

The effect of day-night, age-sex and climatic factors on the activity budget of Great Indian One-horned Rhinoceros in Kaziranga National Park, Assam, India

Sangita Medhi¹ and Malabika Kakati Saikia^{2*}

^{1,2}Animal Ecology and Wildlife Biology Laboratory, Department of Zoology, Gauhati University, Guwahati-781014, Assam, India.

*Corresponding Author's E-mail: malabika8370@gmail.com

(Received: April 30, 2020; Revised: May 22, 2020; Accepted: July 05, 2020)

ABSTRACT

Behavioural activity budgeting of Great Indian One-horned Rhinoceros-*Rhinoceros unicornis* was carried out from May 2016 to July 2018 in Kaziranga National Park to find out the overall activity patterns covering variations in seasons, activities in 24 hours time periods, age/sex differences and its effects on environmental gradients of light, temperature, humidity and rainfalls. Study was performed using Scan Animal Sampling and camera trapping methods. Altogether 1014.25 hours of diurnal behavioral data and 2847 camera trap photographs data for night activities were gathered. All data were analyzed using SPSS software. Study revealed that, rhinoceros showed significant variation in activities among months, seasons and in different periods of the day. In all the occasions, the rhino spent maximum time in feeding activity. Amongst season, maximum feeding was found during winter season followed by retreating monsoon, pre-monsoon and monsoon. Feeding, locomotion and vigilance were higher in dark, whereas, resting and wallowing were higher in day period. Again, locomotion and vigilance were higher in winter and re-treating monsoon, while wallowing and resting were higher in monsoon and pre-monsoon. Night study revealed that, wallowing was higher in winter than other season. Study showed higher feeding activity in females, whereas locomotion and wallowing were higher in males. There was a significant negative correlation between feeding and locomotion with temperature, humidity and rainfall, whereas wallowing showed significant positive correlation with temperature, humidity and rainfall.

Key words: Behaviour; *Rhinoceros unicornis*; seasonal variation; Kaziranga National Park; Diurnal and nocturnal activity patterns; Environmental gradients.

