

# First record of the Philippine snubnose halfbeak, *Melapedalion breve* (Actinopterygii: Beloniformes: Hemiramphidae), from Bangka Belitung Islands, Indonesia

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## Abstract

A single specimen (117.1 mm standard length) of *Melapedalion breve* (Seale, 1910) collected off Lepar Island, Bangka Belitung Islands, Indonesia, represents the first record of *M. breve* from Indonesian waters and the southernmost record of the species. *Melapedalion breve* has previously been recorded from the Sulu Sea (southwestern Philippines) and eastern central South China Sea.

## Keywords

distribution, southernmost record, South China Sea, Sulu Sea

## Introduction

The monotypic genus *Melapedalion* (Beloniformes, Hemiramphidae), represented by the Philippine snubnose halfbeak, *Melapedalion breve*, was originally described by Seale (1910) as *Oxyporhamphus brevis*, based on specimens collected from Paawacan, Palawan Island, Philippines. Subsequently, Fowler (1934) and some later authors (e.g., Collette 1974, 1999, 2000, 2004; Parin et al. 1980; Kottelat 2013) treated the species as *Melapedalion breve*.

A single short-beaked hemiramphid specimen, collected off Lepar Island, Bangka Belitung Islands, Indonesia and recently found in the collections of the Research Center for Oceanography, Jakarta (NCIP), was identified as *M. breve*, a species previously known only from the Sulu

Sea and eastern central South China Sea (Collette 1999, 2000, 2004). Representing the first record of *M. breve* from Indonesian waters and southernmost record of the species, the specimen is described below.

## Methods

Methods for counts and proportional measurements followed Collette and Su (1986). Gill rakers were counted on the right side of the head, and the preorbital canal type confirmed by removing anterior scales from the right side orbit. Standard length is expressed as SL. Descriptive characters are based on the Indonesian specimen. The specimen was transferred to the Museum Zoologicum Bogoriensis, Bogor, Indonesia (MZB), and re-cataloged.

## Results

### Family Hemiramphidae Gill, 1859

#### *Melapedalion* Fowler, 1934

#### *Melapedalion breve* (Seale, 1910)

(Figs. 1 and 2)

**Material examined.** MZB.26439, 117.1 mm SL, Lepar Island, Bangka Belitung Islands, Indonesia, 02°53'16.2"S, 106°48'35.5"E, 1 m depth, beach seine, Fahmi, 1 October 2010.

**Description.** Dorsal fin rays 16; anal fin rays 15; pectoral fin rays 12; pelvic fin rays 6; gill rakers on first gill arch 8 + 20 = 28; pre-dorsal scales ca. 37. Morphometrics (expressed as percentage of SL): head length 23.9% of SL; snout length 7.8% of SL; upper jaw length 6.4% of SL; upper jaw width 6.2% of SL; lower jaw length 3.0% of SL; preorbital length 7.8% of SL; orbit diameter 6.4% of SL; pectoral fin length 13.0% of SL; distance from base of uppermost pectoral-fin ray to base of anteriormost pelvic-fin ray 34.1% of SL; distance from base of anteriormost pelvic-fin ray to base of caudal fin 44.4% of SL; dorsal-fin base length 15.7% of SL; anal-fin base length 12.0% of SL.

Body elongate, subcylindrical; dorsal profile rising slowly from snout tip to above pectoral fin insertion, thereafter parallel to body axis to dorsal fin origin before lowering slowly to upper caudal-fin base; ventral profile sloping gradually from tip of lower jaw to below posterior margin of opercle, thereafter parallel with body axis to anal fin, before elevating gradually to lower caudal-fin base. Upper jaw short, triangular in dorsal view; dorsal surface covered with scales. Lower jaw slightly longer than upper jaw, with distinct symphyseal knob. Jaws with short, minute, dense, conical teeth.

Dorsal and anal fins located on posteriormost quarter of body. Origin of first dorsal-fin ray above anus; base of dorsal fin slightly longer than that of anal fin; posteriormost point of dorsal-fin base slightly posterior to posteriormost point of anal-fin base. Origin of first anal-fin ray below origin of fourth dorsal-fin ray. Pelvic fin short, posteriorly depressed fin not reaching anus; located slightly anterior to mid body length; distance from upper insertion of pectoral-fin base to origin of pelvic fin less than that from origin of pelvic fin to caudal-fin base. Pectoral fins short, not reaching posterior nasal pit when folded forward; uppermost part of pectoral-fin base distinctly higher than snout tip; located slightly posterior to dorso-posterior margin of opercle. Caudal fin deeply forked; lower lobe longer than upper lobe.

Nasal papillae short, rounded, length less than half pupil diameter. Preorbital canal T-shaped, with posterior branch. Preorbital ridge well developed. Posterior margins of preopercle and opercle smooth. Body scales cycloid. Scales on dorsal surface of snout. Lateral line with one branch ascending toward pectoral fin origin.

**Color when fresh** (Fig. 1A). Head greenish dorsally, whitish ventrally. Upper and lower jaws reddish. Body whitish, with silvery and narrow dark lateral stripes. Pectoral and pelvic fins uniformly translucent whitish; a black spot on base and upper insertion of pectoral fin. Dorsal, anal, and caudal fins translucent yellowish; anterior tips of dorsal and anal fins, and upper and lower caudal-fin lobes distinctly black.

**Color of preserved specimen** (Fig. 1B). Head blackish dorsally, with silvery lacrimal and operculum. Body yellowish-brown, with silvery and narrow dark lateral stripes. All fins whitish, with distinct dark spot on upper insertion of pectoral fin, anterior dorsal and anal fins, and upper and lower caudal-fin lobes.



**Figure 1.** Photographs of *Melapedalion breve* collected from Lepar Island, Bangka Belitung Islands, Indonesia. (A) fresh and (B) preserved specimens of MZB.26439, 117.1 mm SL.



**Figure 2.** Distributional records of *Melapedalion breve*, based on Collette (1999) (red shading) and the presently reported study (star).

## Discussion

The Bangka Island specimen agreed closely with the diagnostic characters and morphological description of *Melapedalion breve* (Seale, 1910) given by Collette (1999): e.g., pectoral fin short (13.0% of SL); pectoral-fin rays 12; nasal papillae rounded; scales present on dorsum of snout; preorbital ridge well developed; gill rakers on first gill arch 28; lateral line with one branch ascending toward pectoral fin origin; lower jaw short, only slightly longer than upper jaw; preorbital canal T-shaped, with posterior branch; caudal fin deeply forked, with slightly elongate lower lobe.

The monotypic genus *Melapedalion* is most similar to two other monotypic genera, *Arrhamphus* Günther, 1866 and *Chriodorus* Goode et Bean, 1882, as well as *Oxyporhamphus* Gill, 1864, in having greatly reduced lower jaw length (Collette 2004). However, the latter is distinguished from the three former genera in having the anterior margin of the upper jaw straight (not forming a prominent triangular anterior projection) and a longer pectoral fin (Collette 1999, 2004). Detailed comparisons between *Melapedalion breve* and *Arrhamphus* and *Chriodorus* were given by Collette (1974), the former being distinguished from

the others as follows: preorbital canal with a posterior branch (vs. preorbital canal simple, without a posterior branch); distinct black tips on upper and lower caudal-fin lobes, and on anterior dorsal and anal fins (vs. no distinct black spots on fins); greater number of gill rakers [this study: 28 (vs. 21–25)]; and greater number of vertebrae.

*Melapedalion breve* has previously been recorded from the Sulu Sea (southwestern Philippines) and eastern central South China Sea (Collette 1999: unnumbered fig; Fig. 2). The specimen described herein, representing the first record of *M. breve* from Indonesia and southernmost record of the species (Fig. 2), suggests that *M. breve* is widely distributed in the South China Sea. The specimen was collected together with silverbiddy (genus *Gerres*) and silverside (genus *Atherinomorus*) fishes in a coastal area (1 m depth) characterized by a sandy bottom with patchy seagrass beds.

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## References

- Collette BB (1974) The garfishes (Hemiramphidae) of Australia and New Zealand. Records of the Australian Museum 29(2): 11–105. <https://doi.org/10.3853/j.0067-1975.29.1974.231>
- Collette BB (1999) Hemiramphidae—Halfbeaks. Pp. 2180–2196. In: Carpenter KE, Niem VH (Eds) Species identification guide for fishery purposes—The living marine resources of the western central Pacific—Bony Fishes—Part 2 (Mugilidae to Carangidae). FAO, Rome.
- Collette BB (2000) Hemiramphidae (halfbeaks). Pp. 599–600. In: Randall JE, Lim KKP (Eds) A checklist of the fishes of the South China Sea. Raffles Bulletin of Zoology No. 8.

- Collette BB (2004) Family Hemiramphidae Gill 1859—halfbeaks. California Academy of Sciences Annotated Checklists of Fishes 22: 1–35.
- Collette BB, Su J (1986) The halfbeaks (Pisces, Beloniformes, Hemiramphidae) of the Far East. Proceedings of the Academy of Natural Sciences of Philadelphia 138(1): 250–301.
- Fowler HW (1934) Descriptions of new fishes obtained 1907 to 1910, chiefly in the Philippine Islands and adjacent seas. Proceedings of the Academy of Natural Sciences of Philadelphia 85: 233–367.
- Gill TN (1864) Note on the genera of Hemiramphinae. Proceedings of the Academy of Natural Sciences of Philadelphia 15: 272–273.
- Goode GB, Bean TH (1882) Descriptions of twenty-five new species of fish from the southern United States, and three new genera, *Letharcus*, *Ioglossus*, and *Chriodorus*. Proceedings of the United States National Museum 5(297): 412–437. <https://doi.org/10.5479/si.00963801.5-297.412>
- Günther A (1866) Catalogue of the Physostomi, containing the families Salmonidae, Percopsidae, Galaxidae, Mormyridae, Gymnarchidae, Esocidae, Umbridae, Scombresocidae, Cyprinodontidae, in the collection of the British Museum. Catalogue of the fishes in the British Museum 6: 1–38. <https://doi.org/10.5962/bhl.title.8809>
- Kottelat M (2013) The fishes of the inland waters of southeast Asia: A catalogue and core bibliography of the fishes known to occur in freshwaters, mangroves and estuaries. Raffles Bulletin of Zoology (Suppl. 27): 1–663.
- Parin NV, Collette BB, Shcherbachev YN (1980) Preliminary review of the marine halfbeaks (Hemiramphidae, Beloniformes) of the tropical Indo–West Pacific. Trudy Instituta okeanologii imeni P.P. Šeršova 97: 7–173. [In Russian with English abstract]
- Seale A (1910) New species of Philippine fishes. Philippine Journal of Science, Section A: Chemical Sciences 4(6): 491–543.