

Hand rearing of a Stump-tailed Macaque (*Macaca arctoides*) neonate - A case study from Assam State Zoo Cum Botanical Garden

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Introduction

Among the 25-biodiversity hot spots in the world, North East India occupies a prominent place and is home to many rare and highly endangered species. For instance, out of the 15 primate species found in India Assam alone has 9. They are Slow Loris (*Nycticebus bengalensis*), Stump-tailed macaque (*Macaca arctoides*), Pig-tailed macaque (*Macaca nemestrina*), Golden langur (*Trachypithecus obscurus*), Phayre's macaque (*Trachypithecus phayrei*), Capped langur (*Trachypithecus pileatus*), Assamese macaque (*Macaca assamensis*), Rhesus macaque (*Macaca mulatta*) and Hoolock gibbon (*Hoolock hoolock*).

The Stump-tailed macaque also known as the Bear macaque is the largest and heaviest macaque species in India. It belongs to Schedule II of the Wildlife (Protection) Act, 1972. A blotched reddish face, short tail and terrestrial nature distinguishes it from the others. Found in groups of 20 to 60, it inhabits the dense evergreen and semi evergreen forest. They feed mostly on fruits, leaves, grains and roots (Menon, 2003). They breed throughout the year. A single young is born after a gestation period of 166-185 days.

Background

Assam State Zoo cum Botanical Garden (ASZBG), Guwahati is a large Zoo established in 1957 with a total area of about 175 hectares, of which the exhibit area occupies about 75 ha. At present the zoo houses two females and seven male Stump-tailed macaques.

On 3rd July 2005 one female macaque that had earlier given birth to two males gave birth to one female infant. Everything was going well till the 4th day when the animal keeper found the newborn with her mother but not in good condition. Everyone gave up the hope of her survival. Amidst this heart rending situation the macaque baby was immediately shifted to the author's residence inside the zoo campus for better care.

Handrearing: the Strategy

Hand rearing of wild neonates is a delicate matter. It requires immense patience, close observation and behavioural knowledge of the species in question. In fact there is scanty literature on this subject. In the organized Zoos and Rescue Centers there is readily available substitute milk or dietary products. But in this condition we had to resort to 'Trial and Error' method to save the unfortunate animals that are either orphaned or abandoned by their mothers for known or unknown reasons. Assam State Zoo receives such animals from time to time from different sources. As the author's family also enjoys and supports him in this task, it becomes easier to extend caring hands as well as heartfelt warmth to these helpless creatures.

Diet and Suppliments

Commercial homogenized toned milk (Amul Taza) (3% Fat and 8.5% SNF) diluting 25% water was given for the first 2

weeks. Later no dilution was made. Feeding was done through a human baby feeding bottle. Milk feeding was started at 6a.m. to 10p.m. Feeding schedule was followed as per following table:

Table 1: Feeding Schedule			
Week	Quantity	Feeding interval	No of feedings/day
1st	20ml	1hr	16 times
2nd	30ml	1.6 hrs	12 times
3rd	40ml	2hrs	8 times
4th	40ml	2hrs	8 times
5th	50ml	2.6hrs	6 times
6th	50ml	2.6hrs	6 times
7th	50ml	2.6hrs	6 times
8th	50ml	2.6hrs	6 times
9th	70ml	3hrs	5 times
10th	70ml	3hrs	5 times
11th	70ml	3hrs	5 times
12th	70ml	3hrs	5 times
13 th to 16th	70ml	-	Once

2.5ml to 5ml liquid feed supplement containing calcium, phosphorus, vitamins and protein was given twice a day throughout the period.

Results

Weight gain: On the arrival day i.e. 5th day of birth, body weight recorded was 450 gm. Thereafter weight gain recorded every fortnight Table 2.

Though at first the baby could not drink milk properly through the human baby feeding bottle it gradually adapted itself with the new device. In the first two days faeces were found to of a soft consistency; the following day morning the faeces were found to be of normal consistency. On the behavioral aspect two important things were noticed. Since beginning the baby liked to suck its left thumb most of the time and liked to hold a piece of cloth, perhaps to relieve its stress. Otherwise the macaque baby was quite active and very playful. She started taking solid food at the age of one and half months and is now totally on solid food.

Conclusion

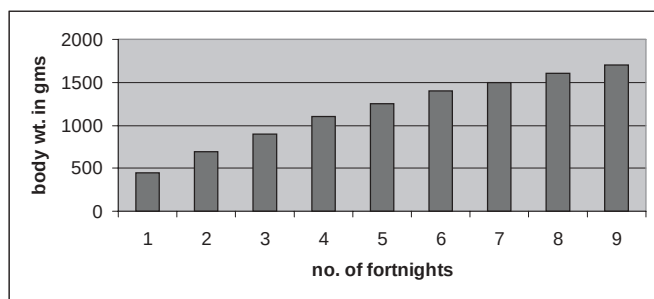
- Hand rearing is possible for Stump-tailed Macaque.
- The neonate Stump-tailed macaque was raised successfully by giving substitute milk (concentrated). In this case, Amul Taza was the brand used.
- Weight gain is directly proportional to age.
- Solid food can be tried from the age of one and a half months, which can include fresh fruits like bananas, *musambi* (*Citrus* sp.) and vegetables like cucumber, long beans. Boiled rice was strongly preferred by the macaque, but was not given regularly as it was not included in the feeding schedule for primates in ASZBG.

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Table 2. Recorded weight gain over time								
At birth (5 days)	1 st FN *	2 nd FN	3d FN	4 th FN	5 th FN	6 th FN	7 th FN	8 th FN
450 gm	700gm	900gm	1100gm	1250gm	1400gm	1500gm	1600gm	1700gm

* Fortnight

Figure 1: Increase in body weight in relation to the number of days in the stump-tailed macaque.



- Provision of external aids such as clothes, toys etc. will be helpful for rearing the young one. It is also observed that young macaques raised in isolation are under stress and turn out to be violent adults having no sense of belonging in a family group. However, this human attachment may result in permanent loss of its ability to adapt itself in the wild. But

it was the only alternative available to save the life of the STM in this case.

- Personal foster care and emotional support is extremely important especially for primate babies, as they are extremely dependant on their mothers for food and also for their survival as well as their eventual development into healthy and happy animals.

References

Menon, V. (2003). *A Field guide to Indian mammals*. DK Publishers. Delhi.

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A rare incidence of Feral Dogs chasing a female Blue Bull in the sea beach of Saurashtra

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It was 10th April, 2005, 10.45am. We were moving along the sea coast of Saurashtra (Near Kuchudi village) and approaching the beach. We were surprised on seeing the head of a blue bull in the beach (only we could see the head portion). We started thinking what the animal may do in the sea. All our imagination came to an end when we got nearer and saw the blue bull (it was a female one) fighting with three feral dogs. The blue bull was inside the water at a distance of within 2m and the feral dogs were chasing it from its front and sides, attacking the head and thigh of the animal more vigorously. The blue bull was also fighting with hissing sounds. We then chased away the dogs and came from the site to a distance of 10m to facilitate the blue bull to escape. We could not move far away as the feral dogs came again by moving far. But the blue bull didn't move from the water. We repeated the same thing two times, but without any result. Then we left the thing to go as natural and moved away.

After some times we saw the feral dogs attacking the blue bull and the fight was going on. Then the blue bull entered the seawater more deep, to a distance of about 15m and started swimming inside the sea. Many times it dipped in the water more than 2-3 minutes and we thought that it must have gone. The feral dogs were following the blue bull on the beach paralleled. About half an hour the blue bull again came near the beach, but the dogs immediately started attacking inside the water. This time one dog hangs in air biting the snout of the blue bull and the blue bull throw it away. After 5-7 minutes fight the blue bull again entered the sea deep and started swimming inside the water as it did earlier. The dogs were following it as previous. This time we also moved far away from the site letting the natural phenomena to happen as in nature. The dogs must have chased the blue bull from near by area in to the sea and they must have well experienced with this type of predation. We were remembering the sighting, but missing a shot of this rare sighting as no roll was left in our camera at that moment.

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