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Redescription of an enigmatic salamander, *Pseudohynobius puxiongensis* (Fei et Ye, 2000) (Urodela: Hynobiidae)

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Abstract

Protohynobius puxiongensis Fei et Ye, 2000, a poorly known hynobiid, was described from a single specimen. The new genus was erected because of its peculiar internasal bone. Recent molecular investigations transferred the species to genus *Pseudohynobius* and presence of the internasal bone was shown to be a variable character. Taxonomically this species is relatively poorly known with no descriptions of egg, larvae, habitat, and other biological data. Furthermore, the extent of adult variation is unknown. We describe features of the adult, larvae, egg sacs, karyotype, breeding habitat and habits. The species is characterized by the following features: dorsal color gray-yellow with yellowish spots; dorsal tail with distinct yellowish line; total length shortest in the genus; tail length shorter than snout-vent length; head length to head width ratio smaller than 1.53; and a moderate number of vomerine teeth (11–15). The karyotype and the breeding season of *Ps. puxiongensis* are similar to that of other species of the genus.

Key words: internasal bone, supplemental data, morphology, karyotype, biology

Introduction

The intriguing Asian hynobiid salamander, *Protohynobius puxiongensis* Fei et Ye, 2000 was described as a new species, genus, and subfamily based on a single specimen collected in western China in 1965. The species has been a taxonomic puzzle for more than 40 years, especially because the type specimen possessed a unique internasal bone not observed in any other living hynobiid salamander. The species was recently rediscovered, and analyses based on complete mitochondrial genomes and morphological data placed *Pr. puxiongensis* into the genus *Pseudohynobius* (Peng *et al.*, 2010).

However, taxonomically this species is relatively poorly known with no descriptions of eggs, larvae, habitat, and other biological data. Further, there still are incomplete descriptions to adult like the variations depending on different samples. Some variations were reported by Peng *et al.* (2010), such as the internasal bone, found in the type specimen but absent in newly collected individuals, and the premaxillary fontanelle, present in new collections but absent in the type. Using recently collected specimens, we investigated the karyotype and skull morphology. Herein, we give a revised diagnosis and redescription including the features of skull and karyotype. In addition, we comment on the karyotypes and breeding microhabitat compared with other *Pseudohynobius* species.

Materials and methods

From spring until winter in 2007–2009, we surveyed near the type locality with the assistance of local people. Adults, larvae and egg sacs of *Ps. puxiongensis* were collected from mountain brooks (28°38.168’N,

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