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A study of the Reptilian faunal diversity in Kukulugala isolated hill Forest, Ratnapura District in Sri Lanka

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The Kukulugala Forest (KF) is situated within the Western boundary of the Ratnapura district, Sabaragamuwa Province; and is located 15 km away from Bulathsinhala town. The study area is located between $6^{\circ}30'-6^{\circ}31'$ Northern latitudes and $80^{\circ}-80^{\circ}15'$ Eastern longitudes. The forest ecosystem, which covers an area of 6000 acres within the Ayagama secretariat division, can be categorized as a low land evergreen rain forest. The dominant tree species are *Dipterocarpus* sp., *Mesua* sp., *Doona* sp., *Schumacheria castaneifolia*, *Artocarpus nobilis*, *Calophyllum inophyllum*, *Mangifera zeylanica*, *Humboldtia laurifolia*, *Oncosperma fasciculatum* and *Canarium zeylanicum* species. Kukulugala mountain, also known as "Horanae Kanda" in Sinhala, is 705m a.s.l. The area consists of a rich hydrological network which includes two large waterfalls called "Ritigas Ella" and "Miyunu Ella". Additionally, two large streams that start from this mountain, "Thaberum Ela" and "Era-Hadapana Ela", are the major tributaries that flow throughout the year. The average annual rainfall is around 3849 mm, with heavy rainfalls occurring from December to May. The weather gradually becomes dry from July to October with highest temperatures recorded during the month of August. The mean annual temperature in KF is 28.7°C with maximum of 32°C and minimum of 21.3° .

The KF is well known for its great faunal diversity within the Ratnapura District and is thus considered a very important forest area. It is particularly considered a hot spot for reptiles due to its availability of microhabitats. The present study was carried out between November 2001 and February 2002. Fieldwork was conducted for a total of 20 days (9 hrs / day) over the 4 month period. One hour was spent at each of the 72 randomly selected transects that were located within the three habitat types found in the area. Surveys were conducted both day and night, with flashlights being used at night. The diversity and abundance of reptiles were investigated in KF by using the belt transect (2x100 m) sampling method. During the study period we recorded a total of 708 individuals under 58 species of reptiles, which is about 31.5 % of the total Sri Lankan reptiles described to date. They belonged to 41 (51.2%) genera and 12 (57.1%) families. The endemic Sri Lankan relict genera; *Aspidura*, *Balanophis*, *Cercaspis*, *Lyriocephalus*, *Ceratophora*, *Lankascincus* and *Nessia* were also encountered in KF. Out of the 58 recorded species, 25 (43.1%) are threatened and 21 (36.2%) are endemic.

The cutting of forests and the slash and burn technique of shift cultivations are the main causes of habitat loss of several endemic reptiles. Many human activities such as cutting trees inside the forest contribute to the decline of arboreal reptiles such as, *Calotes liolepis*, *Lyriocephalus scutatus*, *Ahaetulla pulverulenta*, *Chrysopelea ornata*, *Dendrelaphis bifrenalis* and *Trimeresurus trigonocephalus* species. Habitat loss is the major threat to KF Reptile populations. Despite the short term nature of the present study, it is evident that there is a need for further, long term studies of this nature. In addition it is recommended that awareness programmes on managing the forest and its resources are conducted for the local communities which will in turn contribute to the protection of these species.