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Faunal Diversity and Biodiversity Conservation within Homagama Mahinda Rajapaksha College, Sri Lanka

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Abstract

A faunal diversity survey was carried out to analyze the faunal diversity in Homagama Mahinda Rajapaksha College in Colombo District, Sri Lanka. The survey site is located in a suburban area that is surrounded by disturbed properties. The aim of the survey was to analyze the faunal diversity and recognize the special habitat types in the school premises for conservation purposes. It could recognize five major zones which have different types of microhabitats and rich in faunal diversity. The survey was done as a visual encounter survey, and smartphones, digital cameras and binoculars were used to collect data of the fauna species for documenting and identifying purposes. Also, pitfalls traps, light traps and beating were used as survey methods. The study was done for three days including three random sampling events during both day and night. Standard guides were used for identifying and photographs, notes on observations were sent to experts on each taxon for further confirmation. A total of 188 fauna species were recorded during the survey including 55 species of vertebrates including five classes (Aves, Amphibia, Mammalia, Reptilia, Actinopterygii) and 133 species of invertebrates including six classes (Insecta, Gastropoda, Diplopoda, Clitellata, Chilopoda, Arachnida). The study could document 30 bird, 14 reptile, 6 mammals, 4 amphibian and 1 ray-finned fish species as vertebrates and 95 insect, 5 mollusks, 3 millipede, 2 clitellate, 2 centipede, 26 arachnid species as invertebrate fauna species in the school premises. Based on the results of the survey, the fauna diversity of the studied site is stable and depends on the microhabitat types in the different zones. As a suburban area, the species richness of the site is in well conditions. To keep stable and increase the fauna diversity of the site, doing regular surveys and recording data, generating microhabitats, and conserving highly diverse habitat types are suggested. Unique species like Indian Hare (*Lepus nigricollis*), Indian Crested Porcupine (*Hystrix indica*) were observed and as the only venomous snake species, Merrem's hump-nosed viper (*Hypnale hypnale*) was recorded. The faunal diversity of the studied site helps to keep the unique surroundings there and keeping frequent records and data on the site will help to maintain the biodiversity with constructions in and around the school premises.

Keywords: Faunal diversity, Suburban, Citizen Science, Conservation, Visual encounter