Behavioural Observation of Snow Leopard (*Uncia uncia*) at new off display breeding centre of Padmaja Naidu Himalayan Zoological Park, Darjeeling

S. Rai[1], A.K. Jha[2] & U. Rai[3]

Abstract

It is accepted that the captive environment will differ from the wild environment in a number of ways such as lack of life threatening challenges by predators, diseases and hunger. Hence animals show abnormal levels of behaviours in captivity either reduced activity or hyper activity. The following paper is an attempt to study the behaviour of the captive snow leopard at the newly built conservation breeding facility in a 5 hectare land at Topkeydara, 3rd mile Darjeeling.

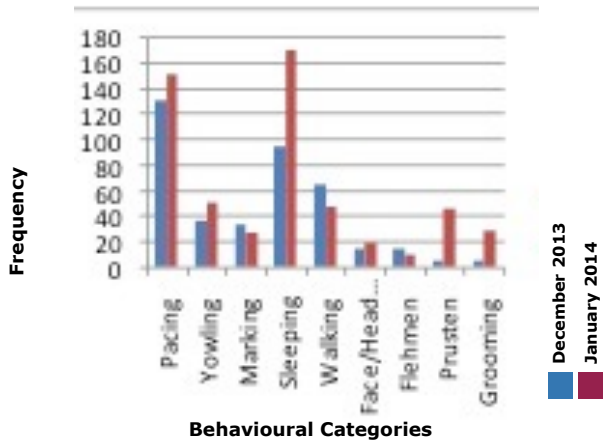
Introduction

Padmaja Naidu Himalayan Zoological Park has been working for the conservation breeding of endangered Himalayan species for the last twenty six years. In this long run efforts have been made to establish and secure larger breeding groups in an international level. Earlier an off display conservation breeding center was established within the park itself, which is still in use. The establishment of new facility is to set up larger goal to achieve the aim of conservation breeding of Snow leopards. Apart from this a pair of Snow leopard as well as Red Panda can be kept there from the very beginning and can be trained so as to enable the offspring to be more adaptable to nature. Such purpose shall be ancillary to larger goals set up by Central Zoo Authority while allowing conservation breeding programme of Snow leopard and Red Panda by the Park. The site fits the bill as it is on a sunny aspect, experiences snow fall being at an altitude of 6800-6900 feet.

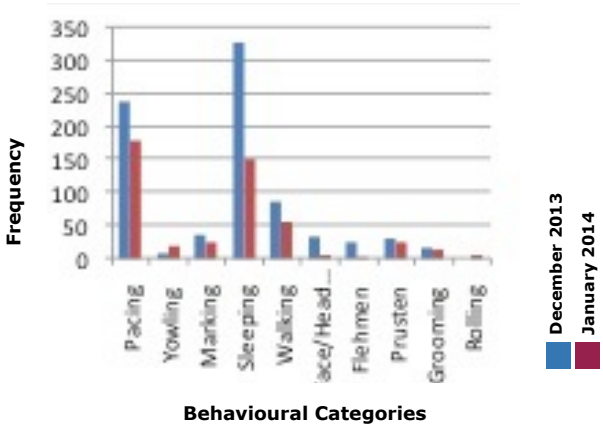
Materials and methods

Subjects of this study were four (2:2) captive born Snow leopards housed in an off display breeding center that holds two open enclosures with an area of 45×30 m. attached with six night shelters and two kraal areas. Each night cell is provided with skylight

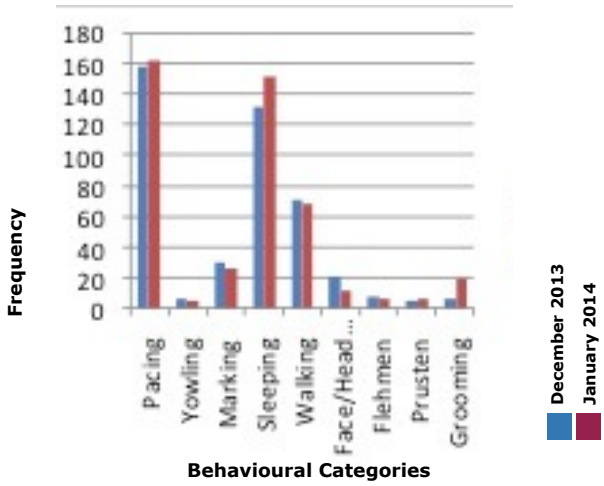
Fig. 1 Ethogram of Snow Leopards



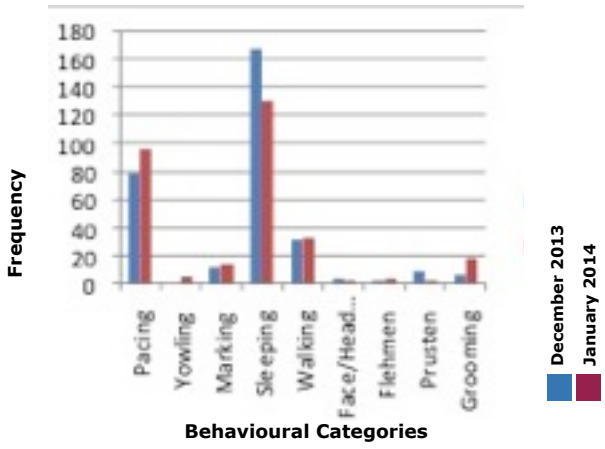
Prabhat (♂)



Ritu (♀)



Subash(♂)



Teesta(♀)

[1]Research Scholar, [2]Director and [3]Scientific Officer, Padmaja Naidu Himalayan Zoological Park, Darjeeling, West Bengal.
Email: [1]shradha_peme88@yahoo.com;
[2]alankarkjha@gmail.com and [3]Upashna_33@yahoo.co.in

Table 1: Record on mating of Snow leopard at Topkeydara

Mating pairs	Date of mating	No. of mating observed	No. of mounting observed
Prabhat × Ritu	22.01.2014-24.01.2014	65	28+
Prabhat × Ritu	09.02.2014-10.02.2014	5	32

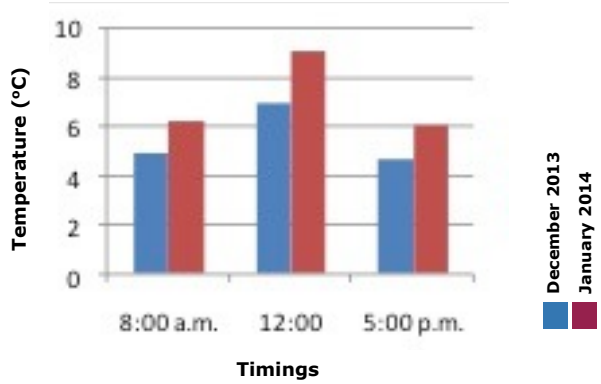


Fig 2a: Record on Temperature at Topkeydara

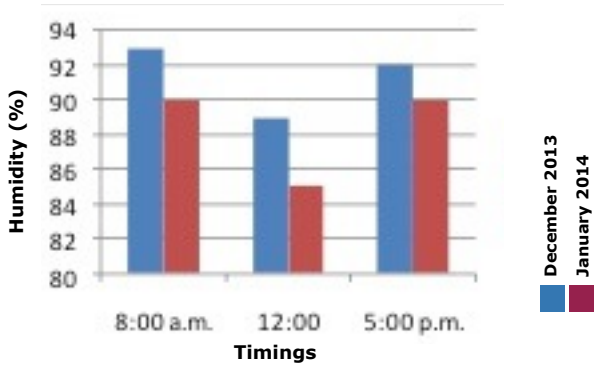


Fig 2b: Record on Humidity at Topkeydara

for adequate sunlight and ventilation for proper aeration. The night shelters are also provided with wooden platforms. The slope in the enclosures are gentle. The enclosure is made up of strong chain link. Furnishing has been provided using wooden platforms, dens at various points of the enclosure, rocky substrate to a certain point of the enclosure. Behavioural observation was done using Instantaneous sampling (Altman, 1774) method at 10 minutes interval from 0900 hrs to 1700 hrs using an ethogram and a stop watch. During the study a total of 2880 observations (N=4) i.e.720 observation in each observational period for individual snow leopard were obtained. Simultaneously temperature and humidity was also recorded as environmental factors plays a major role in the snow leopard breeding and survival.

Results

After the shifting of two compatible breeding pairs of Snow leopard at Topkeydara on 08.10.2013, continuous observation was done on the behaviour and the health of the animal.

The graphical representations (Fig. 1) shows the amount of time each snow leopard spent in different behavioural categories. The "t" table shows that at df 8 "t" value is 2.306 on 0.5 (p=5.0%) level. The calculated value comes to 0.88 (in males) and 0.22 (in females.) which is less than the tabulated value. Hence the mean behaviours exhibited by the snow leopards are statistically significant. Statistically there is no difference observed between the behaviours exhibited by four individuals. Upon comparison of behaviour of male (N=2) and female (N=2) snow leopards, a similar pattern of behaviour was observed with little variation.

The data indicates that all the snow leopards (N=4) exhibited normal behaviour activities and within a period of one month of shifting the females showed marked oestrus behaviour, after which the females mated. Hence, on 22.01.2014 mating was observed between male "Prabhat" and female "Ritu" (Table. 1).

The graphical representation Fig. 2a,b shows the temperature and humidity recording at Topkeydara which shows maximum humidity ranging from 85%-93%.

Discussion

The Snow leopard housed at the new off display breeding center with twice as large enclosure than the previous ones in the old conservation breeding centre proved advantageous for the four individuals, as they exhibited normal behavioural patterns including females coming into oestrus and mating. Apart from this the animals adjusted well to the new environment while posing no difficulty in feeding and cooperating with the keepers.

Conclusion

The behavioural study conducted has established the fact that the new off display conservation breeding center has provided an opportunity for the captive Snow leopards to encourage natural behaviours and ensure healthy individuals, a combination of both shall prove to be beneficial for the conservation breeding of the species in captivity. The study has also indicted further improvements required at the off display conservation breeding facility by modifying or adding items for the well-being of the animal housed like installation of dehumidifiers inside the breeding room, as 93% of humidity as indicated above in the facility is harmful for the species thus using of dehumidifiers will lower the moisture content of the room and also help to keep it warm and dry, temperatures too can be regulated by use of blowers, heaters, curtains, wooden platforms, dry leaves, wood chips, straw etc.

Reference

Altmann, J. (1974). The Observational Study of Behavior. *Behaviour* 48: 1-41.