

# **Craniometric Analysis of Two Primate Species in Sri Lanka: *Macaca Sinica* and *Trachypithecus Vetulus***

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Sri Lanka is home to five primate species, namely toque monkey (*Macaca sinica*), purple-faced leaf langur (*Trachypithecus vetulus*), gray langur (*Semnopithecus priam*) and two loris species (*Loris tardigradus* and *Loris lydekkarianus*). Toque macaque and the two langur species belong to the group of Old World Monkeys in the family Cercopithecidae and were divided into two sub families as Cercopithecinae and Colobinae respectively. There are marked external morphological differences between these two species, however, no studies have been conducted to determine the differences from their skeletal morphology. Therefore, the main objective of this study was to determine the species variation using standard craniometrical measurements. This study focuses on the toque macaque and purple faced leaf langur. Cranial measurements were taken from 10 macaque and 10 purple - faced langur crania. Mandibular measurements were taken from 8 macaque and 10 langur mandibles. Fifteen cranial and 9 mandibular measurements were taken using a digital sliding caliper and were included for the analysis. In the cranium, there are statistically significant differences in the muzzle length, nasal breadth, nasal height, piriform height, piriform breadth and inter orbital breadth between these two species. Macaque cranium has a longer muzzle, grater upper facial height and wider long nose than langurs. However, langur cranium has a wider inter orbital distance and narrower piriform aperture than macaques. In the mandible, there are statistically significant differences between bicondyle breadth, bigonial breadth, bimental eminence breadth and height of ramus. Langur mandibles are taller and wider than macaques. When considering the teeth, both species have

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bilophodont teeth; nevertheless langur teeth have higher cusps than macaques. This is directly related to their dietary specialization and is used to distinguish between cercopithecines and colobines. These cranial and mandibular measurements and dental morphology are very important for the identification of different primate species from the bones excavated from prehistoric cave sites in Sri Lanka.

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