

ISSN 0260-5805

THE BRITISH
HERPETOLOGICAL SOCIETY
BULLETIN



No. 41
Autumn 1992

THE REPRODUCTION IN CAPTIVITY OF THE NATAL MIDLAND DWARF CHAMELEON, *BRADYPODION THAMNOBATES*

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INTRODUCTION

The Herpetological Association of Africa invited me to their second Symposium held in Bloemfontein, 8-11 April, 1991. I gave a slide show there and met several interesting herpetologists from South Africa. One of them was Lynn Raw, from Merivale, Natal. He invited me to his home and introduced me to a dwarf chameleon, *Bradypodion thamnobates*, described by him as a new species in 1976. When I looked at its habitat around houses and in gardens, and when I obtained information about the local climate, it appeared to me that I was dealing with a species which would be easily kept in captivity. At the locality where we were the animals were abundant, so that it was easy to collect a breeding group of 20 animals within an hour. Thanks to the help of wildlife authorities in Pietermaritzburg, Natal, I received CITES export permits. I promised to give information if I succeeded in breeding this species, which I do by writing this article.



Plate 1. – Adult female *Bradypodion thamnobates*

photo: Stephen Peltz

CLIMATIC DATA

I obtained information on the local climate from *Climatic change and variability in Southern Africa* by P.D. Tyson, University of the Witwatersrand, Johannesburg, Oxford University Press, Cape Town. The following data I extracted by locating the range of *Bradypodion thamnobates* on the climate maps by Tyson:



Plate 2. – Adult male *Bradypodion thamnobates*

photo: Bert Langerwerf



Plate 3. – Four different ages of *Bradypodion thamnobates* on one branch, from left to right: adult male; 3 months old; 5 weeks old; new born; 3 days old. photo: Bert Langerwerf

- (a) Mean annual rainfall: 100 cm
- (b) Above 80% of rainfall in summer
- (c) 120 days of recordable rain
- (d) Between 20 and 30 days with over 10mm rain
- (e) Frequency of 4-day rainy spells: 10
- (f) Days with thunder: 60
- (g) Days with hail: between 4 and 6
- (h) Days when the temperature exceeds 30°C: 30
- (i) Days when the temperature falls below 30°C: about 5.

From all this we learn that this chameleon must be able to live at temperatures above 30°C and to be able to survive days with nightfrost, when they probably hide deep in high weeds and bushy vegetation.

The climate of Alabama is characterised by abundant rainfall also, by hot summers with many days when the temperature rises above 30°C. In winter here the temperatures are comparable to those of March and April in England. Night frosts of -10°C are possible, but also days where the temperature reaches 25°C may occur. However, most days average about 15°C during the day, with more sunshine than in England.

ACCOMMODATION

The terraria in which I keep the chameleons in Alabama have a surface area of $1\frac{1}{2} \times 2\frac{1}{2}$ m. They are inset into the ground and face south. The rear third is covered by a sheltering layer of concrete, overlaid by a 30 cm depth of earth. This feature gives extra protection against excessive heat or cold. Looking at pictures of the habitat, one can easily see that this animal in nature always has the possibility of hiding in shade or weed cover. Therefore these terraria are filled with weeds and fine branches in such a way that the branches extend from beneath the concrete cover to the open, sunny $\frac{2}{3}$ of the terrarium. As the amount of weeds and branches affords plenty of living space for the chameleons, I had no problem keeping up to 2 males and 5 females in one terrarium.

The chameleons live all year round in these terraria. Only when there is a chance of nightfrost I cover them at night with old rugs. A tomato plant placed inside the terrarium is an indicator to check if it remains frost free. In January we had over 100 cm of snow.



Plate 4. – Habitat of *B. thamnobates* at Merivale, Natal, April 1991. photo: Bert Langerwerf

REPRODUCTION

At the end of April, 1991 I returned to Alabama with my breeding group of Chameleons. It was immediately clear that I was dealing with a hardy animal, as between capture in Natal and arrival in Alabama was an interval of about 10 days, yet in spite of this all the animals survived. Only one male was later lost to disease, probably caused by stress. Also some may have escaped during a spring-time tornado when flying pieces of trees destroyed the wire-mesh at night.

During 1991 the females appeared gravid but no births were noted either here or in California (Sean McKeown of Fresno Zoo, who accompanied me to Natal, also kept some of the chameleons there). I discovered the first young on March 9, 1992, when somebody from Knoxville Zoo was visiting me and we were observing the terraria. There were about 15 new-born. Later, during March, April and May of this year, all 7 females I have gave birth, producing a total of 106 young. Also, the animals kept by Sean McKeown gave birth in May.

At birth the young are 20+20mm – 21+21mm in length. The best fed and strongest females gave birth to the largest young. The largest female gave birth to 20 young (21+21mm) on 29 May.

Table 1
Chameleon births in 1992

Female	Date	Number born	
1	9.3.92	15	Note: All terraria were thoroughly searched, but it is always possible that I failed to find all young so that these figures may be slightly higher.
2	24.4.92	17	
3	2.5.92	16	
4	14.5.92	8	
5	22.5.92	16	
6	22.5.92	14	
7	29.5.92	20	

The young started to feed on fruitflies (*Drosophila*) and have been maintained in terraria of 1m³, 20-30 individuals to each terrarium. After several weeks I checked the terraria at night and removed and separated the 2 or 3 individuals which lagged behind in growth. The terraria are all covered with mesh screen and filled with twigs and weeds. The big leaves of the weeds provide shade for these small creatures. After some weeks small crickets (*Gryllus*) were added to the diet. No vitamin or mineral supplements were given as the animals were raised outside.

The growth rate is fabulous: those born in March reached adult size in June, and I expect all those born this spring will themselves breed next spring.

The adult chameleons are given a mixed diet of fruitflies, flies, crickets, and small "giant" mealworms (*Zophobas*).

ACKNOWLEDGEMENTS

I wish to express my thanks to all my South African friends, who were so helpful to me, especially Mr. O. Bourguin, Mr. R. Douglas, Mr. A. Lambiris, Mr. J. Marais and Mr. L. Raw.

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