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Molecular Phylogenetics of Small Indian Civet (*Viverricula indica*)

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ABSTRACT

The genus *Viverricula* is represented by single species, *Viverricula indica,* commonly called as small Indian civet. Notably, in distribution, range V*iverricuala indica* span from Malaysia in southeast Asia to Pakistan in south Asia. It appears surprising that a genus with such a large distribution consists of a single species only. To address the issue, we performed pilot study to access phylogeny and molecular divergence in small Indian civet, *Viverricula indica* using partial cytochrome *b* gene sequence information. Our Bayesian inference revealed that *Viverricula indica* is not strictly monophyletic and exhibits deep divergence in the form of atleast two divergent clades. Using relaxed molecular clock assumption, we trace the divergence of this clades in *Viverricula indica* to 7.59 Million year before present with 95% HPD of 5.13-9.91 Million year before present, which correspondence to late Miocene. Vicariance was probably the driving force that shaped the divergence in *Viverricula indica* both in the Southeast Asia and in the Indian subcontinent. Based on this, we proposed that there is a need for a taxonomic revision for *Viverricula indica* and that this species should be split into at least two species/subspecies.

Key words: Civet, mitochondrial DNA, Phylogenetics, *Viverricula indica*