

## MULTIPLE CLUTCH PRODUCTION IN THE BROWN HOUSE SNAKE, *LAMPROPHIS FULIGINOSUS* (BOIE) FROM A SINGLE MATING PERIOD.

By: Adam Wright, 30 Bramble Street, Stoke, Coventry, CV1 2HT, England.

*Contents: Introduction - House snakes - Adult snakes and accomodation - Mating - Eggs and young - Summary of data - References.*

\* \* \*

### INTRODUCTION

The phenomenon of double or even triple clutches of eggs being laid in a single season by certain captive snakes is well known.

House snakes regularly double clutch in captivity. Under normal circumstances, mating occurs prior to each batch of eggs being produced. Sperm retention has also been recorded. See also Steehouder (1985).

In the following account, the author describes how a female *Lamprophis fuliginosus* produced four clutches of eggs over a 12 month period from a single mating session.

### HOUSE SNAKES

The small genus *Lamprophis* comprises medium sized, smooth-scaled colubrids confined to the African continent. All are extremely powerful constrictors for their size. Several species of *Lamprophis* are confined to southern Africa, but the Brown house snake, *Lamprophis fuliginosus* has an extensive range. It may be found from South Africa northwards to Uganda, Tanzania etc. in the east, through Central Africa e.g. Congo to Ghana, Gold Coast in the west.

Taxonomically, *Lamprophis fuliginosus* has periodically been split into several species and reconsigned to a single species. It is probable that more than one species is involved in what is currently termed *Lamprophis fuliginosus*. Branch (1984) published in *Litteratura Serpentina* a detailed review of the genus *Lamprophis*; all species were depicted in colour.

### ADULT SNAKES AND ACCOMODATION

A pair of subadult *Lamprophis fuliginosus* was purchased by the author in 1988. The female measured approximately 60 cm, and was of the "typical" brown phase. The male was roughly 45 cm long and had an olive tinge to his dorsal colouration. Neither snake has strongly defined eye stripes, although these stripes are clearly visible on both specimens when the animals are freshly shed. Eye stripes tend to be more strongly defined on specimens from South Africa; it is therefore likely that the examples under discussion originate from the northern part of this animal's range.

The snakes were housed in a 60x60x60 cm vivarium. A daytime temperature gradient was in the range 25-29°C, dropping by about 6°C at night. Food was offered in the form of freshly killed mice of the appropriate size. Feeding was undertaken once every 4 to 5 days. The

snakes were very reluctant to accept this dead prey, although perseverance persuaded them to take this food. It must be said, however, that House snakes generally feed avidly on live food, but many are not keen on dead food. Brown house snakes are capable of taking large food items in relation to their size.

## MATING

Due to the author moving house, the snakes were placed in temporary accommodation in December 1988. This comprised of a vivarium 45x25x25 cm, heated to a constant 28°C and with a 24 hour photoperiod. At this stage the male measured about 55 cm; the female around 75 cm.

During routine checking on 13th February 1989, the snakes were found to be in copulation at 08.30 hours. They were still copulating at 16.30 hours, but had separated the following morning. The position in which the snakes were lying whilst copulating was unusual. Rather than the male lying stretched along the female's length, both snakes were coiled separately, with only the region around their cloaca in contact with each other.

Indeed, the author only discovered that the snakes were actually copulating when he attempted to lift the female from the vivarium, only to find that the male was also being lifted due to his coition with the female! (This mating position has also been noticed in 1990). Surprisingly, this did not seem to unduly disturb the snakes, which, as stated above, continued to copulate for at least another 8 hours.

Copulation is also believed to have occurred overnight on the 20/21st February 1989, when the paper towelling substrate was heavily soiled with what appeared to be seminal fluid on the morning of the 21st of February 1989. Following this, no further signs of mating were observed. The male was separated from the female at the end of February. No further introduction of the male to the female occurred during the period under discussion in this article.

## EGGS AND YOUNG

The female fed regularly, averaging two adult mice per week until 15th March 1989, when she refused food for the first time. She sloughed on the 29th March, after which a container of moist sphagnum moss was provided as an egg-laying site. Six eggs were laid overnight between the 4th/5th April. They measured 39-43 mm in length and 15-19 mm in width. All six eggs were badly discoloured, and despite being transferred to moist vermiculite at a constant 28°C, collapsed within 8 days.

The female resumed feeding on 8th April 1989, taking two adult mice. On June 13th she completed a pre-laying slough, producing 8 eggs in the sphagnum moss on 21st June. Egg size was in the range 36-44 mm x 21-23 mm. The eggs were transferred to moist vermiculite at 28°C for incubation. None were adhered to each other, so each egg was incubated physically separate from the rest by a gap of 2cm. The first egg split open on 30th August; all eight had hatched by 4th September. The hatchlings sloughed 9 to 10 days after emergence, and were then offered dead pinkies. Several fed readily, but some were reluctant to feed on dead prey. The newly emerged hatchlings were 25-26 cm long.

The adult female resumed her normal avid feeding pattern the day after laying this clutch, and continued to feed well until the beginning of November. She sloughed on 7th November, and produced 10 fertile eggs overnight on 16th/17th November. These again averaged approximately 40x20 mm. This time, some adherence of the eggs had occurred, and the eggs were transferred to vermiculite at 28°C as 2 singletons and a clump of 8 eggs. Over

the period 19th-23rd January all 10 eggs produced viable young averaging approximately 26 cm in length. These hatchlings sloughed 9-10 days later. Six fed immediately after shedding on dead pinkies, the other four proved reluctant feeders. These latter snakes have taken several months to enter established feeding patterns on dead prey.

In late November the adult female was transferred to a 60x45x30 cm vivarium. She had resumed feeding on 19th November, but refused again on 20th January 1990. She sloughed on January 31st, and produced 8 infertile eggs on 7th February. These were similar in size to the previously laid eggs.

In an attempt to break the pattern of egg production (and give the female a rest!) she was cooled to 15°C immediately after producing this fourth clutch. Rewarming commenced on 27th of February. This short but sudden cooling appears to have been successful.

Despite the considerable amount of energy expended by the female in producing 32 eggs over a 12 month period, the animal has remained in apparent good health throughout, and has even grown roughly 30 cm during this period. She now measures approximately 105 cm. Young House snakes are capable of rapid growth; a male hatched on 2nd September 1989 has reached roughly 52 cm by 1st July 1990.

#### SUMMARY OF DATA

1	2	3	4	5	6	7
04-04-1989	7	6	41x17	-	-	-
21-06-1989	8	8	40x22	70-75	25-26	9-10
16-11-1989	9	10	40x21	64-68	25½-26½	9-11
07-02-1990	7	8	41x19	-	-	-

#### Tabel 1.

1: day of egg laying; 2: period between pre-laying slough and laying days; 3: number of eggs; 4: egg size (mm); 5: incubation period at 28°C; 6: hatchling size (cm); 7: period between hatch and slough (days).

#### REFERENCES

Branch, W.R., 1984. The House snakes of southern Africa (genus *Lamprophis*). Vol. 4(3/4): 106-120.

Steehouder, A.M., 1985. Gestation and delayed fertilization. Vol. 5(5): 181-187.