

(ID 120)

Aspects of the Demography and Social Behaviour of Asian Elephants (*Elephas Maximus*) in the Minneriya and Kaudulla National Parks**Warnapura, A.G.S.M.^{1*}, Jayarathna, K.H.D.L.², LaDue, C.A.³, Vandercone, R.P.G.^{4,5}**¹*Oklahoma City Zoo and Kaludiyapokuna Primate Conservation joint research centre, Sri Lanka*²*Post Graduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka*³*Oklahoma City Zoo and Botanical Garden, Oklahoma, USA*⁴*Department of Zoology, University of Peradeniya, Peradeniya, Sri Lanka*⁵*Kaludiyapokuna Primate Conservation and Research Centre, Peradeniya, Sri Lanka**malshawarnapura000@gmail.com**Abstract**

Sri Lanka has the highest Asian elephant density and one of the highest human population densities among habitat countries. Consequently, human-elephant conflict is widespread in the country and is a major impediment to the survival of the species in Sri Lanka. Moreover, adult male elephants are also more prone to come into conflict with humans and consequently experience a higher degree of human induced mortality than other age-sex categories, which can result in changes to aspects of the demography. The behavioural characteristics of male elephants that increase their propensity to come into conflict with humans is poorly understood. Estimating demographic parameters such as adult sex ratios and herd structure for wild populations of Asian elephants is problematic. However, the analysis of elephant herds that congregate in open areas such as around the tank beds of Kaudulla and Minneriya National Parks may provide a window into demographic characteristics of the elephant population in the dry zone of Sri Lanka. We report the results of an ongoing study on the population structure and male elephant behaviour at Minneriya and Kaudulla National Parks. The data presented here was gathered over a period 6 months from May to October 2023. 5,120 of elephant sightings were observed in total, of which 9.7% were adult males (496), 38.4% adult females (1,964), 47.9% juveniles (2,452) and 4.1% calves (208). The average number of elephants observed per visit was 53 (0-181). A social group on average was 11 (1-83). The adult male:female ratio was 1:4 and the number of calves per adult female was 0.1. When considering the behaviour of adult males, their reaction with other females (84.9%) and males (61.4%) was largely prosocial. Musth males displayed dominance (67.8%) and aggressive (72.5%) behaviours towards other males they interacted with. Almost all males were found to associate with at least one other male during our study. Our study shows that the adult male:female sex ratio differs from the ratio from the last national elephant census, and the adult males show a complex repertoire of social interactions.

Keywords: Asian elephants, Behaviour, Demography, Dry zone, National Park