

OBSERVATIONS ON THE SEXUAL BEHAVIOUR OF THE BOA CONSTRICTOR, *CONSTRICTOR CONSTRICTOR*, IN CAPTIVITY, WITH NOTES ON AN UNSUCCESSFUL PARTURITION

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INTRODUCTION

This is a summarised account of the sexual behaviour of a pair of *C. constrictor*, observed through the winter of 1981. There are two females and three males in the collection, but only one pair showed any signs of sexual activity, the other three specimens being rather small ($4\frac{1}{2}$ '), and probably sexually immature.

The snakes are maintained in a room with a background temperature of approximately 70°F in summer, with a gradual fall to approximately 65°F in winter. Additional warmth is provided by 75w spotlamps positioned at one end of each cage, giving a temperature gradient of around 90-75°F in summer, and 85-70°F in winter. The snakes receive 14 hours of artificial light per day, with no natural sunlight reaching the basement room. For most of the year the sexes are kept separately in cages measuring 6' x 2' x 2', only being placed together from October to February. Newspaper is used as a substrate, and cork bark is provided for hiding places.

The male ($5\frac{1}{2}$ ' approx.) was introduced to the female ($7\frac{1}{2}$ ' approx.) on 11.10.81. Initially she appeared to be very interested in him, flicking her tongue over his body for several minutes. However, this exploratory, inquisitive behaviour very quickly changed to apparent aggression, the female thrashing her tail and bobbing her head violently. At this stage physical contact with the male was avoided if possible, and he showed no interest in her. After a few hours the snakes had settled down, and would coil up together under the lamp.

On 28.11.81 the female shed her skin, and the male took an immediate interest in her, following her around the cage and exploring her body with his tongue.

On 4.12.81 the male shed his skin.

On 22.12.81 the first attempted copulation was observed. The male coiled over the female's body, attempting to stimulate her with alternate hard contraction and relaxation of his body, sliding coils slowly up and down her length in the process. On only a few occasions did the male bring his spurs into play, scratching them rapidly over the dorsal and lateral regions around the female's cloaca. However, use of the whole body in stimulation appeared to be far more common. These periods of activity lasted for several hours, generally taking place in the dark either early in the morning before the lights had been switched on, or at night after they had been turned off. The male would try to press his cloacal region into contact with the female's, but she continually resisted his efforts, and did not co-operate in any way. Additionally, the male tried to stimulate the female by pressing his chin on the top of her head, with occasional rubbing and bumping (see plate 1). This behaviour was observed very infrequently.

The first successful copulation was observed at 7.45 am on 27.12.81. The male and female were lying apart with their bodies pointing in opposite directions, joined only at the cloacal region. The male's hemipenis was just visible. The total time of copulation is unknown, but it was maintained for a further 45 minutes. Copulation was again observed on the following two evenings, and lasted for over an hour on both occasions.

Sexual activity ceased on 29.12.81. The female accepted her last meal for 102 days on 24.1.82 (she did not feed again until 6.5.82, when she took one dead rat). She resumed normal feeding habits on 30.7.82, after parturition.

By early May the female was visibly pregnant, the posterior half of her body being considerably enlarged. She spent most of May hiding under the newspaper and bark in the cage, but by early June she was making frequent appearances, basking under the spotlamp for long periods. It was observed that once her body temperature had reached a certain level, she would "shuttle" very

frequently, presumably maintaining her internal temperature within very precise limits. Variable amounts of the posterior $\frac{2}{3}$ of the body were hidden and exposed alternately, the cranial end remaining concealed for most of the time (see plate 2).

By early July she was looking distinctly pregnant. The posterior $\frac{2}{3}$ of the body was rather pear-shaped in cross-section, with the vertebral column protruding significantly above the dorsal surface. Posterior regions of the body were noticeably distended, with considerable areas of skin showing between the scales. The point of maximum width on the body was 12cm, as compared with 8cm before mating — an increase of some 50%. The anterior $\frac{1}{3}$ of the body was extremely emaciated, with a lot of folded, loose skin. Occasionally the female would be found lying on her side, and she would hardly ever coil up tightly. At this stage the males were removed, and placed in cages of their own.

On 12.7.82 very rapid breathing was observed (1 inhalation/exhalation per second approx.) at approximately half hour intervals. This was accompanied by sudden, rippling contractions over the posterior half of the body. This activity lasted about one minute and was only observed for one day.

On 20.7.82 rapid spasmodic contractions of the whole body were observed, with violent lateral compression. Some uric acid was passed, with a little clear fluid.

From 25.7.82 — 28.7.82 she was very restless, continually moving round the cage and under the newspaper.

On the morning of 29.7.82 she was equally unsettled, but now her tail was also held raised in the air for long periods of time. On returning to the cage at 8.00 pm, it was found that she had produced her young. All were still confined to their membranes, and all but one were dead. The one that was still alive died about 15 minutes after being removed from its membrane. In total 9 babies and 12 infertile ova were produced (see plate 3). Mean length of the young was 37.3cm, with a range of 26.5-42cm.

Some of the young showed considerable deformation of the vertebral column, and many had unclear markings (see plate 4). The reasons for this unsuccessful parturition are not clear, although failure to absorb available calcium has been implicated as a possible causative factor.

Any comments or suggestions from members would be welcome.



Plate 1. Male boa (top) pressing and rubbing female's head.



Plate 2. Thermo-regulation in the gravid female boa.



Plate 3. Dead neonates and infertile ova as found.

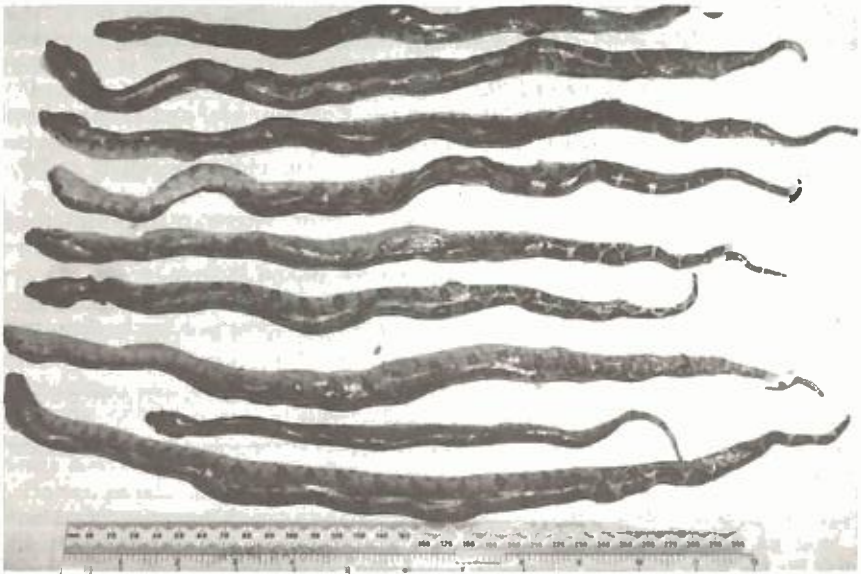


Plate 4. Neonates showing deformation of the vertebral column.