



## A Review of the Muraenid Eels (Family Muraenidae) from Taiwan with Descriptions of Twelve New Records<sup>1</sup>

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**Hong-Ming Chen, Kwang-Tsao Shao and Che-Tsung Chen (1994)** A review of the muraenid eels (Family Muraenidae) from Taiwan with descriptions of twelve new records. *Zoological Studies* 33(1): 44-64. A total of 42 species belonging to 9 genera and 2 subfamilies of the family Muraenidae are indigenous to Taiwan. The 12 species: *Enchelycore bikiniensis*, *Gymnothorax brunneus*, *G. javanicus*, *G. margaritophorus*, *G. melatremus*, *G. nudivomer*, *G. reevesii*, *G. zonipectis*, *Strophidon sathete*, *Uropterygius macrocephalus*, *U. micropterus*, and *U. tigrinus* are first reported in this paper. The 7 species: *Enchelycore lichenosa*, *E. schismatorhynchus*, *Gymnothorax buroensis*, *G. hepaticus*, *G. meleagris*, *G. richardsoni* and *Siderea thyrsioidea* whose Taiwan existence was doubted or lacked specimens in the past are also recorded. Additionally, many species misidentifications or improper use of junior synonyms in previously literature stand corrected in this paper. Two previously recorded species *Gymnothorax monostigmus* and *G. polyuranodon* are, lacking Taiwan specimens, excluded. Color photographs, dentition patterns, synopsis, key, diagnosis, and remarks for all 42 species are provided in this paper.

**Key words:** Moray eels, Fish taxonomy, Fish fauna, Anguilliformes.

The Muraenidae fishes, commonly called moray eels, are shallow-water reef and crevice-dwelling eels. There are about 110 species of morays in the world which belong to the 12 genera of the 2 subfamilies: Uropterygiinae and Muraeninae (Nelson 1984). This group of fishes is distinguished from other eel families by their larger mouth, smaller gill openings, and pectoral and pelvic fin absence. Most species have a stout muscular body and dark skin pigmentation.

In Taiwan, the earliest moray record is the 1870 Günther listing of *Muraena nubila*; actually a misdesignation of *Gymnothorax chilospilus*, Bleeker 1864. Later, Jordan and Evermann (1902) added a new species, *Gymnothorax pescadoris*, and a new record of *Thyrsoidea macrura*. The former specification, as per our description in the present paper is a misdesignation of *Gymnothorax favagineus*. Jordan and Richardson (1909) added

the *Gymnothorax leucostigma* species. In 1967 Chen and Weng reviewed Taiwan specimens of muraenids and assigned a total of 6 genera and 24 species. But among their designations, the two species of *Thyrsoidea macrura* and *Strophidon ui* were *Strophidon sathete* synonyms; the *Gymnomuraena concolor* specimen was actually *S. sathete*; the *Gymnothorax punctatofasciatus* identification was also a mistake, it should be an undescribed species; their *Gymnothorax meleagris* specimen was actually *G. eurostus*; both *G. melanospilus* and *G. pescadoris* should be junior synonyms of *G. favagineus*; the *G. polyuranodon* specimen could not be located. Later, a *Gymnothorax pindae* specimen was collected in Taiwan by Randall and McCosker (1975). Shen (1974) recorded *Rhinomuraena quaesita* in southern Taiwan and rectified the synonym problem between *R. quaesita* and *R. ambonensis* (Shen et al. 1979). Three new

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