Molecular phylogeny and taxonomy of the genus Nectogale
(Mammalia: Eulipotyphla: Soricidae)

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Abstract

It is generally believed that there is only one species, Nectogale elegans in the genus Nectogale. However, the validity of the species status of Nectogale sikhimensis has been controversial, and the phylogenetic relationship of this genus has not been well resolved. In this study, the mitochondrial cytochrome b gene and eight nuclear genes were used to infer the molecular phylogenetic relationship of the genus. The results of phylogenetic trees indicated that Nectogale was divided into two large lineages—Group A from Tibet and Group B from Sichuan and Yunnan. The divergence time between the two groups was estimated to be 5.76 million years. The genetic distance of K2P between the two groups was over 14%. Some morphological differences were also found in Groups A and B, including the skull size, shape of the second upper molar (M2), first lower unicuspid (a1), and palatal suture. In consideration of the large genetic distance, divergence time, and morphological differences, we recover the species status of N. sikhimensis and support that Nectogale consists of two species.

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