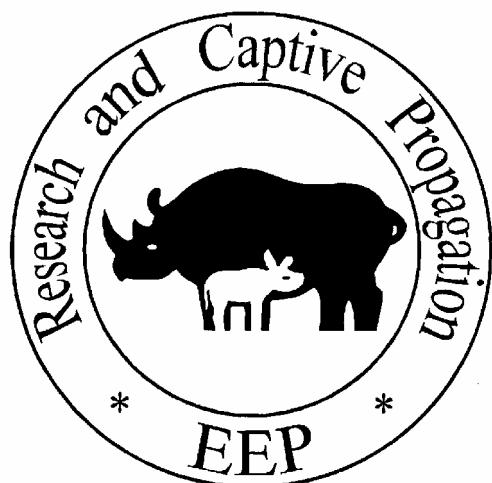


# Research Committee Newsletter

## 9<sup>th</sup> Issue, September 2004

edited by Udo Gansloßer\*



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activities for day and night time are currently looked into. The elephants regained access to the entire outdoor paddock shortly after this study was completed.

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### **Environmental Enrichment by bringing in occupational food at the Malayan tapirs (*Tapirus indicus*) of Nuremberg Tiergarten**

*Susanne Zenzinger, Zool. Inst. I Erlangen (contact via U. Gansloßer)*

Until now, tapirs have largely been left out of consideration regarding specific enrichment programmes. Presently, there are far less studies of this topic about the Asian Malayan tapir (*Tapirus indicus*) than about his American relative, the Lowland tapir (*Tapirus terrestris*). Therefore, it was the aim of this study to examine the consequences of environmental enrichment on the feeding and resting behaviour of Malayan tapirs. Furthermore, the enrichment objects used were to be examined concerning their suitability as occupational food. For this purpose, three successive experiments were carried out with the Malayan tapir group (1.2) of Nuremberg Tiergarten within an observation period lasting from July 1<sup>st</sup> to October 2<sup>nd</sup> 2002. These consisted of hanging up food branches and stuffed jute sacks as well as bringing in spiked hay-bales. The observations exclusively took place at the outdoor enclosure. The observed individuals were father, mother and calf.

The results point to a preference for the food branches followed by the hay-bales and finally the jute sacks, with the jute sacks being hardly taken by the male tapir at all. By bringing in hay-bales, the calf's overall duration of ingestion could be prolonged. The results show a tendency according to which the calf spent more time with food-orientated behaviour than its father and finally its mother. For the male animal, exploratory behaviour was stimulated by bringing in the jute sacks. For the females, such behaviour was observed after bringing in the hay-bales. Inactivity could not be reduced with any of the animals. For the female animal, there was a tendency to rest longer than the calf followed by the male. For the latter, an increased attentiveness towards its surroundings was observed during the hay-bales experiment. An outlasting effect could be observed for the male tapir at the food branches lying on the floor.

The observed changes in the behaviour of the animals probably cannot be exclusively put down to enrichment by the respective occupational object. Above all, climatic variations could have had a considerable influence on the results. Furthermore, it has to be assumed that the calf had an enriching effect on its parents. Therefore, at the end of the study, suggestions for further studies about Malayan tapirs are made.

### **Studies on the social structure of the white rhinoceros (*Ceratotherium simum simum*) in the safaripark Beekse Bergen**

*Stephanie Vespermann, Beekse Bergen (contact via U. Gansloßer)*

This study takes a look at the social structure of the white rhinoceros (*Ceratotherium simum simum*) in the safaripark Beekse Bergen. It deals mainly with the behaviour of the female rhinos among each other and their reaction towards the bull. Furthermore, the behaviour of the dam and her reaction towards the remaining members of the herd were examined. The observations took place in May 2001, in which the animals were observed for altogether 120 hours.

First of all an actogram was created with the point-in-time-method. The different activities ("eating", "standing", "lying", "locomotion", "grooming") were recorded by taking a sample every five minutes from 10 a.m. until 4 p.m.. The scan method was used for testing the behaviour of the females among each other. For this reason a two-minute-scan was recorded for each animal, in which the seven cows were observed in a rotating change. The scan was carried out for fourteen days, four hours a day: from 11 a.m. until 12 a.m. and from 1 p.m. until 4 p.m.. The all-occurrences-method was used to record all types of behaviour and contacts of the bull or the dam.

The actogram indicates that the females invest nearly twice as much time in "eating" than the male (females: 70,2 %; male: 37,5 %). But focusing on activities like "locomotion" (females: 13,1 %; male: 41,7 %) and "standing" (females: 9,5 %; male: 20,85 %) the male features values, which are twice as high than those of the females.

The results of the scans show that five of seven females can be assigned to different subgroups, a dyad and a triad. The remaining two cows aren't permanently integrated in one of these groups, but change in between them.

The females show clear differences in their behaviour towards the bull: While the older cows rather avoid or have agonistic interactions with the bull, the younger females often search contact with the male. Vice versa the bull also prefers the presence of the younger females.

The dam and her calf spend most of the time alone with each other. When the dam contacts other females, then the older cows and her daughters are preferred.

The bull is accepted well by the females. However the alliance-/cooperation behaviour of the cows negatively affects propagation. The success of breeding could be possibly be increased by a change of the group composition.

## The Effect of changes in food presentation on behaviour of Reindeer (*Rangifer tarandus*) in Nürnberg Zoo

Stephanie Otte, Univ. of Heidelberg (contact via U. Gansloßer)

The aim of this work was to study the effects of changed feeding conditions on the behaviour of reindeers (*Rangifer tarandus* Linné, 1758).

Therefore, in a group of 13, respectively 11 reindeers in the zoo of Nuremberg in two different experimental steps, first the distribution of food was altered by putting up additional troughs, and secondly the quality was improved by a supplementary feeding of the lichen *Cladonia rangiferina*. Moreover, the animals were also observed under their usual standard conditions before, between and after these two experimental situations.

According to HOFMANN (1989), this species is an intermediate feeder, which feeds on a mixed diet that changes seasonally. The social organization is regulated by a hierarchy. Hence, I thought, that varying the distribution of food would have no effects either on social relations and aggressive behaviour or on the individual distances between the animals. On the other hand, the frequency of movements was thought to rise in this situation.

An improvement of food quality should increase activities and rates of social behaviour in general.

Indeed, social relationships and aggressive behaviour did not alter in frequency when food distribution was varied. However, the animals fled more often during the second standard condition. Presumably, this was caused by the dominant buck's antler loss at this time.

The individual distances really differed between the phases, but the amount of movements did not. Such results were not expected. Possibly, they were caused by the way the food was distributed and