

**BIOLOGICAL AND ECOLOGICAL ASPECTS OF THE INDIAN CRESTED PORCUPINE (*Hystrix indica*) POPULATION AT UDAWATTEKELE FOREST RESERVE IN KANDY, SRI LANKA**

**S.S.K.S. Thadhani<sup>1\*</sup>, D.S. Weerasekera<sup>1</sup> and K.B. Ranawana<sup>2</sup>**

<sup>1</sup>Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka

<sup>2</sup>Department of Zoology, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka

\*sam.sujatha@gmail.com

The Indian Crested Porcupine (*Hystrix indica*) ranges freely in Southern Asia and is found across the Middle East, Pakistan, Bhutan, India and Sri Lanka. Their home range includes forests and shrublands, urban settings, rocks, crevices, hilly ridges, and mounds. Porcupine density is related to vegetation, the availability of food and predator activity. Since it has a large geographical distribution, porcupines are adapted to various habitats. However, due to habitat destruction, the porcupine density is fluctuating. *Hystrix indica* population was studied from September 2019 to May 2021 at the Udawattekele Forest Reserve, Kandy, Sri Lanka (7.2989 °N, 80.6424 °E), spanning 104 ha, for 18 months. Seven transects (T) within the reserve T1 (1 km), T2 (1.55 km), T3 (0.83 km), T4 (0.32 km), T5 (0.65 km), T6 (0.1 km) bordering the reserve on the North, and T7 (0.58 km), were used to study the population. Four persons undertook data collection, two walking on parallel transects at a given time to avoid double counting. Observations were made twice a week at dusk from 05:00 – 06:00 h, at night between 20:00 – 22:00 h, and at dawn from 04:00 – 05:00 h, four times a month. The data was truncated using Distance 7.3 computer application into 3-month intervals due to the relatively small population of 20± individuals. The porcupines' elusive nature rendered night-time counts almost impossible yet provided valuable insight into nocturnal behaviour, mating and foraging patterns. The adult population was biased toward sows (3 females:1 male), and annual survival rates were greater for adult females than for males. Despite being monogamous, adult males preferred to forage alone, increasing their risk of falling prey to traps and succumbing to road kills. Birth rates of reproductively mature females averaged 0.82 annually during the 18-month study period, while a mean reproductive rate of 0.41 young females, based on birth rates and the pup sex ratio, was calculated. The estimated population drop rate of 0.034 indicated that the study population might be declining; however, further investigation is needed to clarify this trend. Several factors have contributed to the decline of the porcupine population at Udawattekele: the scarcity of food within the reserve forced the porcupines to venture beyond the reserve's borders to scavenge garbage disposal bins and private gardens, often falling victim to dogs and human traps. The Indian crested porcupine is rendered an agricultural pest due to its ability to destroy crops with its frontal incisors and sharp, strong front claws. Yet, several anthropogenic threats, including poaching for its meat, have reduced its population at an alarming rate. Thus priority should be given to the conservation of the species before it reaches an endangered level.

**Keywords:** Indian crested porcupine, Conservation, Population, Udawattekele