



A new genus and species of worm eels, *Sympenchelys taiwanensis* (Anguilliformes: Ophichthidae: Myrophinae), from the northwestern Pacific Ocean

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Abstract

A new genus and species of ophichthid eel, *Sympenchelys taiwanensis* is described. The genus is distinguishable from all other myrophine genera by having neural and haemal spines with well-developed paddle-like tips, and from two closely similar genera, *Mureaenichthys* Bleeker 1853 and *Skythrenchelys* Castle & McCosker 1999, by the following combination of characters: an unstricted gill opening; a minute flap just posterior to the gill opening; a slender cleithrum; three preopercular pores; a slender and distinctly tapered maxilla; an undeveloped supraoccipital crest; and large and recurved teeth on jaws and vomer. *Sympenchelys taiwanensis* is described from five specimens collected from Taiwan, the northwestern Pacific Ocean.

Key words: Ophichthidae, new genus, new species, Taiwan, Japan

Introduction

Worm eels belonging to the subfamily Myrophinae (Anguilliformes: Ophichthidae) are distributed worldwide in tropical and subtropical waters. The Myrophinae currently consists of 14 genera and ca. 70 species, which are defined by having a small but conspicuous caudal fin, more numerous free branchiostegal rays than attached rays, and accessory branchiostegal rays which originate behind the ends of the epihyal (McCosker 1977; Hibino, unpublished data). Although new species from the East Asia area have occurred successively in recent years, the status of the species diversity of Myrophinae is still unclear (Hibino *et al.* 2012, 2013; McCosker *et al.* 2012a, b). A very unique species with well-developed paddle-shaped tips on its neural and haemal spines was collected from Taiwan. It is herein described as a new genus consisting of a single new species. A single unidentifiable juvenile specimen resembling the new genus/species was collected from Japan.

Materials and methods

Measurements were made either with a 300 mm ruler to the nearest 0.1 mm for total and tail lengths and with a digital caliper to the nearest 0.01 mm for all other measurements. Measurements generally follow Castle & McCosker (1999) except for the following measurements; dorsal-fin origin to anus: horizontal distance between the dorsal-fin origin and a vertical through mid-anus; upper-jaw length: from the tip of the snout to the posterior margin of the maxilla, inferred from the surface (confirming by soft-X ray photos and transparent specimens); length of mouth gape: from the tip of the snout to the end of the mouth rictus not including the attached fold behind the rictus. Total and head lengths are abbreviated as TL and HL, respectively. Vertebral counts follow Böhlke (1982); mean vertebral formula (MVF) is expressed as the average of predorsal, preanal, and total vertebrae. Examination and terminology of osteological characters follow McCosker (1977). Vertebral counts and other