Toads and another female, so I now have four males and three females of this species.

The floor covering of the greenhouse consisted of a mixture of clay, sand and peat in which various rockery plants and ferns were planted to provide cover for the inmates and for decorative effect. Rocks, pieces of cork bark and other bark were also placed in various positions as hiding and basking places for the toads and lizards. The plants grew and spread among the rocks producing a pleasing overall appearance. A small area of bare soil was left into which the toads could burrow. This proved very popular with the Green Toads which would bury themselves for long periods, with only their eyes and nostrils exposed. I have found that Green Toads, unlike many other amphibians, tend to avoid very thick, dense vegetation.

In one corner of the greenhouse, a moulded fibreglass tank was sunk, the dimensions of which were 75cm x 45cm. It was 15cm at its deepest, one end containing a shallow ledge about 6cm deep. More rocks were placed around the perimeter of the pond in order to conceal the rim, and I planted some marginal plants such as Japanese Striped Rush (*Acorus calamus variegatus*) and Water Forget-me-not (*Myosotis palustris*) in pots at the "shallow end" of the pond.

GENERAL CARE

Green Toads inhabit the warmer regions of Europe and Asia, those usually offered for sale by dealers originating from countries bordering the Mediterranean, where winters are of much shorter duration than those experienced in the U.K. I would therefore hesitate to recommend over-wintering them in an open air outdoor vivarium, particularly if situated in Northern England or Scotland.

Green Toads can be over-wintered far more successfully if allowed to hibernate naturally in a greenhouse or cold frame. I have over-wintered all my own Green Toads without any losses in such accommodation for several years, including the severe winter of 1978-79. It is, of course, essential to allow them to hibernate if an attempt is to be made at breeding them. If the above points are borne in mind, the Green Toad is an excellent inmate for a "community" vivarium, being hardy, long-lived and neither aggressive towards other inmates nor unduly timid.

Feeding presents no problems; Green Toads will accept anything that moves and is small enough to swallow. Mine are fed on as varied a diet as possible, which includes earthworms, crickets, leatherjackets, slugs, moths, caterpillars and mealworms (by far their favourite food).

BREEDING

I could never induce my Green Toads to spawn in the set-up mentioned above, and one reason was probably the small size of the pond. However, earlier this year we moved house, and on the evening of 13th June all my reptiles and amphibians were moved to a bigger greenhouse (260cm x 260cm) at the new house. The layout of this greenhouse was along similar lines to those of the old one, but the pond provided was much larger and deeper. It consisted of plastic sheeting 155cm x 95cm, and was 60cm at its deepest, having a

shallow margin one end about 5 cm deep, sloping gently to the deeper end. I had filled the pond with ordinary tap-water a week previously.

The weather the following day was appreciably warmer, and during the early evening my attention was directed to a strange melodic "trill" which at first I took to be the call of a bird, possibly a warbler. On closer investigation I found the sound was emanating from the direction of the greenhouse, and on approaching it I could see the largest of the male Green Toads sitting, half submerged in the water at the margin of the pond calling vigorously. The note produced lasted for about five or six seconds, being repeated after a pause of about the same duration. It continued calling throughout the night and early morning of the next day.

Later that morning it was attempting amplexus with one of the females in the pond. The female however, seemingly bored with these attentions, left the pond with the male still attached and proceeded to wander around, walking into as many obstacles as possible apparently attempting to dislodge the stubbornly-resisting male. I did not have the opportunity to observe them again until the early evening when the pair were back in the pond and still in amplexus. The other three males were also in the pond but were showing no signs of sexual behaviour, merely sitting passively at the water's edge. These three are not yet fully grown however, and may not be sexually mature as their nuptial pads are not very conspicuous yet.

When I entered the greenhouse later in the evening (about 9.00 p.m.) the pair had separated and I was delighted to find several strings of spawn, wound around the submerged water plants (Canadian Pondweed and Hornwort). I removed all the spawn I could find and placed it in a 90cm x 38cm aquarium tank heated to around 75°F and placed so as to receive maximum sunlight to encourage a good growth of algae. A layer of gravel had been placed on the floor of the tank.

REARING THE TADPOLES

I subsequently found that providing heating for the tadpoles was unnecessary since several dozen were later discovered swimming around in the greenhouse pond and these were growing well. The spawn in the heated tank took about three days to hatch and within another two days the tadpoles were free-swimming, feeding actively on the algae growing on the sides and bottom of the tank. I soon found it necessary to drastically reduce the many hundreds of tadpoles in this tank, the surplus being removed to alternative accommodation (in the form of old kitchen sinks). In addition to the naturally growing algae, I supplemented the tadpoles' diet with goldfish flake-food and pond-pellets; they grew rapidly and only two weeks after hatching, those tadpoles in the heated tank had visible rear legs.

The main difficulties will, no doubt, arise when metamorphosis is complete and I am faced with the prospect of finding enough aphids and other tiny insects on which to feed the toadlets. I will obviously attempt to hand-rear only a small number and will report on my success (or otherwise) in a later issue of the Bulletin.

CONCLUSION

It would appear that the breeding of my Green Toads was stimulated by one (or a combination of) the following factors:—

- a) a change of environment
 - b) the provision of a more suitable pond
 - c) a fairly rapid change in weather conditions.
- It is an established fact that goldfish and other pond-fish can often be induced to spawn after being transferred from one pond to another. They will also often commence spawning after a sudden change in the weather.

I would welcome any comments from other members on their own observations on amphibian breeding successes particularly as a result of any of the above factors.