

NOTES ON BREEDING THE "MOUSE DEER" (*Tragulus kanchil*)
IN CAPTIVITY

by

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My first personal acquaintance with the Mouse Deer, Thai "Kachong", Malaysian "Belandok", occurred in Sabah in 1949, when I received, on 15 July 1949, an adult female *T. kanchil* which had previously been in captivity for about 3½ months. Unfortunately, the site of original capture could not be determined.

On 4th May, 1950, a small male was received from Lamag, on the Kinabatangan river. This young animal had the upper canines incompletely developed, but these later grew finally extruding about 5 mm. below the normal level of the upper lip. The male, however, did not during the following year and a half, attain the size of the female.

The animals were housed in an aviary 12 feet square by 6 feet high which also contained a male Argus Pheasant and a number of smaller birds. The walls of the enclosure were boarded to a height of 3 feet, the upper half formed of ½ inch wire mesh. Behind the main flight and opening fully out of it was a small covered shed 6 feet by 6 feet by 3 feet, with a lean-to roof and earthen floor. The floor of the main "flight" was well grassed, with a small Hibiscus clump in the centre.

The mouse deer shared the food of the birds, including papaya, banana, and rambutan but consistently refused pineapple. Kangkong (*Ipomoea reptans*) and other leafy greens were readily taken, as also was dried maize. Manioc (Cassava) root was only taken sparingly and then only if quite fresh.

Copulation was first noted at 10.00 a.m. 17th July, 1951, and thereafter on numerous occasions up to 28th July after which date the female refused the advances of the male.

Mating appeared to occur most regularly during the first half of the morning, i.e. up to about 10 a.m., and again on towards dusk.

Preliminary courtship was brief, the male approaching the female, nuzzling and licking her until she adopted the mating position, with the forefeet close together, the back slightly humped, the hind limbs somewhat opened and the tail elevated and away to one side. The period of coupling was short, in the cases observed seldom exceeding 2 minutes. On separation the female cleaned herself by licking and both animals resumed feeding.

The single young one, a male, was born on 10th January 1952, either during the night or early in the morning. When first seen about 7.30 a.m. the fawn was quite clean and dry and resting in a narrow "form" in the grass.

The elapsed period from observed mating to birth was thus between 177 to 166 days. Subsequent records, noted below, suggest however that these figures are too high, presumably un-observed mating occurred after 28th July 1951.

The second mating was noted on 11th January 1952, the day after the birth of the first fawn. Mating occurred periodically thereafter until 21st January 1952, and the second fawn, another male, was born on 16th June 1952, an elapsed term of 156 to 146 days.

Meantime, the first fawn had grown rapidly, approaching his father in size, but lacking the exposed canines.

The third observed mating period occurred between 17th June 1952, and 23rd June, 1952, the third fawn, a female, being born on 10th November, 1952, an elapsed term of between 146 and 140 days.

By this date the first male fawn had clearly evident canines and the second male was fairly close to adult size. The original male had not however achieved the size of the female, standing about $\frac{3}{4}$ inch less at the shoulder, with other dimensions in proportion.

The figures given in the above paragraphs suggest that the gestation period does not exceed 146 days and is probably about 140 days.

In April 1964, a pair of Mouse Deer was purchased from a dealer at the Bangkok Sunday Market. The animals were housed in a flight aviary 6 metres long, 2 metres wide and 2 metres high, together with a number of small birds.



The Bangkok fawn at 3 weeks of age

The deer fed readily on *Ipomoea*, sweet corn, small cucumbers and fruit but remained shy and retiring.

Mating was not observed, but on 1st December 1964 a young female fawn was born. Unfortunately the fawn, when two days old, fell into a steep-sided duck pool in the enclosure and was not noticed for some hours. The animal died that night, presumably from shock and immersion.

Later the adult pair was removed to a larger enclosure, 10 metres x 5 metres x 2.5 metres, free from such hazards, and settled down well, becoming much less timid, to the point where the female would allow an approach to within a few feet without moving off.

Attempted mating was observed the day after the death of the first fawn but successful coupling was not observed.

However, by early March, the female was again apparently pregnant although the second fawn was not born until 6th July 1965, 217 days after the birth of the first. It was also a female.

I have been unable to discover references in the literature to the breeding of *Tragulus kanchil*, but BLANFORD (fid. ASDELL, 1946, Patterns of Mammalian Reproduction; Comstock, N.Y. p. 329) reports that *T. meminna*, the Indian Chevrotain, produces two young, with a gestation period of 120 days.

The following notes, made during 1949-52 in Sandakan may be of interest. Similar observations have been made also on the pair in Bangkok, with the exception that the "drumming" described below, has not been recorded here.

"The normal resting position is adopted in a narrow "form" in deep grass, although the "form" is not organised nor regularly utilised. In the case of the animal presently described, about 20 sites within the confines of the enclosure were used, but only 5 with any degree of regularity. It appears that the "forms" most regularly used were those in which the overhead cover was fairly dense. When resting the animal folds the forelegs laterally alongside the chest and the tail is comfortably tucked underneath. On no occasion has the Belandok been seen to lie on its side. The head is set back to rest

between the shoulders but owing to its formation the chin and snout project forward beyond the sternum. The Belandok rises to its feet by first lifting the hind quarters and later straightening the fore limbs individually, c.f. cow, and unless nervous, each limb is luxuriously straightened before the creature moves off. *Tragulus* frequently sits, like the Jack Rabbit and Capybara, with the hind quarters in the normal resting position but the fore limbs straightened and the head and shoulders raised. In this position the head is held higher than when the animal is moving normally on all fours. From the sitting position the Belandok may rise directly c.f. horse, and usually the stretching of the limbs is omitted.

The normal method of progression is a fairly rapid trot although so delicate are the legs and feet that the Belandok always appears to be "walking on eggs". When alert in the presence of danger, the animal moves gently, nervously and slowly in a semi-crouching attitude, each foot apparently testing the ground before the body weight is allowed to rest upon it. On such occasions the head is held low, with the lower jaw almost horizontal and the whole attitude suggests a shy (which it is) animal quietly withdrawing from an area of potential danger.

In the cool of the evening, usually between about 6 p.m. and sundown (and probably later) the Belandok loves to gambol, leaping its own height into the air and careering madly around the enclosure for all the world like a 3 months lamb at play. In this careering the animal gaily leaps over any obstruction, and appears to be thoroughly enjoying the performance.

For some reason which I have yet to determine (? warning) *Tragulus* frequently indulges in a rapid drumming with the hind feet. The female hunches her back so that the four feet may be confined within a space of about $1\frac{1}{2}$ x 3 inches, and proceeds to thump vigorously on the ground with both hind feet together. The drumming is at a speed of about 8 beats in 3 seconds, the last 3 beats being rather more widely separated in time. Each bout consists of only 8 beats (rather hard to count) and from 3 to 7 bouts have been noted on different occasions. The head is held low and horizontal and the

animal looks from side to side during the performance. This drumming has not been observed in the case of the male.

The relatively long tail is rarely in evidence, being tightly tucked down between the hind limbs. It appears to be used as a warning signal, for on occasions when unwittingly I have alarmed her she leaps a few inches into the air, the tail flickers, giving a fleeting glimpse of its white undersurface and the white rump, and she runs swiftly into cover. On other occasions the flicking of the distal half of the tail appears to indicate annoyance, e.g. if she is interrupted in feeding or if I am slow in setting down the feed tray.

The only sound other than the drumming which I have heard the Belandok emit is a shrill squeaky whistle given when the two creatures meet. The note appears to be a greeting or recognition signal and does not appear to indicate antagonism."