

First Records of the Eightfinger Threadfin, *Filimanus sealei* (Perciformes: Polynemidae), from Indonesia

Satokuni Tashiro¹, Teguh Peristiwady² and Hiroyuki Motomura³

¹ The Graduate School of Fisheries, Kagoshima University, 4-50-20 Shimoarata,
Kagoshima 890-0056, Japan

² Technical Implementation Unit for Marine Biota Conservation, Indonesian Institute of Science,
J1 Tandurusa, Kel. Kotamadya Bitung 95227, Indonesia

³ The Kagoshima University Museum, 1-21-30 Korimoto, Kagoshima 890-0065, Japan

Abstract. Four specimens (101.6–106.5 mm standard length) of *Filimanus sealei* (Jordan & Richardson, 1910), previously known from the Solomon Islands, the Bismarck Archipelago, Papua New Guinea, the Philippines, and Taiwan, were collected from Bitung, North Sulawesi, Indonesia. The four specimens, described herein, represent the first records of this species from Indonesia. These new records suggest that *F. sealei* is widely distributed in the tropical western Pacific Ocean.

Key words: Sulawesi, Bitung, *Filimanus*, distribution, record.

Introduction

The polynemid fish genus *Filimanus* Myers, 1936 contains six species, and is characterized by a large eye, the width of the teeth bands on the upper and lower jaws narrower than the space between the teeth bands on the opposing premaxilla, the basisphenoid not in contact with the prootic, and the pectoral fin insertion well below the lateral midline of the body (Feltes, 1991; Motomura, 2004a).

During ichthyofaunal surveys of Bitung, North Sulawesi, Indonesia (e.g., Motomura & Peristiwady, 2010, 2012), four specimens of *Filimanus* were collected and identified as *Filimanus sealei* (Jordan & Richardson, 1910). These specimens represent the first records of the species from Indonesia, and are described herein.

Counts and measurements generally followed Feltes (1991). Measurements were made to the nearest 0.1 mm with needle-point calipers. Standard length is expressed as SL. Curatorial procedures for the collected specimens followed Motomura & Ishikawa (2013). Specimens from Indonesia examined in this study have been deposited at the Kagoshima

University Museum, Japan (KAUM). Other institutional abbreviations used in the text are as follows: the Academy of Natural Sciences, Philadelphia, Pennsylvania, USA (ANSP) and the Biodiversity Research Museum, Academia Sinica, Taipei, Taiwan (ASIZP).

Filimanus sealei (Jordan & Richardson, 1910)

(Fig. 1; Table 1)

Polydactylus opercularis Seale & Bean, 1907: 234 (type locality: Zamboanga, Mindanao, Philippines; junior secondary homonym of *Trichidion opercularis* Gill, 1863).

Polydactylus sealei Jordan & Richardson, 1910: 16 (replacement name for *P. opercularis* Seale & Bean).

Filimanus sealei; Feltes 1991: 319 (Philippines, New Guinea, Bismarck Archipelago, and Solomon Islands); Motomura, 2004a (listed name only); Motomura 2004b: 27, fig. 53, pl. I, g (Philippines, New Guinea, Bismarck Archipelago, and Solomon Islands); Shao *et al.*, 2010: 808 (Taiwan; based on a specimen).

Material examined. KAUM–I. 43957, 101.6 mm SL; KAUM–I. 43958, 106.5 mm SL; KAUM–

*Corresponding author: motomura@kaum.kagoshima-u.ac.jp

Table 1. Counts and measurements, expressed as percentages of standard length, of *Filimanus sealei*. Modes or means in parentheses.

	This study Indonesia <i>n</i> = 4	Feltes (1991) Western Pacific <i>n</i> = 14 ¹
Standard length (mm)	101.6–106.5	59.3–147.5
Counts		
Dorsal-fin rays	XIII-I, 12	XIII-I, 11–12 (12)
Anal-fin rays	III, 11	III, 11
Pectoral-fin rays	14	14–15 (14)
Pectoral filaments	8	7–8 (8)
Gill rakers	44–50	40–48 (46)
Lateral-line scales	48–50 (50)	46–50 (49)
Scales above / below lateral line	6 / 10	6–7 (7) / 9–10 (10)
Preopercle serrations	26–29 (27)	17–34 (21)
Measurements (% of SL)		
Head length	30.9–32.3 (31.8)	29.3–33.5 (31.6)
Body depth	29.3–30.8 (30.3)	28.6–34.7 (32.3)
Second body depth	30.8–32.9 (32.1)	27.7–34.8 (32.4)
Body width	12.6–13.7 (13.3)	9.4–15.6 (13.5)
Pre-1st-dorsal-fin length	35.3–36.7 (35.9)	35.5–39.1 (37.0)
Pre-2nd-dorsal-fin length	59.6–61.9 (60.6)	58.5–61.8 (60.5)
Pre-anal-fin length	60.6–63.9 (61.9)	57.9–68.0 (63.4)
Origin of 1st dorsal fin to origin of anal fin	41.6–44.3 (42.9)	41.8–46.1 (44.0)
Origin of pelvic-fin to origin of anal fin	24.8–26.6 (25.6)	20.9–29.1 (24.4)
Base of second dorsal fin	18.0–18.9 (18.4)	14.8–19.6 (17.2)
Base of anal fin	18.1–18.9 (18.5)	16.5–19.6 (18.1)
Pectoral-fin length	24.5–25.5 (25.1)	23.6–28.4 (25.4)
Length of longest pectoral filament (3rd or 4th)	45.4–48.0 (47.0)	36.6–54.8 (41.8)
Pelvic-fin length	18.7–20.8 (20.0)	17.6–20.5 (19.0)
Length of longest 1st dorsal-fin spine	23.5–25.7 (24.4)	19.4–25.0 (22.0)
Length of 2nd dorsal-fin spine	10.1–11.2 (10.8)	8.3–13.2 (10.0)
Length of longest 2nd dorsal-fin ray	25.3–26.5 (26.0)	18.8–27.6 (23.4)
Length of longest anal-fin spine (3rd)	8.9–10.8 (10.2)	6.8–12.1 (9.8)
Length of longest anal-fin ray	21.2–22.2 (21.8)	15.9–23.8 (20.4)
Caudal-peduncle length	24.1–27.0 (25.3)	23.7–28.3 (26.0)
Caudal-peduncle depth	14.6–15.1 (14.9)	14.3–15.9 (15.1)
Caudal-peduncle width	4.4–5.3 (4.7)	3.5–5.8 (4.8)
Caudal lobe length	39.4–42.8 (41.4)	33.3–42.0 (37.8)
Snout length	6.1–6.6 (6.2)	5.2–7.3 (6.1)
Eye diameter	7.0–8.8 (7.9)	7.2–10.1 (8.4)
Upper-jaw length	15.0–15.9 (15.6)	14.2–16.2 (15.5)
Interorbital length	8.5–8.9 (8.7)	7.9–9.5 (8.9)
Postorbital length	17.6–18.4 (18.0)	15.8–18.7 (17.7)
Depth above pectoral fin	23.2–24.7 (24.1)	22.6–28.4 (26.0)
Depth below pectoral fin	7.7–9.6 (8.6)	6.6–11.0 (8.5)
Gill-raker length	6.3–7.0 (6.5)	5.7–7.1 (6.5)

¹including holotype of *Polydactylus sealei*.



Fig. 1. Fresh specimen of *Filimanus sealei*. KAUM-I. 43957, 101.6 mm standard length, off Bitung, North Sulawesi, Indonesia.

I. 43959, 101.6 mm SL; KAUM-I. 43960, 105.8 mm SL, all off Bitung, North Sulawesi, Indonesia, 11 Dec. 2011, purchased at Girian Market, Bitung by H. Motomura, T. Peristiwady, and S. Kimura.

Diagnosis. A species of *Filimanus* with the following combination of characters: eight pectoral filaments; pectoral filaments not extending beyond level of midpoint of anal-fin base; 11 anal-fin soft rays; 46–50 gill rakers; depth of posterior margin of maxilla less than eye diameter.

Description. Counts and proportional measurements are given in Table 1. Body oblong, compressed; maxilla covered with scales; lip on lower jaw well-developed; posterior margin of maxilla extending beyond vertical through posterior margin of adipose eyelid; depth of posterior margin of maxilla less than eye diameter; posterior margin of preopercle with 26–29 serrations; dentary teeth restricted to dorsal surface; teeth villiform in narrow bands on palatines and ectopterygoids; all pectoral-fin rays unbranched, inserted lower than midline of body; posterior tip of pectoral fin just reaching to anus; pectoral filaments eight, fourth filament longest, its tip extending beyond level of anal-fin origin; all bases of first dorsal-fin spines of similar thickness; lateral line simple, extending from upper end of gill opening to mid-distal margin of caudal-fin membrane; caudal fin deeply forked, upper and lower caudal-fin lobes not filamentous.

Color when fresh (Fig. 1). Head and body grayish black dorsally, whitish ventrally; first dorsal fin grayish with black margin; second dorsal, anal, and caudal fins pale yellow with blackish margins; pectoral fin white basally, black posteriorly; pelvic fin black.

Remarks. The four specimens from Indonesia are identified as *Filimanus sealei* on the basis of following combination of characters: eight pectoral filaments; pectoral fin filaments not extending beyond level of midpoint of anal-fin base; 11 anal-fin soft rays; 46–50 gill rakers; depth of posterior margin of maxilla less than eye diameter. These characters of the present specimens agree well with the diagnostic characters of *F. sealei* given by Feltes (1991), except for 46–50 gill rakers (vs. 40–48 in Feltes, 1991). Some morphometric data for the Indonesian specimens of *F. sealei* also differ from those for specimens from the Philippines, New Guinea, Bismarck Archipelago, and the Solomon Islands given by Feltes (1991): the length of longest 1st dorsal-fin spine [23.5–25.7% (mean 24.4%) of SL vs. 19.4–25.0% (22.0%) in Feltes, 1991] and caudal-lobe length [39.4–42.8% (41.4%) of SL vs. 33.3–42.0% (37.8%)]. These minor differences are regarded herein as intraspecific variation of *F. sealei*.

Filimanus sealei has been recorded from the Solomon Islands, the Bismarck Archipelago, Papua New Guinea, the Philippines (Feltes, 1991: fig. 10; Motomura, 2004b: fig. 54), and Taiwan (Shao *et al.*,

2010). Shao *et al.* (2010) listed *F. sealei* on the Taiwan species checklist, but provided no literature or specimens for the basis of their record. This Taiwanese record was most likely based on a single specimen (ASIZP 70173, 123 mm SL, Taitung, Taiwan, 22° 29' N, 120° 08' E, H.-C. Ho, 6 May 2007) deposited at the Academia Sinica in Taiwan. The identification of the specimen was confirmed by the third author in 2008. A single specimen (ANSP 123498, 107.9 mm SL) supposedly collected from Western Australia in 1950, lacks detailed locality and other collection data (Feltes, 1991; Motomura, 2004b). The presence of this species in Australian waters remains unconfirmed (Motomura, 2004b). The present specimens from Bitung, North Sulawesi, represent the first records of *F. sealei* from Indonesia.

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