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Authors: James W Orr, Vanessa Tuttle, and Cassandra Donovan

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## PTERYCOMBUS PETERSII (BRAMIDAE: TELEOSTEI): FIRST RECORD FOR THE EASTERN NORTH PACIFIC

JAMES W ORR, VANESSA TUTTLE, AND CASSANDRA DONOVAN

**ABSTRACT**—We report the 1st record of the Prickly Fanfish (*Pterycombus petersii*) from the eastern North Pacific Ocean. The specimen was taken off the coast of Oregon at 44.938°N, 124.935°W in a pelagic trawl towed at 384 m gear depth over 494 m bottom depth on 4 November 2016.

**Key words:** Oregon, pomfret, Prickly Fanfish, *Pterycombus petersii*

The pomfrets of the family Bramidae are a group of temperate to tropical epipelagic fishes, typically found in the open ocean at depths from the surface to 1246 m (Mead 1972; Carvalho-Filho and others 2009). Although at least 1 species, *Brama brama*, is targeted in commercial fisheries (González-Lorenzo and others 2013) and the species are widespread and often abundant in the oceans of the world, they are uncommonly collected. In the eastern North Pacific, 6 species of pomfrets are recorded: *Brama japonica*, *B. dussumieri*, *B. orcini*, *Pteraclis aesticola*, *Taractes asper*, and *T. steindachneri* (Moser and Mundy 1996; Love and others 2005). Of these, only *B. japonica* and *T. asper* are known to range north of California (Love and others 2005).

The genus *Pterycombus* comprises 2 recognized species: *P. petersii* (Hilgendorf 1878) and *P. brama* Fries 1837 (Mead 1972). *Pterycombus petersii*, known commonly as the Prickly Pomfret or Prickly Fanfish, is primarily an Indo-Pacific species (Mead 1972) reported from the central (Seki and Mundy 1991, Mundy 2005) and western Pacific Ocean, including Japan, the Sea of Japan (Shinohara and others 2011, 2014), and Korea (Park and others 2007), New Zealand (Stewart and others 2015), the Indian Ocean, and the south Atlantic Ocean off South Africa (Smith 1986) and Brazil (Carvalho-Filho and others 2009). *Pterycombus brama* is known only from the Atlantic Ocean from Canada to Norway in the north to Brazil and the Gulf of Guinea in the south (Mead 1972). The 2 species may be found together off southern South America (Carvalho-Filho and others 2009). Herein we report on a

single specimen of *Pterycombus petersii* that constitutes the 1st record of the species in the eastern North Pacific.

Counts, measurements, and terminology follow Mead (1972), except for counts of dorsal- and anal-fin rays in which all rays are counted, including both on the last pterygiophore. The specimen was frozen at sea, fixed in 10% formalin, transferred to 70% ethanol, and deposited in the Burke Museum of Natural History and Culture, University of Washington Fish Collection (UW).

*Pterycombus petersii* (Hilgendorf 1878) (Fig. 1)

**Material examined.**—UW 156810, 285.3 mm standard length (SL), off Oregon, 44.938°N, 124.935°W, 384 m (210 fm) gear depth over 494 m (270 fm) bottom depth, pelagic trawl, 4 November 2016, F/V *Island Enterprise*, NMFS Observer Jeannine Memoly.

The specimen is readily identified as a species of *Pterycombus* based on several characters (Mead 1972). The very elongate dorsal and anal fin rays are all of the same thickness and are depressible into grooves formed by enlarged scales at the base of the fins. The dorsal-fin origin is preceded by scales that cross the dorsal midline and is positioned over the posterior part of the head rather than being well forward, as in other veil-fin bramids such as *Pteraclis*.

*Pterycombus petersii* is distinguished from *P. brama* by having fewer vertebrae (45 to 48 vs. 48 to 51 in *P. brama*) and dorsal-fin rays (48 to 49 vs. 48 to 53 in *P. brama*) (Mead 1972). Although meristic characters overlap, *P. brama* is restricted to the Atlantic Ocean, unlike *P. petersii*, which is found in the Indo-Pacific and extreme southern Atlantic Ocean. Significant counts and characters of the Oregon specimen (UW 156810) include the following: vertebrae 45; dorsal-fin rays 49; anal-fin rays 41; pectoral-fin rays 20, 19; scales in lateral series 48; total gill rakers 8 (1 + 1 + 6) plus 4 anterior rounded hump-like rudiments. Additional morphological data are listed in Table 1. Upon capture, the body was overall slate gray,

TABLE 1. Selected measurements and counts of *Pterycombus petersii* taken from a specimen from off the coast of Oregon described in this study (UW 156810) and from published accounts of Mead (1972). Dorsal- and anal-fin ray counts include both rays on last pterygiophore; gill raker counts are presented as a total count followed by upper + angle + lower rakers in parentheses. Other methods follow Mead (1972). Sea of Japan = ABE 61-367; South Africa = SAM 11956.

Measurements and Counts	%SL			
	Oregon (UW 156810)	Oregon (UW 156810)	Sea of Japan (ABE 61-367)	South Africa (SAM 11956)
<b>MEASUREMENTS</b>				
Standard length	285.3		275	244
Fork length	328.1	115.0	111.5	110.7
Total length	375.1	131.0		
Head length	81	28.4	25.4	23.2
Snout length	18.6	6.5	6.4	4.7
Orbit length	29.5	10.3	8.4	7.7
Greatest orbit length	29.5	10.3	10.2	8.2
Eye to dorsal midline length	14.8	5.2	5.6	3.6
Orbit to suboperculum length	38	13.3	12.8	11.2
Interorbital width	25.2	8.8	8.3	6
Upper jaw length	45.5	15.9	15.3	12.9
Greatest body depth	129.1	45.3	43.3	38.9
Depth at midpoint of anal-fin base	103	36.1	32.5	26.2
Caudal peduncle depth	17.1	6.0	6.1	6.3
Greatest body width	39.2	13.7	11.6	7.7
Greatest head width	37.2	13.0	12.2	9.2
Snout to dorsal-fin origin	58	20.3	20.1	15.8
Snout to anal-fin origin	103.5	36.3	35.1	32.1
Snout to pectoral-fin insertion	81	28.4	26.4	24.1
Snout to pelvic-fin insertion	89.1	31.2	29.3	26.1
Pectoral-fin length	73	25.6	24.6	24.4
Pelvic-fin length	23.4	8.2	6.9	7.3
Pectoral-fin base width	13.1	4.6	4.9	4.7
Pectoral fin to pelvic fin	38	13.3	13.3	13.5
Pelvic fin to anal-fin origin	15.5	5.4	6.9	6.9
Dorsal-fin origin to pectoral-fin insertion	77.8	27.3	26	23.7
Dorsal-fin base length	218.2	76.5	76.3	77
Dorsal-fin ray 5 length	16.2	5.7	3.3	3.5
Longest dorsal-fin ray length	120	42.1	41.4	63.5
Length of 5th dorsal-fin ray from last	33.2	11.6	9.1	7.3
Anal-fin base length	203.2	71.2	68	71
Anal-fin ray 5 length	117	41.0	41.5	58
Longest anal-fin ray length	132.8	46.5	42.2	58
Length of 5th anal-fin ray from last	28	9.8	8	7
Length of upper caudal-fin lobe	78.8	27.6		
Length of lower caudal-fin lobe	83	29.1		
Length of shortest caudal-fin ray	33.2	11.6	11.8	10.7
<b>COUNTS</b>				
Dorsal-fin rays	49		49	49
Anal-fin rays	41		40	41
Pectoral-fin rays (left, right)	20, 19		22/21	20/21
Gill rakers	1+1+6		1+6	1+6
Dorsal-fin anterior graduated rays	10		11	8
Anal-fin anterior graduated rays	3		4	3
Scales in horizontal series	48		47	47
Predorsal scales	10		11	10
Vertebrae	45			

more darkly pigmented on the nape and along the dorsum with faint streaks extending to the lateral line (Fig. 1). Dorsal, anal, and pelvic fins were entirely black. The caudal fin was dark

distally and lighter proximally to the caudal base. The pectoral fins were unpigmented. After preservation, lighter areas were pale yellow-brown.

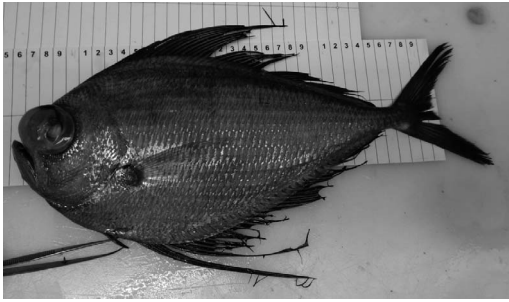


FIGURE 1. *Pterycombus petersii*. UW 156810, 285 mm SL off Oregon, 44.938°N, 124.935°W, 4 November 2016, F/V *Island Enterprise*. Photo by Jeannine Memoly.

Most of the material examined by Mead (1972) consisted of small juveniles; at the time, only a few adults of 100 to 275 mm SL were known from collections. Although Smith (1986) reported a maximum size of 310 mm body length, our specimen at 285 mm SL (375 mm total length) represents 1 of the largest specimens documented. Our measurements and counts are generally congruent with data published for other adult specimens (Table 1). Differences between the 3 specimens here may be ontogenetic, as nearly all measurements, with the exception of dorsal- and anal-fin ray lengths, are proportionally larger in our specimen, especially compared with the small specimen from South Africa. Measurements of the eastern North Pacific specimen are most similar to the large specimen from the Sea of Japan.

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NOAA, National Marine Fisheries Service, Alaska Fisheries Science Center, Resource Assessment and Conservation Engineering Division, 7600 Sand Point Way NE, Seattle, WA 98115 USA (JWO); james.orr@noaa.gov; NOAA, National Marine Fisheries Service, Northwest Fisheries Science Center, Fishery Resource Analysis and Monitoring Division, 2725 Montlake Blvd., Seattle, WA 98115 USA (VT, CD). Submitted 8 May 2018, accepted 30 May 2018. Corresponding Editor: Paul Hendricks.