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# Phylogenetic relationships of leaf monkeys (*Presbytis*; Colobinae) based on cytochrome *b* and 12S rRNA genes

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**ABSTRACT.** Little is known about the classification and phylogenetic relationships of the leaf monkeys (*Presbytis*). We analyzed mitochondrial DNA sequences of cytochrome *b* (Cyt *b*) and 12S rRNA to determine the phylogenetic relationships of the genus *Presbytis*. Gene fragments of 388 and 371 bp of Cyt *b* and 12S rRNA, respectively, were sequenced from samples of *Presbytis melalophos* (subspecies *femoralis*, *siamensis*, *robinsoni*, and *chrysomelas*), *P. rubicunda* and *P. hosei*. The genus *Trachypithecus* (Cercopithecidae) was used as an outgroup. The Cyt *b* NJ and MP phylogeny trees showed *P. m. chrysomelas* to be the most primitive, followed by *P. hosei*, whereas 12S rRNA tree topology only indicated that these two species have close relationships with the other members of the genus. In our analysis, *chrysomelas*, previously classified as a subspecies of *P. melalophos*, was not included in either the *P. m. femoralis* clade or the *P. m. siamensis* clade. Whether or not there should be a separation at the species level remains to be clarified. The tree topologies also showed that *P. m. siamensis* is paraphyletic with *P. m. robinsoni*, and *P. m. femoralis* with *P. rubicunda*, in two different

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clades. Cyt *b* and 12S rRNA are good gene candidates for the study of phylogenetic relationships at the species level. However, the systematic relationships of some subspecies in this genus remain unclear.

**Key words:** *Presbytis*; Cytochrome *b* gene; 12S rRNA gene; Colobinae; Leaf monkeys

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