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Specificity of ecto parasites of three cave dwelling Chiroptera (Rousettus leschenaulti, Rhinolophus rouxii, Hipposideros speoris) in selected cave roosts of Sri Lanka

The degrees of specificity of ecto parasites of three species of Sri Lankan Chiropteran hosts, Megachiropteran *Rousettus leschenaulti* (Pteropodidae), and Microchiropterans *Rhinolophus rouxii* (Rhinolophidae) and *Hipposideros speoris* (Hipposiderosidae) were examined from eight selected natural caves situated in the Wet and the Intermediate zones. Two were sympatric roosts while the rest were single species colonies. Three other species of bats that commonly occupied both the sympatric colonies were also studied. From a single roost, thirty bats were captured from each species allowing the screening of 372 individual bats. As many ecto parasites as possible were collected and preserved according to standard methodology. Keys were used to identify the different groups of Arthropods thus collected.

Thirty-four species of arthropod ecto parasites were collected from five bat species which included 8 Nycteribiid bat flies, 7 Streblid bat flies, a single bat flea, 4 ticks, 13 mites and a single endo parasitic Streblid (Table 01). The highest number of ecto parasites was harboured by *R. leschenaulti* followed by *H. speoris* and *R. rouxii,* respectively. Among the other three host species, *H. fulvus* was free of all ecto parasites. The host specificity of bat parasites showed a monoxenous trend in the island where 30 out of the 34 parasites encountered were strictly host specific. The Nycteribiids and the bat flea were exclusively monoxenous while 85% of streblids, 77% of mites and 75% of ticks were also strictly host specific. The endo parasitic Streblid showed strict specificity to the host and to the microhabitat on it. The other five pleioxenous host-parasite associations depicted two types of host preferences supported by statistical analysis. A majority of bat ecto parasites showed significantly higher incidence ($P<0.01$) in single species colonies opposed to sympatric roosts. The bat ecto parasite diversity of the sympatric caves were significantly higher ($P<0.05$) than that of single species colonies. The parasite diversity on a particular bat host did not vary with the type of roost. The size of the host was proportionate to the density of ecto parasites on that host. Parasite diversity and the evenness of the sympatric cave with a dry floor was significantly higher ($P<0.05$) than that with the wet floor, probably due to the dry substratum providing a conducive environment for the larval forms of parasites.