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A revision of the species group of *Xenochrophis piscator* (Schneider, 1799) (Squamata: Natricidae)

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Abstract

Morphological variation was investigated across the entire geographic range of the snakes of the *Xenochrophis piscator* species group. Our results, based on morphological univariate analyses, show the existence of several well-defined clusters identified as species. *Xenochrophis flavipunctatus* (Hallowell, 1861) is distinct from *X. piscator* (Schneider, 1799) and sympatric with it over a large area. *Xenochrophis tyleri* (Blyth, 1863) is confirmed as the valid combination for the population living on the Andaman Islands. *Xenochrophis asperrimus* (Boulenger, 1891) is confirmed, with species status, for populations from Sri Lanka. *Xenochrophis melanzostus* (Gravenhorst, 1807) is accepted, as a distinct species most probably endemic to Java. *Xenochrophis schnurrenbergeri* Kramer, 1977 is confirmed for populations from Nepal, southeastern Pakistan, and northern and eastern India. *Tropidonotus sanctijohannis* Boulenger, 1891 seems to be a montane colour morph of *X. piscator* and is not regarded here as valid. The second population of “*X. piscator*” on Sri Lanka is regarded as different from that of the mainland, but it is not named here due to the uncertain relationships among populations of southern India and Sri Lanka. The variation of *X. piscator* sensu stricto is discussed. All taxa are redescribed on the basis of new material. The history of all synonyms is discussed and neotypes are designated for *Hydrus palustris* Schneider, 1799, *Coluber melanzostus* Gravenhorst, 1807 and *Amphiesma flavipunctatum* Hallowell, 1861. The holotype of *Hydrus piscator* Schneider 1799 has been rediscovered and is discussed.

Keywords: Asia, India, neotype, Oriental region, Serpentes, taxonomy, *Xenochrophis flavipunctatus*, *Xenochrophis tyleri*, *Xenochrophis melanzostus*, *Xenochrophis schnurrenbergeri*, *Xenochrophis asperrimus*, *Xenochrophis sanctijohannis*

Introduction

Xenochrophis piscator (Schneider, 1799) has had a long and controversial nomenclatural history, although its members are among the most common snake species in the Oriental Region. Because of this abundance, specimens of *Xenochrophis* are also well represented in museum collections. Nevertheless, the *X. piscator* group has never been examined in its entirety. The current taxonomy relies on the limited investigations by Taylor (1965), Smith (1943) and Zug *et al.* (2006).

The taxonomic history of the genus *Xenochrophis* Günther, 1864 is complex. The genus *Hydrus* Schneider, 1799 has been shown to be a synonym of the genus *Natrix* Laurenti, 1768 (see Williams & Wallach 1989). Kuhl (1824: col. 206) described the genus *Tropidonotus* and his diagnosis makes the name valid, however, he did not include any species in association with the name. Although Kuhl (1824) stated that he created this genus to accommodate two species from the [East] Indies, most probably those now known as *Xenochrophis melanzostus* and *X. vittatus*. Subsequently, Boie (1826) included *Coluber natrix* Linnaeus, 1758 and *Coluber viperinus* Latreille in Sonnini & Latreille, 1802 (a junior synonym of *Natrix maura* Linné, 1758) in *Tropidonotus*. By this action, Boie (1826) made *Tropidonotus* a junior synonym of *Natrix* Laurenti, 1768. Following Schlegel (1837), most water snakes were referred to *Tropidonotus* for several decades. Duméril *et al.* (1854) and Boulenger (1893) used this