

## An IRF/SOS Rhino Sponsored Integrated Approach to Enhance the Reproductive Performance of White Rhinoceroses in the EEP

F. Schwarzenberger<sup>1</sup>, C. Walzer<sup>2</sup>, K. Tomasova<sup>3</sup>, F. Göritz<sup>4</sup>, T. Hildebrandt<sup>1</sup>, R. Hermes<sup>4</sup>

<sup>1</sup>Inst. Biochemistry and L-Boltzmann Inst. vet. med. Endocrinology, Vet.med. Univ.,

A-1210 Vienna, Austria. <sup>2</sup>Salzburg Zoo Hellbrunn, A-5081 Salzburg, Austria.

<sup>3</sup>Zoo Dvur Kralove, C-54401 Dvur Kralove, Czech Republic.

<sup>4</sup>Inst. Zoo and Wildlife Biology, D-10307 Berlin, Germany

Reproductive problems in white rhinoceroses include 1) acyclicity and variable estrous cycle lengths of 35 or 70 days, 2) mating failure due to acyclicity, or silent estrus due to sibling relationship/mate choice problems and 3) conception - pregnancy failure due to presumed uterine pathology. Reasons for these problems are still not definitively identified. The goal of this IRF-SOS Rhino funded multi-disciplinary, multi-institutional research is to work on possible solutions to overcome these reproductive problems. Our combined approach includes: 1) endocrine monitoring; 2) transfer of animals to enhance natural breeding; 3) clinical examinations of reproductive soundness in male and female white rhinos and 4) development of

artificial insemination (AI). Results of this ongoing study will be presented by several authors at this meeting. Findings reported were obtained from a large number of animals in different EEP institutions. Serial faecal reproductive monitoring includes >35 females and in the future will be extended to male white rhinos. Long term endocrine monitoring in female rhinos following a transfer between institutions indicates that estrous cycle activity could not be stimulated in some animals. This held true even 1 year after transfer and thus these animals will presumably not breed naturally. Monitoring of reproductive soundness to date includes 8 males and >15 females. Monitoring is done under full anesthesia or in deep standing sedation. This applied method has been successfully used >35 times and thus provides a reliable and safe immobilization protocol. Female reproductive tracts have been evaluated in >15 animals and beside reproductively sound animals, we have identified different types of flat liners, and animals with either uterine cysts or ovarian tumors. Male spermatological parameters after electro ejaculations have been evaluated in 8 males and have allowed to work on semen cryopreservation. In addition, work on conditioning 2 males for manual semen collection is currently underway. Different protocols for

ovulation induction were used and several AIs have been performed. Results demonstrate that a reliable ovulation protocol and an AI technique suitable to overcome difficult anatomical structures of the female genital tract is available. In conclusion, our combined approach including several institutions provides indispensable knowledge for the further propagation of the captive white rhinoceros population.

## Management of Reintroduced Greater One-Horned Rhinoceros (*Rhinoceros unicornis*) in Dudhwa National Park & Tiger Reserve, Uttar Pradesh, India

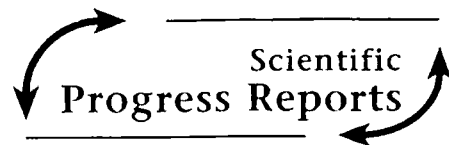
Dr. Satya Priya Sinha\*, V.B. Sawarkar\*\*, Ashish Tewari, IFS\*\*\*

\*Consulatan, WB.Research Project C/o Wildlife Institute of India, Chandrabani, Dehradun (UA) India, Email: sinhasp@yahoo.com; sinhasp@hotmail.com

\*\*Additional Director, Wildlife Institute of India, Chandrabani, Dehradun (UA) India, Email: omega@wii.gov.in; \*\*\*Deputy Director, Dudhwa N.P. and Tiger Reserve, P.O.

Palia (Distt. Kheri), Palia (U.P.) India

The Greater one-horned Rhinoceros (*Rhinoceros unicornis*), which was once widely distributed from the foothills of the Hindukush Mountain Range (Pakistan) to Myanmar and also all along the flood plain of river Ganges. In last 200 years due to over hunting, fragmentation and habitats by cleaning forest for cultivation, disparate landuse for agriculture, extension of tea gardens, reclamation of grasslands and swamps for fulfilling the basic needs and other anthropogenic pressures were the major cause of elimination of Indian Rhinoceros from most of the former range of distribution. The last rhino in Uttar Pradesh (U.P.) was shot in the Pilibhit district adjacent to the Dudhwa National Park (NP) in 1878. Currently the Indian Rhino population of around 2,500 is restricted to protected areas (PAs) in Assam, West Bengal and Nepal. The Kaziranga NP in Assam has 1500 rhinos and the Royal Chitwan NP in Nepal 500 rhinos. The remaining rhino population with exception of Manas NP, India are surviving in small and insecure habitat patches with insecure future of survival. Despite of the protective measures and dedication of field managers and forest staff to protect the persecution of this animal continues due rising price of Indian rhino horn in the International market. By considering the current highly restricted distribution with poaching pressure, habitat specificity and in consideration to the scattered small population, to become imperative to reintroduce the species in suitable habitats in the former range of distributions. IUCN Rhino specialist group and The Rhino sub committee of Indian Board of Wildlife recommended the establishment of an additional rhino population and Dudhwa NP fulfill all the criteria required for the reintroduction and suitability. Translocation of nine Rhino from Pobitara WLS, Assam (5) and The Royal Chitwan NP, Nepal (4) to Dudhwa NP in the year 1984-85. Main aim is to highlight the performance of reintroduced rhino population in last 17 years, set backs and over all management, problems and future threats for a small population are discussed.



Harald M. Schwammer  
Thomas J. Foose  
Michael Fouraker  
Deborah Olson



## **Recent Research on Elephants and Rhinos**

Abstracts of the  
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