

Characterisation of Mitochondrial 12s rRNA Gene of Yellow Striped Chevrotain (*Moschiola kathygre*) and Development of a PCR-RFLP marker for the Unambiguous Identification of the Species**Tharanya S.^{1*}, Weerasekera D.S.², Ranawana K.B.³, Jayawardana N.U.⁴**¹*Postgraduate Institute of Agriculture, University of Peradeniya, Sri Lanka*²*Postgraduate Institute of Science, University of Peradeniya, Sri Lanka*³*Department of Zoology, Faculty of Science, University of Peradeniya, Sri Lanka*⁴*Department of Agricultural Biology, Faculty of Agriculture, University of Peradeniya, Sri Lanka***stharyana1992@gmail.com***Abstract**

In the evolutionary studies of mammals, the study of Tragulids, commonly known as Chevrotains or mouse deer, is very important since they represent the basal branch of ruminants. They are the only members of the infraorder Tragulina and have not undergone significant changes since the Miocene period. Most of the Tragulids have become extinct leaving three genera to be found at present including, *Tragulus*, *Hyemoschus*, and *Moschiola*. The genus *Moschiola* consists of three species that can be found both in India (*M. indica*) and Sri Lanka (*M. meminna* and *M. kathygre*). The complete mitochondrial genome of Indian mouse deer has been sequenced recently but Sri Lankan mouse deer lacks molecular information. In the present study, the mitochondrial 12s rRNA gene sequence of Yellow striped Chevrotain (*M. kathygre*) was analysed with the objective of formulating a marker for the identification of the species. The genomic DNA from hair follicles was isolated and the 12s rRNA mitochondrial region was amplified using universal primers, forward primer 5'CAAAGTGGGATTAGATACCCCACTAT 3' and reverse primer 5'GAGGGTGACGGGCGGTGTGT 3'. The sequence was compared with other deer species and the Indian Chevrotain. The Sri Lankan yellow striped chevrotain shared the highest sequence similarity of 91.19% with the Indian Chevrotain and above 89% similarity with other deer species. In silico analysis of 12s rRNA gene sequence revealed that a PCR-RFLP approach can be used to differentiate Yellow striped Chevrotain from the Indian Chevrotain using *RsaI*, *BsrI*, *DraI* and *HinfI* restriction enzymes.

Keywords: Yellow striped chevrotain, Tragulids, 12s rRNA gene, PCR-RFLP