

Note on *Epinnula magistralis* Poey, a genus and species new to Taiwan (Perciformes: Gempylidae)

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Abstract

A new record of snake mackerel is reported from Taiwan herein. The specimen possesses a well-developed pelvic fin, two lateral lines bifurcating at the base of fifth dorsal-fin spine, lacks keels and finlets on the caudal peduncle, and is identical to the western Pacific population of *Epinnula magistralis*. A detailed description is provided to document the species into Taiwanese ichthyofauna.

Key words: Taxonomy, Pisces, Teleostei, new record, Taiwan

Introduction

During a recent visit to the fish landing ground at Nan-fang-ao fish market, Yilan, the senior author found a special specimen of the snake mackerel, family Gempylidae. Because the specimen is so different from all species he has seen before, the species was obtained and transported to the laboratory for further study. The specimen, possesses a well-developed pelvic fin and the lateral line bifurcating below fifth dorsal-fin spine and lacks keels

and finlets on caudal peduncle, is subsequently recognized as *Epinnula magistralis*, a genus or species that has never been reported from Taiwanese waters. The species is likely distributed circumglobally in tropical and subtropical seas (except for eastern Pacific Ocean), yet very little is known about its distribution in the western Pacific Ocean; only few records were found from Japan and one from the eastern Indian Ocean (Matsubara and Iwai, 1952, Parin and Kotlyar, 1991, Nakamura and Parin, 1993).

Thus, the discovery of the specimen from Taiwan has considerable interest. This study aims to document the genus and species into Taiwanese ichthyofauna and to provide a detailed description of the specimen.

Methods and materials

Proportion of lengths are standardized to either standard length (SL) or head length (HL) throughout. Terminology and methods for morphometric and meristic data followed that of Nakamura and Parin (1993). This specimen is preserved at the Pisces Collection, National Museum of Marine biology and Aquarium (NMMB-P).

Results

Family Gempylidae

Epinnula magistralis Poey, 1854

長腹短鰭帶鱈

Fig. 1, Table 1

Epinnula magistralis Poey, 1854:369 (Type locality: Havana, Cuba, Gulf of Mexico, western Atlantic). Matsubara and Iwai, 1952:198. Parin and Kotlyar, 1991:1004. Nakamura and Parin, 1993:26.

Species examined. NMMB-P16629, 414-mm total length, 335-mm SL, Nan-fang-ao, NE Taiwan, ca. 300 m, 11 Mar. 2011, coll. H.-C. Ho.

Description. Dorsal fin rays XV, I, 18; anal fin rays II, I, 16; pectoral fin rays 15; pelvic fin rays I, 5; principal caudal fin rays 9+8; dorsal procurent rays 9; ventral procurent rays 9; total vertebrae 16+16=32; scales on upper lateral line 185 (left side) and 193 (right side); scales on vertical part of lower lateral line 65; scales on horizontal part of lower lateral line 195 (left side) and 198 (right side).

Body short, relatively deep and compressed, its depth 4.4 in SL and width 9.2 in SL; dorsal profile curved with base of



Fig. 1. *Epinnula magistralis* Poey 1854, NMMB-P16629, 335 mm SL, lateral view, fresh condition. Photo by H.-C. Ho.

Table 1. Morphometric and meristic data of the specimen of *Epinnula magistralis* collected from Taiwan.

Standard length (mm)	NMMB-P16629	
	335	
	%SL	%HL
Body depth	22.8	79.4
Body width	10.9	37.9
Head length	28.7	100.0
Snout length	10.5	36.5
Eye diameter	9.5	33.0
Interorbital width (bony)	5.0	17.4
Interorbital width (fleshy)	8.7	30.4
Upper jaw length	14.3	49.9
Caudal depth	6.1	21.4
Caudal length	8.0	28.0
Predorsal length	27.2	94.8
Preanal length	67.5	234.9
Prepelvic length	39.9	139.1
1st dorsal-fin base length	42.7	148.6
1st dorsal-fin spine length	7.1	24.6
2nd dorsal-fin spine length	9.3	32.5
3rd dorsal-fin spine length	10.6	37.0
4th dorsal-fin spine length	11.6	40.5
2nd dorsal fin base length	19.7	68.6
2nd dorsal fin spine length	3.3	11.3
Longest 2nd dorsal-fin ray length	12.5	43.5
Pectoral-fin length	20.6	71.6
Pelvic-spine length	11.3	39.5
Pelvic-fin length	14.4	50.3
Anal-fin base length	18.1	63.1
Longest anal-fin ray length	10.7	37.3
Anal fin-spine length	2.8	9.9
Caudal-fin length	22.4	77.9
Caudal-fin fork length	15.2	53.0

first dorsal fin straight. Head large, its length 3.5 in SL; dorsal profile of head slightly elevated in front of anterior nostril; opercle with 2 obscure ridges, not ending in spines; lower angle of preopercle smooth, without spines. Mouth large, slightly oblique, upper jaw length 2.0 in HL; maxillary extends to a vertical of midpoint of eye; lower jaw extends slightly overhanging upper jaw; upper jaw with 2 fixed and 3 depressible large fangs near tip of snout; lateral side of upper jaw with 15 conical teeth, widely separated, anterior 4 and posterior 3 fixed, other 8 teeth alternate fixed and depressible; lower jaw with a pair of canine-like teeth near anterior tip; lateral side of lower jaw with 8 depressible teeth, all larger than those on upper jaw; vomer toothless; a single row of 6 small conical teeth on palatines. Eye large and round, its width 3.0 in HL; interorbital slightly concaved, with 4 low longitudinal ridges, less bony space width 5.8 in HL, less fleshy width 3.3 in HL.

Gill rakers small, mostly embedded under the skin; a single long T-shaped gill raker at angle of first gill arch; pyloric caeca 5; epineurals 2.

Two dorsal fins close to each other, both about equal in height, concave between two fins in dorsal profile; origin of first dorsal fin slightly anterior to upper end of gill opening; fourth spine on first dorsal fin longest, its length 2.5 in HL; third ray on second dorsal fin longest, its

length 2.3 in HL; pectoral fin is relatively short, pectoral fin rounded in outline, upper rays are longer than lower rays, its length 1.4 in HL; pelvic fin is well-developed, its length 2.0 in HL, inserts behind pectoral-fin base and below fifth to sixth dorsal-fin spine, extending to about the midpoint between its origin and anus; pelvic-fin spine long, shorter than the longest ray, its length 2.5 in HL; anal fin slightly lower than second dorsal fin, first two anal-fin spines free from the fin, third spine longest, its length 10.1 in HL; dorsal and anal finlets absent; caudal fin deeply forked, its length 1.3 in HL, length of caudal-fin fork 1.9 in HL.

Body and head, except lips, lower jaw, anterior half of maxillary, and branchiostegal membrane, covered with small imbricate scales. Two lateral lines, upper one is generated above upper end of gill opening and running along the dorsal profile to base of middle caudal-fin ray; lower one branching off under fifth dorsal-fin spine and running ventrally to near origin of pelvic-fin, then along lower body profile to meet the upper one at caudal-fin base.

Coloration. Fresh specimen, silvery gray body; spinous dorsal fin, pectoral fin, outer margins of pelvic fin, second dorsal fin and caudal fin black; base of second dorsal fin and anal fin pinkish. When preserved, body grayish; spinous dorsal fin, pectoral fin, outer margins of pelvic fin, second dorsal fin and caudal fin black;

base of second dorsal fin and anal fin pale
Distribution. Known from Caribbean Sea of Atlantic Ocean, western North Pacific Ocean off Japan and Taiwan and eastern Indian Ocean (Nakamura and Parin, 1993, present study).

Remarks. According to Matsubara and Iwai (1952), their solo specimen has relatively more dorsal-fin rays (XVI, I, 18), more soft anal-fin rays 16 and a longer pelvic fin about 1.5 times of pectoral-fin length vs. dorsal-fin rays XV, I, 16, soft anal fin rays 13, and a shorter pelvic fin about 2/3 pectoral-fin length in Atlantic Ocean specimens. Kamohara and Parin (1993) went further to consider that the Japanese population might be a different species or subspecies. Our specimen agrees well with Kamohara and Iwai's (1952) description, especially the numbers of dorsal and anal fin elements. However, our specimen is different by having the angle of preopercle smooth without spines (vs. 2 spines) and the pelvic fin relatively small, about 2/3 of pectoral-fin length. The size of pelvic fin may be attribute to

variable growth, but the different numbers of fin elements are significant. More specimens are needed to investigate the inter- and intra-species differences.

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記台灣產一新紀錄腹短鰭帶鱈(鱸形目:蛇鱈科)

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摘 要

本文報導台灣所採獲一尾蛇鱈科標本。此標本因具有發育良好之腹鰭、具有兩條自第五鰭棘分離之側線以及尾柄缺少尾脊及離鰭，可以被鑑定為長腹短鰭帶鱈在西太平洋之族群。本文提供該標本之詳細特徵以將此物種歸入台灣之魚類相中。

關鍵詞：分類學，魚類，硬骨魚，新紀錄，台灣。