



## Specific separation of *Polypedates braueri* (Vogt, 1911) from *P. megacephalus* (Hallowell, 1861) (Amphibia: Anura: Rhacophoridae)

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### Abstract

The Taiwan population of the *Polypedates leucomystax* complex has been assigned to *P. megacephalus*, which was originally described from Hong Kong. The Taiwan and Hong Kong populations, however, are markedly differentiated in DNA sequences, and advertisement call and morphological characteristics. The Taiwan population is therefore regarded as a distinct species, for which the name *P. braueri* (Vogt 1911) is available. Since the holotype of *P. braueri* was not designated, a lectotype is chosen among the nine syntypes examined.

**Key words:** *Polypedates leucomystax*, mtDNA, acoustics, Hong Kong, Taiwan, lectotype designation

### Introduction

The frogs of the *Polypedates leucomystax* complex are the most common and most widely distributed species group among Asian rhacophorids, occurring from Nepal through Southeast Asia and continental China to Taiwan (Fei *et al.* 2009). Also, they currently occur in several islands of the Ryukyus, Japan, and Guam as a result of recent unintentional introductions (Christy *et al.* 2007; Kuraishi *et al.* 2009). This species complex has long been thought to include many cryptic species but is notoriously difficult to classify (Matsui *et al.* 1986). Based on an acoustic and karyological survey, Matsui *et al.* (1986) argued for a distinct specific status of the Taiwan population of *P. leucomystax* (type locality: Java), to which it had been assigned, and tentatively called it *P. megacephalus*, originally described from Hong Kong but synonymized to *P. leucomystax* until then. Matsui *et al.* (1986) expressed some reservation in applying the name *P. megacephalus* to the population from Taiwan, because there seemed substantial variations among populations of the continental Chinese *P. leucomystax* complex. Also, a few more recent authors have regarded the specific status of the *Polypedates* populations from Taiwan and continental China, as well as the validity of *P. megacephalus*, yet to be studied (e.g., Lazell *et al.* 1997). Results of our subsequent studies strongly indicated that the populations from Taiwan and Hong Kong are not conspecific, whereas some populations from the continent are conspecific with the Taiwan population. In this article, we present molecular, acoustic, and morphological evidence for the heterospecific relationships of the populations from Taiwan and Hong Kong. We also resurrect an old, once invalidated name given for the Taiwan population on the basis of examination of museum specimens.

### Material and methods

For genetic comparisons, we used DNA sequences of "*P. megacephalus*" from Taiwan (N=4) and Anhui (N=1), *P. megacephalus* from Hong Kong (N=2), and *P. leucomystax* from Java (N=4). Inclusion of the Anhui population is