

## **Growth and reproductive performance of sambar deer in Sabal Forest Reserve of Sarawak, Malaysia**

### **ABSTRACT**

We examined the growth, reproduction, rutting behavior, and health status of sambar deer (*Cervus unicolor brookei*) in secondary *Acacia mangium* plantation. The data were collected over 11 years from a breeding herd of 21 stags and 33 hinds in Sabal Forest Reserve, Sarawak, Malaysia. Brody's growth model of the pooled data is  $Y_t = 148.56(1 - 0.98e^{-0.023t})$ , which estimates that maximum weights of adults are 184 and 115 kg for males and females respectively. Sambar deer are nonseasonal breeders with the breeding peak in February. Although the earliest age at which a female reached sexual maturity was 11 months, the mean age was  $23 \pm 7$  months. Mean age of first fawning was  $32 \pm 8$  months. Mean gestation period was  $259 \pm 12$  days ( $n = 82$ ). Stags shed antlers mostly between March and July. Velvet hardens at  $103 \pm 27$  days ( $n = 23$ ), and velvet harvesting is best at 7–9 weeks when antler length is 25–30 cm. Sambar deer are suitable as a farm species in forest plantations and have a vast potential to uplift rural living standards.

**Keyword:** Sambar deer; Growth; Reproductive performance; Rutting; *Acacia mangium* plantation