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**THE DIVERSITY AND DISTRIBUTION OF THE HERPETOFAUNA  
IN THE HAKGALA RANGE, SRI LANKA.**

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I. H. SISIRA KUMARA DE SILVA

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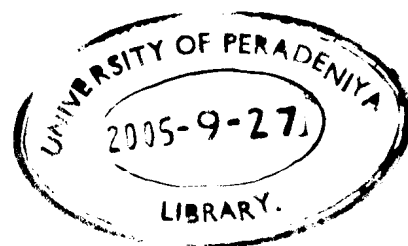
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# THE DIVERSITY AND DISTRIBUTION OF THE HERPETOFAUNA IN THE HAKGALA RANGE, SRI LANKA.

I.H. Sisira Kumara de Silva

Department of Wildlife Conservation,  
Nuwara Eliya,  
Sri Lanka.



## Abstract

The Class Amphibia is represented in Sri Lanka by four families of Anurans and one family of Gymnophiona. The amphibians of Sri Lanka may be grouped according to their habitats, viz., aquatic (Order Anura, Family Ranidae, Subfamily Raninae), terrestrial (Order Anura, Family Bufonidae), fossorial (Order Apoda, Family Ichthyophidae and Order Anura, Family Microhylidae) and arboreal (Order Anura, Family Ranidae, Subfamily Rhacophorinae). Most endemic species of these four groups are found in the lowland wet evergreen forest and lower and upper montane forests. Hakgala Range contains upper montane forest.

To assess the diversity of amphibian and reptilian faunae, line transect method was used. Sites of study included hilly terrain and flat areas which are mainly occupied by primary and scrub forest, marsh areas, streams, man made forest, man made ponds, grassland, water pools. In addition, Hakgala Botanical Garden was also studied. Sampling stations were selected in eleven different habitat categories.

Twelve species of amphibians were recorded during the study period in Hakgala Range. (Attempts were not made to locate by digging the fossorial *Ichthyophis*.) Out of twelve species observed, seven species are endemic to Sri Lanka, namely *Fejervarya greeni*, *F.kirtisinghei*, *Microhyla zeylanica*, *Theloderma schmarda*, *Rhacophorus microtympanum*, *Polypedates eques* and *Ramanella palmata*. *Fejervarya kirthisinghe* had the highest number of individuals while *Rhacophorus microtympanum* was the most abundant anuran species. Hill terrain scrub jungle had the highest diversity (Shanon Index value - 0.754) whereas the man made forest had the lowest diversity (Shannon Index - 0.338). Highest dominance, as indicated by Berger-Parker Index, occurred in the Hakgala Garden (0.733) whereas the lowest dominance occurred in water pools (0.317). According to the similarity dendrogram, hill terrain scrub jungles and flat terrain primary forest are the most similar habitats in terms of amphibian diversity.

The snake fauna of Sri Lanka is extremely diverse and can be found in diverse habitats such as fossorial, terrestrial, aquatic and arboreal. They are mainly found in the lowlands. Three species of snakes were recorded in Hakgala Range, namely, *Hypnale walli*, *Aspidura trachyprocta* and *Coluber mucosus maximus*, and all three species are endemic to the island. In addition to the snakes, one species of gecko and one species of skink were recorded during the present study.

The Hakgala Gardens had the highest diversity (Shannon Index - 0.75) in terms of reptiles whereas the marshy areas had the lowest diversity (Shannon Index - 0.528). The highest evenness was observed in the Hakgala Garden (Shannon Evenness - 0.888) while the lowest value was observed in the flat terrain scrub jungle (Shannon Evenness - 0.662). Highest dominance (Berger-Parker Index) occurred in grassland (Berger-Parker Index - 0.486) whereas lowest dominance occurred in Hakgala Garden (Berger-Parker Index - 0.308). According to the similarity dendrogram, flat terrain scrub jungle and flat terrain primary forest are the most similar habitats in terms of reptilian diversity.