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Lost and found: One of the world's most elusive amphibians, *Pseudophilautus stellatus* (Kelaart 1853) rediscovered

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Abstract

Pseudophilautus stellatus (Kelaart 1853) has been rediscovered from the Peak Wilderness, Central Hills of Sri Lanka. The species, till now known only from its lost holotype, was the first shrub frog described from Sri Lanka, and had not been reported since then. It was thought to have become extinct for nearly 157 years, being the amphibian species "lost" for the longest amount of time. Here we designate a neotype from the material collected at what we consider its type locality, having considered characters of the lost holotype and provide a complete description. We have conducted a molecular phylogenetic analysis, on which basis the species is well differentiated from all other *Pseudophilautus* sequenced so far, and placed in a clade together with *P. femoralis*, *P. frankenbergi*, *P. mooreorum*, and *P. poppiae*.

Key words: extinct amphibian, Peak Wilderness, *Pseudophilautus*, *Pseudophilautus stellatus*, rediscovery, Sri Lanka

Introduction

A global amphibian hotspot, the island of Sri Lanka (Meegaskumbura, *et al.* 2002) claims to have the highest number of extinct amphibians, which numbers 20 species (Manamendra-Arachchi & Pethiyagoda 1998, 2005; Manamendra-Arachchi *et al.* 2004; Pethiyagoda 2005; IUCN & MENR 2007; Meegaskumbura *et al.* 2007; Stuart *et al.* 2008), after the recent rediscovery of *Adenomas kandianus* Günther (1872) (Wickramasinghe *et al.* 2012a), of which 19 alone belong to the genus *Pseudophilautus* (Manamendra-Arachchi & Pethiyagoda 2005; Meegaskumbura *et al.* 2007). A total of 34 species have so far been declared as extinct globally (Stuart *et al.* 2008). The sudden steep rise in the number of amphibian species known from Sri Lanka, within a very short period of time, is due to the increased amount of surveys being carried out on the island (Manamendra-Arachchi & Pethiyagoda 2005; Meegaskumbura & Manamendra-Arachchi 2005).

Frogs of the family Rhacophoridae, consisting of 73 species belonging to three genera, *Polypedates*, *Taruga*, and *Pseudophilautus*, form a large portion of Sri Lanka's amphibian fauna (Wickramasinghe *et al.* 2012b). Species now included in the genus *Pseudophilautus*, were previously considered to belong to a Pan-Asian genus *Philautus* but were found to constitute a separate clade based on molecular phylogenetic studies (Bossuyt & Dubois 2001; Bossuyt *et al.* 2004; Frost *et al.* 2006; Yu *et al.* 2009). Other studies also showed further species from Sri Lanka and India to be separate clades, and these were therefore assigned to separate genera (Li *et al.* 2009; Biju *et al.* 2010; Yu *et al.* 2010; Meegaskumbura & Manamendra-Arachchi 2011).

Pseudophilautus stellatus was the first shrub frog described from the island of Sri Lanka (Kelaart 1853). After not having been recorded for nearly 160 years, *P. stellatus*, known only from its now lost holotype (Bossuyt & Dubois 2001; Manamendra-Arachchi & Pethiyagoda 2005), was reported to have become extinct, despite extensive field studies carried out over the past decade (Manamendra-Arachchi & Pethiyagoda 2005). The species was first described by Kelaart in 1853, based on a single specimen and with a very vague description which however mentioned several diagnostic features not observed in other Sri Lankan frogs. No living *P. stellatus* was