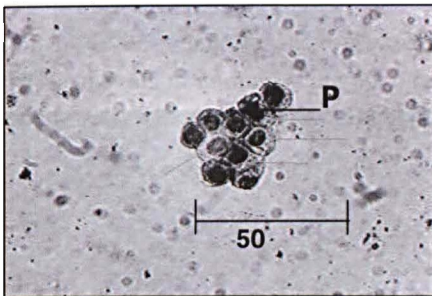


## A Preliminary Study on Exfoliative Vaginal Cytology in Captive Sumatran Rhinoceros (*Dicerorhinus sumatrensis*)



Choong Siew Shean, Rosnina Y, Zainal-Zahari Z, Abd. Wahid H,

Exfoliative vaginal cytology was performed on three female Sumatran rhinoceros in order to determine the cellular compositions of the lining of the vaginal wall. Vaginal flushing and aspiration were done to obtain vaginal cells, and then stained with Modified Shorr's trichrome stain. Examination of vaginal smears revealed that the vaginal cells of Sumatran rhinoceros were similar to that of bitches comprising parabasal, small intermediate, large intermediate, superficial and cornified cells. Parabasal, small intermediate and large intermediate cells were classified as non-keratinised cells, whereas the keratinised cells are comprised of the superficial and cornified cells. Classification of these various cells were done in order to facilitate data analysis. Trends of changes in the percentages of keratinised and non-keratinised cells were observed in all three animals.



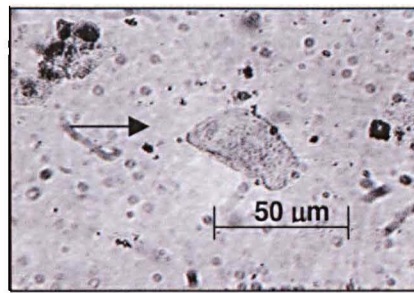
*Plate 1: Photomicrograph of parabasal cells (P) stained with Modified Shorr's in vaginal smears of Sumatran rhinoceros (X400)*



*Plate 2: Photomicrograph of small intermediate (SI) and large intermediate (LI) cells stained with Modified Shorr's in vaginal smears of Sumatran rhinoceros (X400)*



*Plate 3: Photomicrograph of a superficial cell (S) stained with Modified Shorr's in vaginal smears of Sumatran rhinoceros (X400)*



*Plate 4: Photomicrograph of a cornified cell (C) stained with Modified Shorr's in vaginal smears of Sumatran rhinoceros (X400)*

### Reader Enquiry

Department of Clinical Studies  
Faculty of Veterinary Medicine  
Universiti Putra Malaysia  
43400 UPM, Serdang, Selangor  
Malaysia

Tel: +603 8946 8328

E-mail: [rosnina@vet.upm.edu.my](mailto:rosnina@vet.upm.edu.my)