

New record of *Hypopleuron caninum* Smith and Radcliffe, 1913 (Pisces: Ophidiidae) from Taiwan

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Abstract

An eel-like ophidiid fishes, *Hypopleuron caninum* Smith and Radcliffe, 1913, is reported from Taiwan for the first time. It can be distinguished from most members in the family Ophidiidae, as well as the order, by having a very broad lateral line covered by enlarged scales, 12 broad and inflated parapophyses, 22-24 precaudal vertebrae, 102 total vertebrae, 25 pectoral-fin rays, and a pair of short pelvic fins fused together. A detail description and figures are provided.

Key words: Pisces, Ophidiiformes, Neobythitinae, Cusk eel, Taiwan

Introduction

A very elongate female ophidiiform fish was collected off the southwestern coast of Taiwan with a bottom trawl on 16 June 2009. It was identified as *Hypopleuron caninum* Smith and Radcliffe, 1913, a species previously described from the Philippines, except for some variations on morphology.

The monotypy genus *Hypopleuron* is a member of the subfamily Neobythitinae (Ophidioidei: Ophidiidae), comprising the

largest number of ophidiiform species (about 184 species) (Eschmeyer and Fong, 2011), which is characterized by the ventral arm of the cleithrum meeting its mate and terminating farther forward at about level of the preopercle and no slender elongate anteriorly extending filament of bone. Our specimen, which was in excellent condition, has a very broad lateral line covered by enlarged neuromasts, 12 broad and inflated parapophyses, 24 precaudal vertebrae, 102

total vertebrae, 25 pectoral-fin rays, and a pair of short pelvic fins fused together, and is thus identical to the definition of *Hypopleuron caninum*.

Hypopleuron caninum was uncommon in the fish collections world-wide and was previously collected only from the Philippines, Indonesia, and Australia. The most recent distribution listed on Fishbase (Froese and Pauly, 2011) suggested it was limited to the Arabian Sea, Andaman Sea, and the Philippines. The occurrence of *H. caninum* in southern Taiwan slightly extends its known distribution northward, into the northwestern Pacific, which may also suggest that more deep-sea fishes are waiting to be discovered. The purpose of present word is to provide the description and document the species newly added to

the Taiwanese ichthyofauna.

Materials and Methods

Standard length (SL) and head length (HL) are used throughout. Definitions and methods for taking the meristics and measurements followed Cohen and Nielsen (1978). The specimen is deposited at National Museum of Marine Biology and Aquarium (NMMB-P). Vertebral count was made by x-ray.

Results

Family Ophidiidae

Subfamily Neobythitinae

Hypopleuron caninum Smith and Radcliffe, in Radcliffe, 1913

Figs. 1A-B



Fig. 1. *Hypopleuron caninum*, NMMB-P12009, 513 mm SL. A. Dorsal view. B. Right lateral view of head.

Hypopleuron caninum Smith and Radcliffe, in Radcliffe, 1913:165 (Type locality: Near Kayoa Island, 0°07'30"N, 127°29'00"E, Indonesia, 265 fathoms [484.6 m]). Tholasilingam et al., 1964:283 (descr.). Nielsen and Cohen, in Nielsen et al., 1999:70 (catalog; in key).

Material examined. NMMB-P12009, female, 513 mm SL, Tongkang, S. Taiwan, N. South China Sea, 16 Jun. 2009.

Description of NMMB-P12009. Dorsal fin rays 167, anal fin rays 138, pelvic fin 1; pectoral fin rays 24; caudal fin rays 8; gill rakers 3 (enlarged)+1+14; branchiostegal rays 8.

Measurements in millimeter: head length 75.1; predorsal length 81.6; preanal length 184; body depth at anus) 37.7; body depth at pectoral fin base 49.6; pectoral fin length 62; pectoral fin base 15.6; upper jaw 32.4; snout 18.7; orbit 12.4; interorbital 18.2; pelvic fin 14.4.

Body extremely elongate, progressively narrowing posteriorly to a whiplike tail; deepest and widest at posterior margin of head, body depth at head 10.3 in SL, at anus 13.6 in SL; anterior third of body cylindrical and gradually compressed and tapering to caudal fin. Head elongate and slightly depressed; mouth terminal, large and slightly oblique, the gape reaches a vertical of rear margin of eye.

Origin of dorsal fin slightly posterior to pectoral fin base, predorsal length 1.1

times of head length; no predorsal pterygiophore anterior to that of first dorsal-fin ray; origin of anal fin at about first third of SL, preanal length 2.5 times of HL; dorsal- and anal- fin rays short anteriorly, progressively longer and filamentous distally; pectoral fin not reaching anus, its rays filamentous distally; base of fin relatively narrow, inserted slightly below midline of body; pelvic fin short, 5.2 in HL, with pair of short rays attached to each other except for the distal portions.

Head relatively short reflected by the elongated body, its length 6.8 in SL; snout 4.0 in HL, blunt, broadly rounded in dorsal view and relatively flat in dorsal outline; eye small, orbital diameter 6.1 in HL, covered by an elliptical spectacle; nostrils in midsnout, rounded, the posterior one larger, both in an elongated scaleless area; upper corner of gill opening connected to the shoulder by a large folded membrane; margins of opercle, subopercle, and interopercle rounded and without spine; ventral third of the opercular cover consist only of branchiostegal membrane supported by branchostegal rays.

Tongue prominent, with a short, fleshy, anterior prow; lower jaw slightly included when mouth closed; upper jaw length close to one-half or less than head length; posterior margin of maxillary strongly sheathed dorsally; upper jaw bearing two enlarged teeth in front

followed a band of finely granular teeth, the middle the widest, about 10 rows; dentary teeth somewhat coarser, in a narrower band about 4 rows, those on inner row well-spaced and larger; basibranchial bearing a small rounded patch of fine teeth, situated at anterior end of fourth arches; vomerine teeth relatively large and pointed, diverging broadly in a V-shaped; palatine teeth in a long and narrow band, those of the inner row slightly larger.

Body scales small, in regular rows, except for many smaller, irregular scales over most of the lateral line forming a broad band; lateral line broad and prominent anteriorly, narrowing posteriorly and disappearing on tail; a single row of large, vertically expanded, neuromast-bearing scales, each buried in a separated lateral line compartment or pouch extending approximately 80% of the way along the body; head pores absent. Pyloric caeca 14 (7 on each side), relatively stout and rounded.

Color. In alcohol, body color light brown dorsally and dusty white with tiny black melanophores ventrally; frontal to mandibular area of head dark brown; all fins deeper pigmented than body; oral cavity yellowish pale; a black area on inner gill cover to first gill arch and lateral surface of isthmus; parts of gill membranes, most of medial surface of opercle, and the skin region of cleithrum deep grey; peritoneum yellowish pale with numerous

tiny black spots.

Distribution. Widespread in the Indo-west Pacific Ocean off India, Philippines, Australia, and now Taiwan.

Remark. Our specimen otherwise agrees with the definition of *H. caninum* provided by Smith and Radcliffe (1913) and Nielsen et al. (1999), except for relatively more precaudal centra (24 vs. 22) and a pair of relatively small canine teeth on the upper jaw (vs. relatively large). The differences may be attributed to individual variation.

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台灣產新紀錄種犬齒下肋魮(魮魚目:魮科)

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摘 要

本文報導台灣首次發現之犬齒下肋魮。本種與魮科及魮目其他成員之差異主要在於側線相當寬，具有增大之鱗片；前 12 塊脊椎骨具有寬大之橫突；22-24 塊尾鰭前脊椎骨；102 塊脊椎骨；25 胸鰭鰭條；及腹鰭單一且左右連結在一起。本文提供犬齒下肋魮之詳盡描述及圖片。