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## A new species of *Muraenichthys* (Anguilliformes: Ophichthidae) from the Indo-Pacific, with revised generic diagnosis

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### Abstract

A new worm eel (Ophichthidae, Myrophinae), *Muraenichthys velinasalis*, is described based on five specimens (97.9–281.0 mm of total length) collected from Taiwan, Philippines, northeastern Australia, Vanuatu, and Sri Lanka. *Muraenichthys velinasalis* is most similar to *M. philippinensis* and *M. schultzei* in the position of the dorsal-fin origin behind a vertical through mid-anus, but can be easily distinguished from the latter two species by the condition of the posterior nostril, unique character of *M. velinasalis* within *Muraenichthys*, and by the shape of the teeth on the innermost row of the upper jaw (relatively robust and slightly pointed vs. slender and pointed), arrangement of upper-jaw teeth (irregularly biserial anteriorly and uniserial posteriorly vs. completely uniserial in *M. philippinensis*, biserial or triserial in *M. schultzei*), and its more numerous or fewer preanal and total vertebrae (44–51 vs. 59–60 in *M. philippinensis*, 42–47 in *M. schultzei*; 136–139 vs. 128–130 in *M. philippinensis*, 119–128 in *M. schultzei*). The genus *Muraenichthys* is re-defined based on all currently valid species by the following combination of characters: eyes located anterior to mid-jaw; inner hole of posterior nostril above upper lip, and outer hole usually outside of mouth, with a prominent but short projected flap anteriorly; a single pore between anterior and posterior nostrils; three preopercular pores; teeth on jaws, vomer, and intermaxillary area; tooth shape variable, blunt to pointed but not distinctly recurved and tooth length equal or less than a half of eye diameter; teeth on jaws and vomer arranged in one to five rows; gill opening constricted, its height < 170% of eye diameter; pectoral fins absent.

**Key words:** Ophichthidae, *Muraenichthys*, new species, generic diagnosis

### Introduction

*Muraenichthys* Bleeker 1853 was the largest genus of the ophichthid subfamily Myrophinae containing as many as 19 heterogeneous species (McCosker 1970). Castle & McCosker (1999) divided *Muraenichthys* into two genera, *Muraenichthys* and *Scolecenchelys* Ogilby 1897. Of which, *Muraenichthys* was defined by the following combination of characters: pectoral fin absent; gill opening constricted; center of orbit located anterior to mid-jaw; posterior nostril opening outside of mouth with a short flap anteriorly; a single sensory pore located between anterior and posterior nostrils; two or three preopercular pores; dentition blunt and multiserial. Among these characters, the shape and arrangement of teeth have been regarded as one of the most common and important characters of the genus (e.g. McCosker *et al.* 2012). However, based on our examination of type specimens, the species belonging to *Muraenichthys* (*sensu* Castle & McCosker 1999) show various tooth shapes and arrangements.

During our taxonomic study of worm eels, five interesting specimens were found from Sri Lanka, Taiwan, Philippines, Australia, and Vanuatu. We herein describe them as a new species belonging to *Muraenichthys*, and provide revised diagnosis for the genus.