

THE BEHAVIOUR AND AN ACTIVITY OF CHINCHILLA (*CHINCHILLA LANIGERA*) KEPT UNDER LABORATORY CONDITIONS

Danuta Dzierzanowska-Goryn, Tadeusz Kaleta,¹ Monika Kowalczyk

*Division of Fur and Small Animals, Cathedra of Animal Genetics¹, Warsaw Agricultural University, Warsaw,
Poland*

Introduction

The behavior of chinchilla under natural conditions and in captivity is poorly understood. Living in barren areas of the Andes and being crepuscular (Nowak, 1999) they are very secretive and cannot be easily spotted. Chinchilla behavior was very rarely investigated in individuals kept in farms presumably for the same reason. One of the few works fairly extensive is Lanszky and Sepesi (1996) investigations. These authors examined the breeding and not breeding farm chinchilla females and males and described their behavior.

The Division of Fur and Small Animal obtained chinchillas when the special building designed for the laboratory animals has not yet been finished. For this reason chinchillas were housed in makeshift room. Therefore, the aim of present study was to determine the daytime activity and to describe behavior of chinchillas housed under laboratory but not typical conditions.

Material and methods

The observations were carried out in November 2002 on the chinchillas owned by the Division of Fur and Small Animals, Warsaw Agricultural University. The material consisted of 20 individuals, 16 females and 4 males of standard breed. These chinchillas were 8-16 months old. The animals were housed from October 5th.

Chinchillas were housed in adapted laboratory room (17 sq m) situated in the basement of the building used by veterinary clinic. Provided temperature gradient was 17-21°C and humidity 30-45%. Day/night cycle was set as 12/12 hours with the lighting from 8 a.m. to 8 p.m. Chinchillas were kept singly in meshed cages with size 50x35x34,5 cm arranged in four levels. Each cage was furnished with watering nipple, feeder and dust bath bowl. The males (fitted with collars) had free access to females (polygynous system). Chinchillas were observed continuously day-to day, during lighting period for 12 days by two persons working also as caregivers. The time and type of behavior were recorded with exception of sleep, which was excluded from analysis. There was no close contact of observers-caregivers with the chinchillas only approach to the cage during necessary

husbandry procedures. In time of approach the type of individual reaction to humans was recorded.

On the basis of previous short observations and the work of Laszky and Sepesi (1996) the expected behavior was divided into main eight categories: feeding, locomotory/resting, comfort-seeking, eliminative, social/play, exploration, reproductive and casual.

Results

The following forms of chinchilla behavior were recorded during observation period:

- Feeding: feeding of hay and pellets, drinking, coprophagy.
- Locomotory/resting: jumping, upright posture and sniffing, sitting with fully open eyes, snoozing (eyes half closed).
- Comfort-seeking: scratching self using leg or snout, stretching, grooming, changing body position during sleep, rolling.
- ***Eliminative: urination and/or defecation.***
- Social/play: social grooming during male-female interaction, resting with close contact, face to face contact during male-female interaction, play with object (peg).
- Exploration: sniffing cage and objects, gnawing cage objects, digging.
- Reproductive: masturbation, unsuccessful copulation, copulation.
- -Casual: vibrissae and ears movements.

The number of above-mentioned behavior types is shown in Table 1.

Analyzing obtained data as a whole there was visible tendency (particularly in females) to two-peak activity distribution with the peaks in morning and evening hours. The early afternoon (12.20-14.30 p.m.) was mainly resting time. Calculated mean time budget for examined chinchillas taking into account above mentioned behavioral categories was as follows: comfort-seeking-29% feeding-26%, locomotory/resting-24%, casual-9,4%, social/play-6,3%, explorative-5,3%.

The comfort-seeking acts were the most frequent as regards behavior category and they were distributed fairly evenly in all observation hours. The same could be said about vibrissae and ears movements (the “casual” behavior) clearly playing role of orientation and sound detection acts.

It may be seen that eliminative behavior could not be find in Table 1. This behavior was practically absent during observation period (only few cases not fully confirmed). Thus, it seems that urination and defecation acts took place in the night hours. On the contrary, coprophagy (classified in feeding behavior category) was fairly frequent in the daytime. As

could be expected on the basis of short introductory observation the agonistic behavior was not observed during male-female interaction. In the present study the abnormal behavior in observed chinchilla individuals was also not recorded. The differences in activity between males were described as insignificant. The valuable comparison of male and female chinchilla behavior was not possible in this case because of significantly different numbers of specimens in both sexes

Table 1. The number of behavior acts recorded in categories observed in chinchillas

<i>Hour</i>	7:30	8:30	9:30	10:05	11:20	12:30	13:30	14:20	15:30	16:30	18:00
<i>Behaviour category</i>	8:30	9:30	10:30	11:05	12:20	13:30	14:30	15:20	16:30	17:30	19:00
<i>/Sex</i>											
<i>Feeding</i>	292	287	204	108	102	74	95	129	115	84	145
<i>F*</i>	267	258	172	92	70	64	65	104	97	68	109
<i>M**</i>	25	29	32	16	32	10	30	25	18	16	36
<i>Locomotory/ resting</i>	124	93	88	172	129	92	159	136	142	145	168
<i>F</i>	120	81	73	148	85	70	139	120	120	132	145
<i>M</i>	4	12	15	24	44	22	20	16	22	13	23
<i>Comfort-seeking</i>											
<i>F</i>	123	153	205	114	152	83	123	209	183	159	207
<i>M</i>	98	100	138	93	131	63	93	156	141	126	120
	25	53	67	21	21	20	30	53	44	33	87
<i>Social/play</i>	18	20	16	31	42	24	19	47	20	13	37
<i>F</i>	12	11	10	16	22	11	10	22	6	9	20
<i>M</i>	6	9	6	15	20	13	9	25	14	4	17
<i>Exploration</i>	14	10	41	26	21	4	32	33	27	24	46
<i>F</i>	14	7	30	24	17	2	27	29	19	22	29
<i>M</i>	0	3	11	2	4	2	8	4	8	2	17
<i>Casual</i>	30	31	30	31	30	52	30	49	50	27	29
<i>F</i>	21	23	22	25	23	48	25	44	38	24	25
<i>M</i>	9	8	8	6	7	7	5	5	12	3	4
<i>Reproductive</i>	0	1	1	0	0	0	1	1	1	5	4
<i>F</i>	0	0	0	0	0	0	0	0	0	0	0
<i>M</i>	0	1	1	0	0	0	1	1	1	5	4

* F-females ** M-males

The reactions of chinchillas observed in time of caregivers approach to the cage was roughly divided into three main behavior profiles: phlegmatic with low reactivity and frequent resting behavior, sanguine with high reactivity (particularly jumping) and mixed type with frequent explorative behavior. However, this result was only preliminary and has to be confirmed in following observations.

Discussion

The obtained data is rather different from the above cited observations. Laszki and Sepesi, (1996) found that in non-breeding females the main behavior was resting (nearly 50% of daytime activity), locomotory behaviour-10,6% and feeding -7,45%. Various factors could have effect on these differences including environmental (e.g. the temperature and humidity were slightly different in both studies). Moreover, the observation period in Laszki and Sepesi (1996) work was longer than in the present study. On the other hand, the categories of observed behavior were the same in both studies (Laszki and Sepesi also have not recorded eliminative behavior, only coprophagy).

Conclusion

1. Chinchillas kept in makeshift laboratory room showed in daytime normal behavior with categories recorded also in another study.
2. Comfort-seeking behavior, feeding and locomotory/resting were the main types of observed chinchilla behavior in this study.
3. It seems that observed animals retained a great deal of night activity typical for wild chinchilla since they turned out to be active in evening and morning hours. Hence, the study of behavior showed in night is necessary for full description of farm chinchilla behavior.

References

1. *Laszki J., Sepesi E., 1996: Ethological examination of breeding chinchillas. Scientifur, 20 (1), 35-41.*
2. *Nowak R.M., 1999: Walker's Mammals of the World. John Hopkins University Press, Baltimore and London.*