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Day-Time Budgets of Konik Polski Horses (*Equus caballus*) Maintained in two Housing Systems

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A comparison of day-time time budgets of the konik polski horses kept in two different housing systems: free-roaming and in a limited area, was the aim of the study. The observations were carried out in the Biebrza National Park from January to June 2006 on a total of 12 horses (7 females and 5 males) aged from 2 to 5 years. The horses were kept for one year in a free-roaming system on a area of 200 ha where they formed two family bands. Later, during the winter the horses were grouped together in 1 ha enclosure with free access to water, hay given 3 times per day and oats given irregularly mainly in the winter. In the spring horses were let out again into the free-roaming system. A comparison was made of the horses' behavior characterizing their daily activity in both housing systems. Behavioral data were collected during 122 h of direct observations in 1 hour focal samples in three periods of the day: morning (from dawn to 11:00 am), afternoon (from 11:00 am to 4:00 pm) and in the evening (from 4:00 pm until dusk).

The proportion of time spent on feeding and resting behavior and locomotion activity in the total time of the observations, depending on the time of day and sex of the horses, was determined. For the evaluation of the frequency of drinking, comfort, eliminative, sexual and exploratory behavior the number of appeared cases in all horses was added up and divided by the number of observation hours. In spite of significant differences in the intensity of feeding and in the time spent on recumbency found in both housing systems depending on the time of day and sex of the horses, it seems that konik polski horses kept in different housing systems have a tendency to maintain the stable day-time time budgets, which was demonstrated by the similar time of their daily activity spent on feeding (75.9 % of total time in limited area and 71,2 % free-roaming) and resting upright (respectively 16.9 % and 15.8%) as well as cases of urination (0.18 cases/1 hour of observation in limited area and 0.17 in free-roaming in total), self- grooming (respectively 0.40 and 0.56) and mutual-grooming (0.17 and 0.12). But other signs of comfort behavior were observed nearly twice as often in the horses in the limited area (0,42) than in the free roaming system (0,22).

The patterns of exploratory behavior were observed decisively more often in the case of horses in limited area (0,5 cases/1 hour of observation) than in the free-roaming system (0,07). The different housing system affected the konik polski horses' time-budget, with decreased time spent in limited area as compared to free-roaming horses in recumbent rest (respectively 2.5 % and 7,0 % of total time), locomotion activity in walk (4.9 % and 8,2 %) and trot (0.006 % and 2,3 %). Due to delivering forage to the paddock the locomotion of the horses related with searching, choosing and eating also decreased. Key words: housing systems, day-time time budgets, konik polski horses