D-25: Distribution, abundance and roosting preference of fruit bats (Megachiroptera) in Sri Lanka

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Fruit bats play a vital role in pollination and seed dispersal in a number of economically important plants, but large numbers could cause serious crop damage. Since no quantitative data is available on the distribution and abundance of fruit bats, this research was undertaken to gather baseline data of Sri Lankan fruit bats.

Investigations commenced in September 1995 and are still in progress. Population sizes were estimated by direct count and in cave dwelling species, by counting the number of bats in an unit area and then extrapolating this value to the total area occupied by bats.

Bats were found in all districts where observations were made : *Pteropus giganteus* in 53 locations (13 districts), *Cynopterus sphinx* in 158 locations (10 districts) and *Rousettus leschenaulti* in 14 locations (7 districts). *C. sphinx*

(50 times) and *R. leschenaulti* (38 times) were captured during mistnetting. These 3 showed different roosting preferences : *P. giganteus* open roosts on tree tops, *C. sphinx* inside the foliage of banana, kitul, and palmyrah trees and *R. leschenaulti* in caves. Colony size varied among the species : *P. giganteus* 50-15,000 individuals, *C. sphinx* 15 to 50 individuals *R. leschenaulti* few hundreds to 200,000 individuals.

Results show that all 3 species are widely distributed all over the island, *R. leschenaulti and P. giganteus* formed stable colonies, whereas *C. sphinx* changed roosting sites from time to time. Therefore, quantitative information obtained in this study for *P. giganteus and R. leschenaulti* can be used as baseline data for future reference. Comparison of the results of this study with previous available records indicate a 10 fold increase of the population size of *R. leschenaulti* in 2 locations of Sri Lanka. This emphasises that periodic assessment in identified stable roosts can be used to evaluate biotic and ecological changes occurring in a given area. Since population sizes of these species can be precisely determined during day time, these 2 species are ideal indicators to study such changes.

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