

The 28<sup>th</sup> Annual Meeting of the Ecological Society will take place in Ulm (Germany) September 7<sup>th</sup> to 12<sup>th</sup>, 1998. Please contact: Department of Ökology and Morphology of animals, University of Ulm, Albert-Einstein Allee 11, D-89081 Ulm, Fax.: 0049-(0)731-5022683, e-mail: werner.funke@biologie.uni-ulm.de.

On June 1-4 1998, the annual meeting of the German Zoological Society will take place in Leipzig. One day of tropical biology is planned. For further information please contact: Prof. Dr. Klaus Schildberger, Institut für Zoologie, Talstraße 33, D-04103 Leipzig, Fax.: 0049- (0)341-9736749.

In Florenz, Italy, the VII International Congress of Ecology will be held from July 19-25, 1998. Further information is available via: Almo Farina, Secretariat, Lunigiana Museum of Natural History, Fortezza della Brunnella, I-54011 Aulla, Phone: 0039-187-400252, Fax: 0039-187-420727, e-mail: afarina@tinnet.it, website: <http://www.tinnet.it/198>.

The 2nd International Symposium on Physiology and Ethology of Wild and Zoo Animals will be held tentatively from October 6 - 9, 1998 at Erkner (near Berlin). At the meeting a workshop on "Conservation of behaviour", organized by the EEP Research Group Committee, will take place. For information and 1st circular please contact: Dr. Franz Klima, Dep. for Zoo Biology and Wildlife Research (IZW), Alfred-Kowalke-Straße 17, D-10315 Berlin, Phone: 0049-030-51680, Fax: 0049-(0)30-5126104, e-mail: klima@izw-berlin.de.

## RESEARCH

Research Projects -Final reports, Proposals, etc.



Research into the possible reasons for a lack of regular ovarian cycling in an 18 year old female white rhino (*Ceratotherium simum simum*) (work in progress)

by Matt Taylor, supervisor: Amy Plowman, Science Department, Paignton Zoological and Botanical Gardens, Totnes Road, Paignton, Devon. TQ4 7EU UK.



**Introduction:** The low reproductive success of F1 captive born female southern white rhinoceros is, unfortunately, a well known problem world wide. Reasons for inability to breed may vary, but it is often the case that the animals are unable to undergo regular patterns of oestrous cycling. This problem was seen at Paignton Zoo, UK, where the only female held there (in a 2:1 situation) exhibited these symptoms. Although able to

cycle in previous years, she was, through urinary steroid analysis, known to have stopped. Project work revealed four possible reasons for this. These were:

- (1) that a physical problem had recently developed
- (2) a nutritional deficiency
- (3) chronic stress due to the 2:1 situation
- (4) lack of social signals or sensory input from not mixing with other females.

The possibility of lack of social signals from other females was investigated first. In several mammal species 'pheromonal' contact is known to occur among that urine from female rhino able to undergo cyclic activity would be introduced to the subject.

**Method:** Faecal and urinary steroid analyses were carried at the Institute of Zoology, London. Behaviour of both the female and the one male kept with her were measured using instantaneous time-scan sampling. After baseline recordings had been carried out, the subject was exposed to the urine of other females once a day, and behavioural recordings continued to measure any consequence. Behavioural and chemical analyses were run concurrently, throughout the experiment, to detect any change in the subject's condition.

**Results:** Urine testing and subsequent flehmen response were elicited in the female as well as the male. Excessive spray marking and foot-scraping were

females within a group. Some priming pheromones are thought to cause physical change in the animal via olfactory and vomeronasal stimulation. It was decided also exhibited by the male. A nutritional deficiency was thought to be unlikely after consultation with equine fertility experts.

**Conclusions:** At the time of writing, the addition of foreign urine to the subject and partner seem to have mimicked the effect of placing other animals in the vicinity, with respect to behavioural responses to the scent at least. As flehmen is believed to facilitate the passage of substances across the vomeronasal receptors, it is possible that a physical response could result

## Are parasites the reason for problems in keeping Capercaillie and Black Grouse (*Tetraonidae*) in zoological gardens? (work in progress)

by Grit Schwerdtfeger, University of Kiel

The mortality rate of tetraonid birds in captivity is quite high. Several reasons are possible. Discussed are parasites as well as the high susceptibility of these birds to stress. Studies mainly take place in the Wildpark Eekholt. This is a game park in northern Germany which is specialised in keeping native animals. Also the methods of other owners of black grouse and capercaillie will be surveyed. For this purpose a questionnaire has been sent to several breeders and zoos.

Wildpark Eekholt has got different types of enclosures: first one older complex of enclosures which are quite small. Visitors can observe the birds from different sides. At the moment only a single capercaillie cock which is quite tame is kept here. He seems not to be

much disturbed by visitors. Formerly also black grouse were kept here. Second a bigger complex which is divided into two parts is situated in a marshy terrain. Some parts of it are very humid. Here a pair of capercaillie is kept at the moment. The hen is able to pass through a narrow door to a second part of this enclosure which lies behind the other. Here a second cock has been kept which died during the time of these researches. Since September the black grouse are kept together with some peewits, curlews and hares in a big new enclosure. It contains a little pond and two small huts to protect the feeding place and is planted naturally. Visitors are only able to look into via a platform to avoid