



## *Gymnothorax melanosomatus*, a new moray eel (Teleostei: Anguilliformes: Muraenidae) from southeastern Taiwan

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### Abstract

*Gymnothorax melanosomatus* new species, is described here on the basis of eight specimens collected from eastern coastal Taiwan at a depth 50–180 m. This new moray eel is distinguished from a closely similar species, *G. prolatus*, by a combination of the following characters: a uniformly black body when fresh (vs. brown), a relatively long preanal length 58.5 % of TL (vs. 48.9), shorter snout length 17.8 % of HL (vs. 20.0), interorbital width 12.2 % of HL (vs. 14.3); more preanal vertebrae 105–109 (vs. 74–86) and total vertebrae 201–211 (vs. 174–190). The male and female are not different in body color and pattern, but the numbers of median intermaxillary teeth are different between the sexes, 0 in male and 2–3 in female.

**Key words:** Muraenidae, *Gymnothorax*, moray eel, new species, Taiwan

### Introduction

The Muraenidae is a diverse family of eels found around the world, with about 16 genera and 202 species (Eschmeyer & Fong, 2011). More than 40 species of the family Muraenidae are indigenous to Taiwan (Chen et al., 1994; Shao et al., 2008; Loh et al., 2011). During research into a grade of elongate unpatterned morays, the first author (KHL) discovered some specimens similar to *Gymnothorax prolatus* Sasaki & Amaoka (1991), but with some significant differences. These specimens have distinctly different body proportions from *G. prolatus* and some other elongate unpatterned Indo-Pacific morays (Böhlke, 1997). After further examination of the morphology of this new species, by comparing its characters with other similar moray species, we determined that this was an undescribed species. We propose and describe *G. melanosomatus* here as a new species of moray eel from Taiwan.

### Materials and methods

All the moray specimens were collected by longline. The methods of measurements followed Böhlke and Randall (2000). Proportional measurements are expressed as percentage of the total length (TL) or the head length (HL). Body depth was measured at the gill openings (DGO) and at the anus (DA) and does not include the fins; Snout length was measured from snout tip to the anterior margin of the eye; upper jaw (UJ) length is from snout tip to mouth angle, and lower jaw (LJ) length from lower jaw tip to mouth angle. Morphometric values are given in the text as proportions in total length or head length, the value for holotype is listed first, with range for all types in parentheses. Vertebral counts for the vertebral formula as explained in Böhlke (1982) were obtained from radiographs. The mean vertebral formula (MVF) gives the mean values for predorsal-preanal-total vertebrae counts.