

Comparative Study on the Social Behaviour of Sambar Deer (*Rusa unicolor*) in Captive Facilities in Peninsular Malaysia

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Abstract : Sambar deer (*Rusa unicolor*) was uplisted from Least Concern to Vulnerable by the International Union for Conservation of Nature Red list in 2015 due to drastic population decline in the wild throughout its geographical range. Sambar deer is a valued prey for the highly endangered species such as the Malayan tiger. Ex-situ conservation efforts, i.e., captive breeding, initiated by local government to boost sambar deer numbers in captivity and to reintroduce into the wild to support a higher number of tigers, consistent with the goal of our National Tiger Conservation Action Plan. The reproductive success of sambar deer and their welfare management practices in captivity are important components for effective captive breeding programs. However, there is a lack of study carried out on sambar deer in recent years and their behavior in captivity. Three captive sites (Zoo Negara, Zoo Taiping, and Sungkai Conservation Centre) were selected and observed for an average of 40 days each site (6 hours/day). A Generalized Linear Model (GLM) was used to determine the correlation between social behavior and extrinsic parameters. A comparison between all three captive sites showed the strongest correlation in behavioral variability, followed by a time of observation. This proves that there is a difference between in behavioral consistency and frequency between herds across captive sites rising to the possibility of external factors that are influential. Time of day of observation also had significant influence on certain extrinsic parameters being skewed to morning observations and this could be due to an adaptive behavior to the feeding time in the captive sites being in the morning which caused the deer to be resting towards the afternoon. Extensive study need to be done on sambar deer to pinpoint the specifics and better understanding of these possible influential factors in their behavior.

Keywords : behaviour ecology, captivity, ex-situ conservation, husbandry

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