

A little frog leaps a long way: compounded colonizations of the Indian Subcontinent discovered in the tiny Oriental frog genus *Microhyla* (Amphibia: Microhylidae)

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ABSTRACT

Frogs of the genus *Microhyla* include some of the world's smallest amphibians and represent the largest radiation of Asian microhylids, currently encompassing 50 species, distributed across the Oriental biogeographic region. The genus *Microhyla* remains one of the taxonomically most challenging groups of Asian frogs and was found to be paraphyletic with respect to large-sized fossorial *Glyphoglossus*. In this study we present a time-calibrated phylogeny for frogs in the genus *Microhyla*, and discuss taxonomy, historical biogeography, and morphological evolution of these frogs. Our updated phylogeny of the genus with nearly complete taxon sampling includes 48 nominal *Microhyla* species and several undescribed candidate species. Phylogenetic analyses of 3,207 bp of combined mtDNA and nuDNA data recovered three well-supported groups: the *Glyphoglossus* clade, Southeast Asian *Microhyla* II clade (includes *M. annectens* species group), and a diverse *Microhyla* I clade including all other species. Within the largest major clade of *Microhyla* are seven well-supported subclades that we identify as the *M. achatina*, *M. fissipes*, *M. berdmorei*, *M. superciliaris*, *M. ornata*, *M. butleri*, and *M. palmipes* species groups. The phylogenetic position of 12 poorly known *Microhyla* species is clarified for the first time.