

Research Committee Newsletter

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edited by Udo Gansloßer*



CONTENTS

| | | |
|----------|---|------------|
| 1 | ANNOUNCEMENTS AND MISCELLANEA | 7 |
| 2 | BIAZA | 12 |
| 2.1 | BIAZA RESEARCH NEWSLETTER, JAN. 2007 | 12 |
| 2.2 | BIAZA RESEARCH NEWSLETTER, JAN 2007 | 18 |
| 2.3 | BIAZA RESEARCH NEWSLETTER, JUL. 2007 | 22 |
| 2.4 | BIAZA RESEARCH NEWSLETTER, OCT. 2007 | 28 |
| 3 | RESEARCH BY IBREAM INSTITUTE | 35 |
| 4 | RESEARCH FROM KOLMARDEN ZOO | 40 |
| 5 | RESERCH CONFERENCES AT POZNAŃ ZOO | 50 |
| 5.1 | SECOND INTERNATIONAL CONFERENCE ANIMALS AND ZOOS, POZNAŃ 24.-25.05.2005 | 50 |
| 5.2 | ANIMALS, ZOOS AND CONSERVATION ZOOLOGICAL GARDEN IN POZNAN, 2006 | 67 |
| 5.3 | EEZA RESEARCH CONFERENCE POZNAŃ 24-25 MAY 2007 | 80 |
| 5.4 | THE WHITE STORK IN POLAND, POZNAN 2006 | 96 |
| 6 | RESEARCH REPORTS FROM MOSCOW ZOO | 99 |
| 6.1 | SCIENTIFIC RESEARCH IN ZOOLOGICAL PARKS MOSCOW - PENZA ZOO, 2006 | 99 |
| 6.2 | SCIENTIFIC RESEARCH IN ZOOLOGICAL PARKS MOSCOW ZOO, 2007 | 105 |
| 7 | INDIVIDUELL PROJEKTS BY STUDENTS | 111 |
| 8 | CONFERENCE ANOUNCEMENTS AND REPORTS | 128 |
| 8.1 | ANOUNCEMENTS | 128 |
| 8.2 | REPORTS | 131 |
| 9 | BOOK REVIEWS | 133 |

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only used by one elephant. Individual differences were found in the produced Growls and clues on this also in the Trumpets. Different call types were used at different states of arousal.

AFFECT OF SLEEPING ARRANGEMENTS ON MALE WHITE RHINO BEHAVIOR AND HORMONE LEVELS AT THE TISCH FAMILY ZOOLOGICAL GARDENS IN JERUSALEM (THE JERUSALEM ZOO).

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Keeping all-male groups in zoos often eases the problem of surplus males in captive breeding programs of polygynous species. However, the welfare of the males in these species might be compromised when kept in a social structure that is not always natural. The Jerusalem Zoo holds two male southern white rhinos (*Ceratotherium simum simum*), in which males are considered solitary. Preliminary observations at the Zoo suggested that the males' sleeping arrangements, in adjacent compartments in the night house, may stress them because they cannot avoid each other's scent or voice, two major components of rhino communication. Hence, we tested the affect of the sleeping arrangements on the males' welfare by allowing each male to sleep outdoors for a period of about three weeks while his exhibit mate sleeps indoors. A similar period, when both males slept indoors, served as a control. We assessed welfare by measuring corticosterone (stress) and testosterone (sex) hormone levels in the feces, and by conducting behavioral observations. The results showed normal and stable corticosterone levels, except for a brief high peak for the dominant male when the two were re-united for the nights. In contrast, testosterone levels varied significantly between manipulations, dropping to non-breeding levels when both males slept indoors. This change corresponded with behavioral changes that suggested that the males were less relaxed. Also, relative changes in corticosterone levels suggest that the males treat the house as the most important part of the territory or even as an independent one.

INVESTIGATION ON THE SOCIAL, REPRODUCTIVE AND PLAYFUL BEHAVIOUR OF CAPTIVE WHITE RHINOCEROSES (*CERATOTHERIUM SIMUM COTTONI*)

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Social, reproductive and playful behaviour were observed in the group of northern white rhinoceroses (bull SUNI and cows NESÁŘÍ, NABIRÉ, NASI, NÁJIN and her daughter FATU) in the Zoological garden Dvůr Králové in the Czech Republic from July to November 2005. A part of results of this observation was presented in the bachelor thesis; the next part of it will be presented in prepared diploma thesis.

In the ZOO Dvůr Králové, the bull SAÚT, which was with the herd of cows in previous seven years, was exchanged for SUNI in June 2005. The reason for this was that although a regular mating between SAÚT and NÁJIN occurred from the year 2001, the cow did not come to pregnancy. Expected results of this exchange have not come, because no mating was noticed. During the observation period, the bull was sexually interested only once in NÁJIN, NESÁŘÍ and NASI. Nevertheless, the oestrous cycle was probably activated in five years old FATU (faecal samples for a hormone level evaluation were not regularly collected at that time). In days of sexual interest of the bull in her (6-8 July, 22-25 July, 18 September, 6-7 October), FATU stayed in close proximity of her mother, which threatened the bull.

Behaviour of animals was strongly influenced by accumulation of the animals on a limited area of the enclosure. Social behaviour was registered in both types – cohesive and agonistic. From 17 predetermined types of cohesive behaviour as described by Mikulica (1991), 15 were noted. Between cows in stable bond (dyads or sometimes also triads), frequent cohesive manifestations and only few agonistic displays can be observed. A close relationship was recorded in pairs of cows NABIRÉ – NASI and NÁJIN – FATU. NESÁŘÍ did not form a stable bond with any cows and she gave only few cohesive manifestations to the other females.

The agonistic behaviour was observed in two types: subdued aggressive behaviour and defensive behaviour – active defence. From 12 predetermined types as described by Kuneš & Bičík (2001-2002), 11 were recorded. Bull SUNI was a common target of agonistic behaviour of cows, but in most instances, he