



## The masked water snakes of the genus *Homalopsis* Kuhl & van Hasselt, 1822 (Squamata, Serpentes, Homalopsidae), with the description of a new species

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### Abstract

Masked water snakes of the genus *Homalopsis* are abundant in the wetlands of Southeastern Asia. Currently, two species are recognized, the widespread *H. buccata* Linnaeus and the Mekong drainage endemic *H. nigroventralis* Deuve. On the basis of morphology we resurrect *H. hardwickii* Gray and *H. semizonata* Blyth and describe a new species from Indochina. We establish a neotype for *Coluber buccatus* Linnaeus and examine the status of other names associated with this species. *Homalopsis* species can be distinguished from each other on the basis of dorsal scale row counts, the scales in the ocular ring, and other head scale architecture. The new species, *Homalopsis mereljcoxi*, is distinguished from all others by its one postocular and one postsubocular scale, and a higher dorsal scale row count (40–47 scale rows at midbody) that are reduced to more than 30 scale rows at the body's posterior. The new species is heavily exploited for the skin trade at Tonle Sap, Cambodia. *Homalopsis* likely contains other cryptic species that have evolved in the changing aquatic habitats of Southeast Asia. A key to the species of *Homalopsis* is provided.

**Key words:** *buccata*, cryptic species, *hardwickii*, *mereljcoxi*, *nigroventralis*, *semizonata*, Southeast Asia, systematics, taxonomy

### Introduction

Species based upon morphology are frequently thought of as having clearly defined characteristics that separate them, in fact species and lineages may have meristic and morphometric characters that overlap or are virtually identical in appearance yet retain their genetic integrity (McLeod 2010). Bickford *et al.* (2007) considered species cryptic if they had been classified as a single species because they are at least superficially indistinguishable based on morphology. Frequently cryptic species are uncovered with DNA sequence data and subsequently confirmed with morphological and ecological data. However, in some circumstance cryptic species can be first discovered through careful morphological observations and later supported with molecular data.

Homalopsid snakes, long considered a subfamily of the Colubridae (Gyi 1970), are a family of tropical Asia and Australasia estimated to have originated ca. 53 mya (Pyron & Brubrink, 2011). Molecular work has supported the view that the clade was outside the Colubridae and that it forms the sister to most of the other colubroids (Kelly *et al.* 2003; Lawson *et al.* 2005; Vidal *et al.* 2007; Pyron *et al.* 2010). Alfaro *et al.* (2008) recovered four clades within the Homalopsidae, their clade D contained a mixture of freshwater (*Enhydris bocourti*, *Erpeton tentaculatus*, *Homalopsis buccata*) and brackish-marine species (four species of *Cerberus*), with the freshwater *H. buccata* the sister to the brackish-marine genus *Cerberus*. The family status of the Homalopsidae and the close relationship between *Cerberus* and *Homalopsis* has again been supported by Pyron *et al.* (2010).

Snakes of the genus *Homalopsis* are abundant in the low elevation wetlands of Southeast Asia. They are the largest members of the family, exceeding 1.3 m in total length, with robust bodies, wide heads, usually a distinctive pattern of alternating brown and cream bands outlined in black, and usually a pale colored venter with paired dark