

## OBSERVATIONS ON THE BREEDING OF A MARSUPIAL FROG, *GASTROTHECA MARSUPIATA*

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In early January 1985 I obtained two tropical frogs complete with vivarium through an advertisement in the local paper. The previous owner had housed the frogs in her kitchen, the background heat of which provided the animals with an adequate living temperature. This was supplemented each evening by a 150w spotlight mounted inside the 460mm x 300mm x 300mm vivarium. The frogs had been sprayed twice daily with water and a constant supply of crickets had been provided. The owner commented that one of the animals had been heard calling on several occasions and that an attempted mating had been observed. She could not provide any details regarding the identification of the frogs, only that she had purchased them as Brazilian Tree Frogs.

The animal presumed to be the female was 60mm from nose to vent and some 10mm larger than the male. Both frogs had an overall buff background colour with two bright green bands running from vent to head. The bands on the male were wider than the female's. The male also had more green on the snout, head and flanks than did the female. The flanks of the male were speckled green while the female had an irregular dark green stripe on her flanks. The male possessed a throat sack of considerable size which inflated when he called.

When the female produced young I then realised that the animals were in fact a species of South American marsupial frog and I identified them as *Gastrotheca marsupiata* from Ecuador and Peru.

I installed the frogs in their vivarium which was sited, with my collection of amphibians and fish, in a space heated room. As the previous owner had observed an attempted mating I tried to follow a similar routine to her. I did however stop using the spotlight in the vivarium for fear that the frogs might climb onto it while it was in use. The temperature was an average of 24°C in the room with a temperature drop of about 2°C at night. The frogs proved to be nocturnal and spent all day together on a piece of cork bark in the top corner of the vivarium. A constant supply of crickets was provided of which a surprisingly large number a day were consumed. Two water containers were provided, one of which the frogs could fully submerge in. Shortly after I obtained them the male was heard calling.

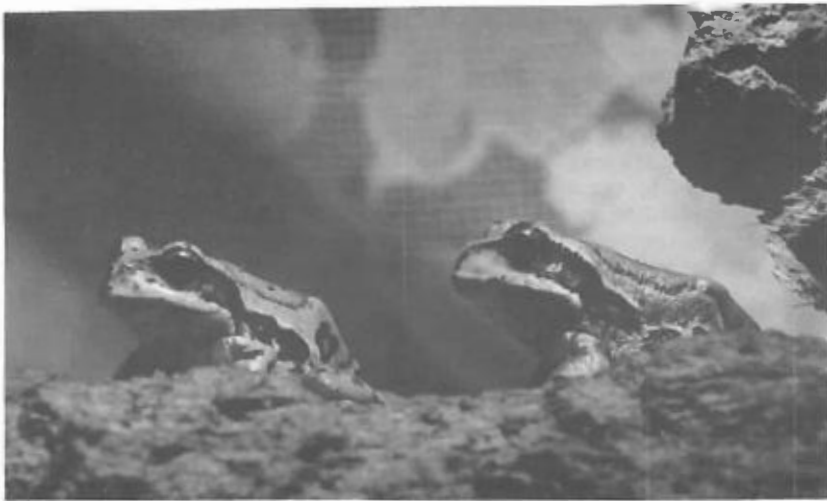
When I inspected the frogs on the morning of the 11th February 1985 the female was observed sitting in the smaller of the two water containers, a coffee jar lid, surrounded by 50+ tadpoles each of 15mm length. She was observed using her longest rear toe to empty the young out of the pouch on her back. The opening to the pouch was sited near the vent. At no time whilst I had these animals had there been any visible indication that the female had been carrying young. It may be that she was already carrying the young when I obtained her. Due to shortage of tank space the majority of tadpoles were placed in fish tanks which had recently held young fish. These tanks were situated high in the space heated building and had a temperature of 28-30°C which was higher than I would have liked. The tanks were filtered by undergravel biological filters. Unfortunately all the tadpoles in these tanks died before metamorphosing. They appeared to fill up with fluid in the body cavity. This resulted in their death.

These losses may have been due to one of the following factors, a) the high water temperature, b) the fish wastes already present in the tank water or c) the salinity of the water. One teaspoon of sodium chloride per gallon had been added to the tank water when it held fish.

Luckily I had also placed about 20 tadpoles in an aquarium, 350mm x 200mm x 200mm, containing fresh tap water which in my area is hard and alkaline. The tank was provided with light aeration and maintained at a temperature of 25°C. The tadpoles were fed with crushed lettuce, tropical fish flake food and fish fry food. All food offered was readily consumed and regular water changes had to be carried out because of the amount of waste produced. The tadpoles grew quickly and the back legs began to appear after only one week.



**Plate 1.** Adult pair of *Gastrotheca marsupiata*.  
The female is the large frog on the right.



**Plate 2.** Young *Gastrotheca marsupiata*, four months old.

After 3 weeks the back legs were well developed and some colouring on the tadpoles backs began to show. At the same time the front legs emerged complete.

On 5 March 1985 the first froglets started to climb out of the water onto a rock provided above water level. These still had a considerable amount of tail remaining. Once this had been absorbed the froglets were placed in a vivarium with a covering of peat and gravel.

Initially the young frogs were fed hatchling crickets and fruitflies but these proved rather small and a larger size of young cricket was found to be more satisfactory. Cleaned anglers maggots, first pricked with a pin, were provided when no crickets were available.

The young frogs have proved to be delicate and at four months of age only eight have been raised but these appear to be strong and healthy and are consuming large numbers of small and medium sized crickets.

A further attempt will be made to breed these frogs again in the hope of improving the survival rate among tadpoles and young frogs.

#### REFERENCES

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*Longman Illustrated Animal Encyclopedia*, (1984). Guild Publishing.