

INFLIGHT AND OUTFLIGHT ACTIVITY PATTERNS OF FIVE SPECIES OF CAVE DWELLING BATS IN SRI LANKA

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ABSTRACT

Wavulgalge, a natural cave situated in Nikapitiya, Koslanda (6°40' - 6°45'N: 80°00'-81°05'E), in the eastern region of Sri Lanka is sympatrically inhabited by five species of bats, i.e., four microchiropterans; *Rhinolophus rouxii* (10000 - 12000 individuals), *Hipposideros lankadiva* (1500 - 2000), *Hipposideros speoris* (200 - 300), *Miniopterus schreibersii* (700 - 1000) and one megachiropteran, *Rousettus leschenaulti* (5000 - 7000). Field studies were carried out from May 1988 to November 1989 in this cave to study the factors influencing the timing of inflight and outflight activity of each bat species. Throughout the study period the outflight commenced ca. 10 minutes before the sunset (light intensity 150-350 lux) and the bats returned the following morning, ca. 10 minutes before the sun rise (light intensity 100 - 200 lux). The light intensity threshold of different species of bats appeared to be different from one another. During the outflight, *R. rouxii* and *M. schreibersii* were the first bats to emerge, followed by hipposiderids and the fruit bat, *R. leschenaulti*. During the inflight in the morning, complete reverse sequence was observed. Results show that the light intensity is the most crucial environmental factor that regulates the time of outward and inward flight activities of the bat species of this cave. In contrast, no relationship was evident between the outward and inward flight activities of the bats and the other environmental factors monitored namely temperature, humidity, rainfall and the velocity of the wind.

Keywords : Microchiroptera, Megachiroptera, inflight, outflight, cave dwelling, light intensity.