ABSTRACT

Ardelia Padma Nagari. 24020122420019. Correlations between Testosterone Levels in Feces and Behavioral Patterns of Timor Deer (*Rusa timorensis* de Blainville) in CV. Bahtera Satwa Captivity. Under the guidance of Kasiyati and Daud Samsudewa.

The Timor deer (*Rusa timorensis* de Blainville) is an endemic species of Indonesia that has been categorized as vulnerable since 2008. Female Timor deer exhibit a non-seasonal polyestrous reproductive cycle, while the reproductive cycle in male deer is influenced by testosterone levels during the antler growth phase. Fecal sampling for testosterone measurement was conducted using a non-invasive method to minimize disruption and stress on the animals. The aim of this study was to analyze fecal testosterone levels, reproductive behavior patterns, and the correlation between fecal testosterone levels and reproductive behaviors of Timor deer in CV. Bahtera Satwa captivity. The method used was focal animal sampling over 12 days on four male Timor deer over one year old, with varying antler branch conditions. Timor deer feces samples were collected in the morning, dried, pulverized, and extracted using aquabidest and methanol, then measured using the enzyme-linked immunosorbent assay (ELISA) method. Testosterone levels and reproductive behavioral data were analyzed using the Kruskal-Wallis non-parametric test, and significant results were followed by the Mann-Whitney test, while the correlation between testosterone levels and behavior was tested using Spearman's correlation. Results showed a significant difference in the duration and frequency of behaviors such as rubbing antlers, following females, sniffing, kissing, and flehmen between male Timor deer A (dominant) and the other males (B, C, and D). However, there was no significant difference in inter-male fighting and urinary spray behaviors when compared with Timor deer B (rank 2). The conclusion of this study was that the sequence of male reproductive behaviors in captivity follow the normal pattern of deer reproductive behaviors in general, and testosterone synthesis follows the antler phase. Fecal testosterone levels in this study were not correlated with the duration and frequency of reproductive behaviors.

Keyword: Timor deer, non-invasive, testosterone fecal, reproductive behavior