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First Specimen-based Record of *Taractes rubescens* (Perciformes: Bramidae) from the Philippines

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Key words: pomfret, distribution, fish fauna, taxonomy, morphology

Abstract

A single specimen of *Taractes rubescens* (Jordan and Evermann, 1887) (Perciformes: Bramidae), previously recorded in the western Pacific only from Japan, Taiwan and Australia, and recently collected from Panay Island, the Philippines, represents the first record from the Philippines. A description of the specimen is provided.

Introduction

The pomfret genus *Taractes* Lowe, 1843 is characterized by a pointed snout, projecting lower jaw, broad flat interorbital area, and scaled dorsal and anal fins[1–2]. The genus contains two valid species[1)] *viz., T. asper* Lowe, 1843 and *T. rubescens* (Jordan and Evermann, 1887). *Taractes rubescens* has previously been recorded from Japan, Taiwan and Australia in the western Pacific[1–4)]. A single specimen recently collected from Panay Island, located in the western part of Visayan Islands, represents the first specimen-based record of the species from the Philippines and is described herein.

Materials and Methods

Counts and proportional measurements, expressed as percentages of standard length (SL) and shown in Table 1, followed Moteki *et al.*[5)]. All measurements were made with digital calipers to the nearest 0.1 mm. Curatorial procedures for newly collected specimens followed Motomura and Ishikawa[6)]. Institutional codes are as follows: the Kagoshima University Museum, Kagoshima (KAUM), Museum of Comparative Zoology, Harvard University, Cambridge (MCZ), Museum of Natural Sciences, University of the Philippines Visayas (UPVMI), and Museum Support Center of the National Museum of Natural History, Smithsonian Institution, Suitland, MD (USNM).

Results and Discussion

Taractes rubescens (Jordan and Evermann, 1887)

Fig. 1; Table 1

Material examined. KAUM–I. 80702, 389.8 mm SL, 439.9 mm fork length, off Miagao, Province of Iloilo, Panay Island, Philippines (purchased at fish market in Miagao), 10 Nov. 2015.

Description. Body oblong, rather compressed, deepest at origin of dorsal fin. Dorsal profile of body elevated from snout tip to dorsal-fin origin, decreased moderately from latter to caudal-fin base. Ventral profile of body convex from lower-jaw tip to origin of anal fin, elevated from latter to caudal-fin base. Pelvic-fin origin anterior to posteriormost point of opercle. End of pelvic-fin base slightly posterior to pectoral-fin insertion. Posterior tip of pelvic fin reaching to between vertical lines drawn through origins of eighth and ninth dorsal-fin rays when depressed. Upper point of pectoral-fin insertion just above origin of 3rd pelvic-fin ray. Lowermost point of pectoral-fin insertion slightly anterior to origin of dorsal fin. Posterior tip of pectoral fin pointed, reaching to a vertical line through origin of 23rd dorsal-fin ray. Origin of dorsal fin slightly posterior to lowermost point of pectoral-fin insertion. End of dorsal-fin base just above origin of last anal-fin ray. Anal-fin origin located just below origin of 20th dorsal-fin ray. Anterior parts of dorsal and anal fins falcate. Dorsal and

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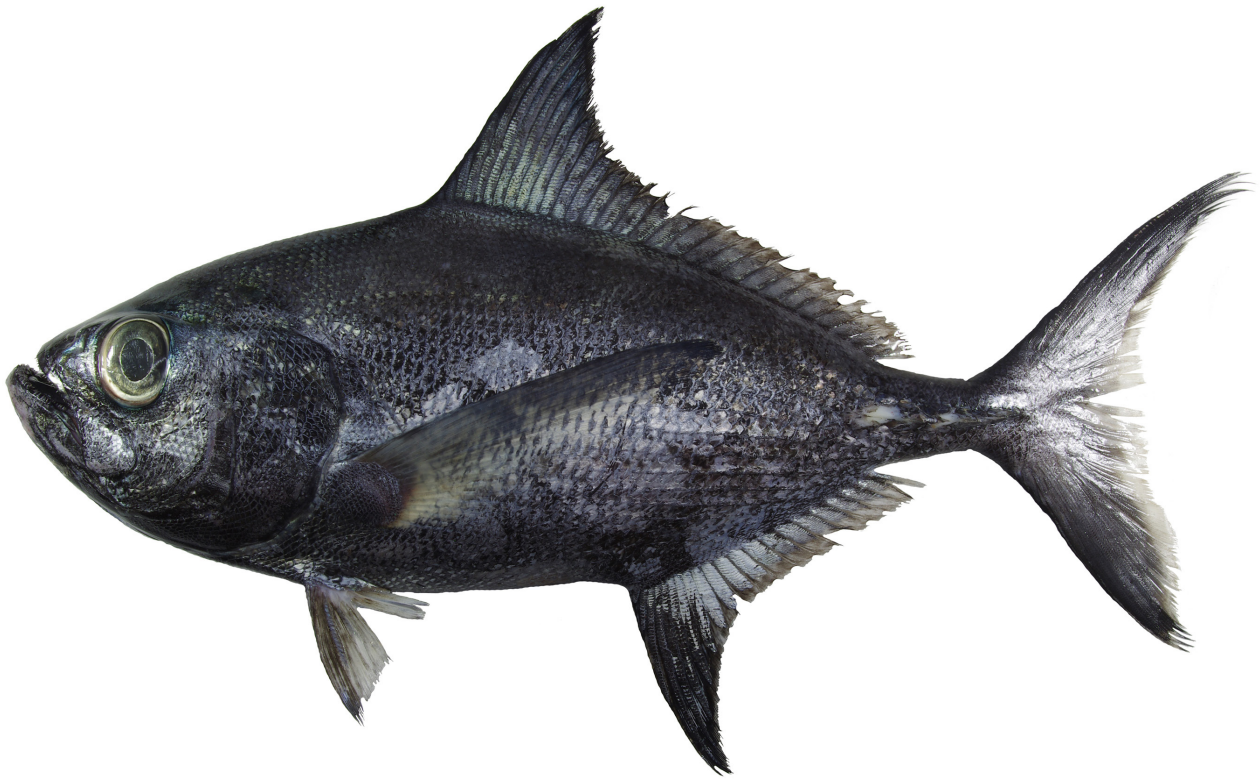

Fig. 1. Fresh specimen of *Taractes rubescens* (KAUM–I. 80702, 389.8 mm SL, off Miagao, Panay Island, Visayan Islands, Philippines).

anal fins not recessible. Caudal fin forked. Snout pointed. Lower jaw greatly projected. Mouth terminal, large, posterior tip of maxilla beyond midpoint of eye. Eye and iris elliptical. Interorbital space flat, broad, about equal to maximum eye diameter. Vent round, situated just anterior to anal-fin origin, just below origin of 14th dorsal-fin ray. Teeth near anterior part of both jaws small, conical, in three rows; posteriorly in a single row. Palatines with single row of conical teeth. Vomer without teeth. Tongue edentate. Posterior edges of preopercle and opercle smooth. Lower edge of preopercle serrated. Body covered with ctenoid scales. Dorsal, anal and caudal fins, maxilla and insertion of pectoral fin scaled. Posterior part of preopercle, lower jaw and snout scaleless. Pectoral and pelvic-fin axillary scales present. Anterior margin of predorsal scales reaching to midpoint of eye. Scales on caudal peduncle greatly enlarged, forming sharp keel.

Color when fresh (Fig. 1): Body black. Scales on dorsal, anal and caudal fins grayish-silver. Upper part of pectoral fin dusky black, lower part translucent. Posterior edges of dorsal and anal fins pale, caudal fin white. Anterior part of pelvic fin dusky black, posterior part whitish-gray. Iris gold, eye bluish-black.

Distribution. *Taractes rubescens* is widely distributed in tropical to temperate waters in the Pacific and Atlantic oceans[1, 4, 7–12]. Recently, the species has been reported from the northeastern Indian Ocean[13], Gulf of Aden[14] and Oman Sea[15].

Remarks. The specimen was identified as *T. rubescens* on the basis of the following combination of characters, which closely matched the diagnostic features of *T. rubescens* given by Mead[1], Last and Moteki[2] and Hatooka and Kai[4] (characters for *T. asper*, the only other valid species in the genus, given in parentheses): scales on caudal peduncle greatly enlarged, forming a sharp keel (vs not enlarged, not forming a keel); pectoral-fin length 39.4% of SL (less than 36% SL); and anal-fin rays 21 (23 to 26).

Meristic and morphometric data for the present specimen generally agreed with those given by Mead[1] (Table 1). Analysis of 33 measurements in *T. rubescens* showed that the proportions relative to SL of fork length, body depth, head width, horizontal eye diameter and greatest eye diameter all decreased with growth (Table 1).

Taractes rubescens was originally described by Jordan and Evermann[16] as *Steinegeria rubescens*, based on a specimen taken from the stomach of a grouper caught in off Pensacola,

Table 1. Counts and measurements of *Taractes rubescens*, expressed as percentages of SL.

	This study		Mead[1)]		
	Non-type specimen	Holotype	Non-type specimens		
	Panay Island, Philippines	Gulf of Mexico	Gulf of Mexico		Western Pacific
	KAUM–I. 80702	USNM 37991	MCZ specimens		
Standard length (SL; mm)	389.8	96.0	51.3	620.0	690.0
Counts					
Dorsal-fin rays	31	30	32	32	32
Anal-fin rays	21	21	22	23	23
Pectoral-fin rays	19	20	21	20	21
Gill rakers on upper limb	2	3	2	3	1
Gill rakers on lower limb	9	10	8	7	8
Total gill rakers	11	13	10	10	9
Scales in horizontal series	49	damaged		50	46
Predorsal scales	25	damaged			
Scales above lateral line	13	damaged			
Scales below lateral line	16	damaged			
Measurement (% SL)					
Fork length	112.9	damaged	131.5	110.0	109.5
Body depth	39.8	51.4	54.6	39.5	38.4
Body width	15.8	17.9	24.4	16.9	16.7
Head width	17.5	17.8	24.4	16.9	16.7
Pre-dorsal-fin length	41.0	42.8	50.1	41.6	38.8
Pre-anal-fin length	62.9	66.9	68.0	61.3	63.0
Pre-pelvic-fin length	35.1	37.8	43.3	35.2	39.1
Pre-pectoral-fin length	33.2	36.7	40.6	31.4	34.1
Dorsal-fin base length	48.1	45.5	44.6	47.3	47.8
Anal-fin base length	30.2	26.3	27.7	26.8	28.3
Dorsal-fin origin to pectoral-fin insertion	27.9	27.9	39.0	29.0	28.0
Pectoral-fin base length	7.2	10.1	13.1	7.6	7.2
Pectoral-fin insertion to anal-fin origin	31.7	47.8			
Pectoral-fin length	39.4	damaged	40.0	38.2	39.7
Pelvic-fin length	30.9	damaged	35.1	9.7	11.2
Fifth dorsal-fin ray length	16.3	damaged			
Fifth anal-fin ray length	damaged	damaged	28.9		
Fifth from last dorsal-fin ray length	7.1	damaged	25.3	3.2	4.5
Fifth from last anal-fin ray length	damaged	damaged	16.6		3.9
Upper caudal-fin lobe length	33.7	damaged			31.2
Lower caudal-fin lobe length	30.2	damaged			26.1
Central caudal-fin ray length	13.0	damaged	31.6	10.0	9.4
Caudal peduncle length	17.2	damaged			
Caudal peduncle depth	6.3	damaged	8.0	6.1	7.0
Head length	33.1	damaged	42.9	30.2	30.8
Snout length	10.0	damaged	10.7	9.7	9.3
Horizontal eye diameter	7.1	12.3	15.2	6.8	5.5
Greatest eye diameter	9.0	12.3	15.6	7.3	6.5
Least distance between orbit and dorsal midline	5.5	damaged	5.7	6.9	6.2
Greatest distance between orbit and free edge of subopercle	18.3	15.5	17.7	15.3	16.4
Interorbital width	9.2	damaged	12.9	10.5	10.1
Upper-jaw length	16.7	damaged	23.4	14.8	14.5
Lowermost point of pectoral-fin insertion to pelvic-fin origin	9.7	9.2	10.5	9.2	9.6

Florida, Gulf of Mexico[1)]. Subsequently, the species has been reported in the western Pacific only from Japan[1, 4, 17–24)], Taiwan[4, 25–27)] and off the northeastern coast of Australia[3, 4)], the present specimen representing the first record from the Philippines.

Comparative material examined. *Taractes rubescens*: USNM 37991, holotype of *Steinegeria rubescens*, 96.0 mm SL, Snapper Banks, off Pensacola, Florida, Gulf of Mexico, U. S. A., taken from the stomach of a grouper, J. D. Jordan and B. W. Evermann. Detailed data for six genera including nine species of Bramidae from Japanese waters, examined by the first author are in Hata *et al*.[28, 29)] and Hata and Motomura[30)]

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References

1) Mead, G. W. (1972). Bramidae. Dana Rep., 81: 1–166, pls. 1–9.
2) Last, P. R. and M. Moteki (2001). Bramidae (pomfrets), in "FAO species identification guide for fishery purposes. The living marine resources of the western central Pacific. Vol. 5. Bony fishes part 3 (Menidae to Pomacentridae)" (ed. by Carpenter, K. E. and V. H. Niem). FAO, Rome, pp. 2824–2835.
3) Bray, D. J., J. R. Paxton, and D. F. Hoese (2006). Bramidae, in "Zoological Catalogue of Australia Volume 35-2" (ed. by Hoese, D. F., D. J. Bray, J. R. Paxton, and G. R. Allen). CSIRO Publishing, Collingwood, pp. 1183–1187.
4) Hatooka, K. and Y. Kai (2013). Bramidae, in "Fishes of Japan with pictorial keys to the species third edition" (ed. by Nakabo, T.). Tokai University Press, Hadano, pp. 905–909, 1998–1999 (in Japanese).
5) Moteki, M., K. Fujita, and P. R. Last (1995). *Brama pauciradiata*, a new bramid fish from the seas off tropical Australia and the Central Pacific Ocean. Jpn. J. Ichthyol., 41: 421–427.
6) Motomura, H. and S. Ishikawa (eds.) (2013). Fish collection building and procedures manual. English edition. The Kagoshima University Museum, Kagoshima and the Research Institute for Humanity and Nature, Kyoto, 70 pp.
7) Yoshida, H. O. (1973). *Taractes rubescens* and *Taractichthys steindachneri* from Hawaiian waters. Fish. Bull., 71: 900–902.
8) Puentes, V., E. A. Rubio, and L. A. Zapata (2001). First record of the genus *Taractes* (Pisces: Bramidae) on the Colombian Pacific. Bull. Coast. Mar. Invest., 30: 207–212.
9) Menezes, G. M., O. Tariche, M. R. Pinho, P. N. Duarte, A. Fernandes, and M. A. Aboim (2004). Annotated list of fishes caught by the R/V Arquipélago off the Cape Verde archipelago. "*Arquipélago*" Life and Mar. Sci., 21: 57–71.
10) Mundy, B. C. (2005). Checklist of the fishes of Hawaiian

Archipelago. Bishop Mus. Bull. Zool., 6: 1–704.

11) Carvalho-Filho, A., G. Marcovaldi, C. L. S. Sampaio, M. I. G. Paiva, and L. A. G. Duarte (2009). First report of rare pomfrets (Teleostei: Bramidae) from Brazilian waters, with a key to western Atlantic species. Zootaxa, 2290: 1–26.
12) González-Lorenzo, G., J. F. González-Jiménez, A. Brito, and J. A. González (2013). The family Bramidae (Perciformes) from the Canary Islands (Northeastern Atlantic Ocean), with three new records. Cybium, 37: 295–303.
13) Gloerfelt-Tarp, T. and P. J. Kailora (1984). Trawled fishes of southern Indonesia and northwestern Australia. Australian Development Assistance Bureau, the Directorate-General of fisheries, Indonesia and the German Agency for Technical Cooperation, Jakarta, 406 pp.
14) Ali, A. M. and A. H. McNoon (2010). Additions to benthopelagic fish fauna of the Aden Gulf-Arabian Sea (Actinopterygii: Bramidae and Sternoptychidae). J. Fish. Aquat. Sci., 5: 23–32.
15) Jawad, A. L., J. M. Al-Mamry, and H. L. Al-Busaidi (2014). New record of the Keeltail Pomfret, *Taractes rubescens* (Jordan & Evermann, 1887) (Perciformes: Bramidae) from the Sea of Oman. Int. J. Mar. Sci. 2014, 4: 227–230.
16) Jordan, D. S. and B. W. Evermann (1887). Description of six new species of fishes from the Gulf of Mexico, with notes on other species. Proc. U. S. Natl. Mus., 9: 466–476.
17) Abe, T. (1961). Notes on some fishes of the subfamily Braminae, with the introduction of a new genus *Pseudotaractes*. Jpn. J. Ichthyol., 8: 92–99, 101–114.
18) Honma, Y. and R. Mizusawa (1966). Further additions to "A list of the fishes collected in the Province of Echigo, including Sado Island" (VIII). Jpn. J. Ichthyol., 14: 53–61.
19) Sato, R. and A. Hasebe. (1982). Illustrated fishes landing at Kesennuma in color. Kesennuma City, Kesennuma, 90 pp.
20) Uozu Aquarium (1997). List of fishes of Toyama Bay and collection records from rare fishes of Toyama Bay. Uozu Aquarium, Uozu. 79 pp. + 8 pls. (in Japanese).
21) Kawamoto, K. (2000). Fishes landed at Noto Fish Market. Bull. Ishikawa Pref. Fish. Res. Centr., 2: 41–48 (in Japanese).
22) Shiogaki, M., Y. Ishito, Y. Nomura and T. Sugimoto (2004). Revised catalogue of the fishes collected from the waters of Aomori Prefecture. Bull. Aomori Pref. Fisher. Res. Centr., 4: 39–80.
23) Shinohara, G., M. Nakae, Y. Ueda, S. Kojima and K. Matsuura (2014). Annotated checklist of deep-sea fishes of the Sea of Japan. Natl. Mus. Nat. Sci. Monogr., 44: 225–291.
24) Ando, S. (2014). A rare fish *Taractes rubescens* was drifted to Oga. Akita Sakigake Shimpo, 16 January, 2014 (in Japanese).
25) Shen, S.-C. (1993). Fishes of Taiwan. Department of Zoology, National Taiwan University, Taipei, 960 pp. (in Chinese).
26) Shao, K.-T., H.-C. Ho, P.-L. Lin, P.-F. Lee, M.-Y. Lee, C.-Y. Tsai, Y.-C. Liao, Y.-C. Lin, J.-P. Chen, and H.-M. Yeh (2008). A checklist of the fishes of southern Taiwan, northern South China Sea. Raffles Bull. Zool. Suppl., 19: 233–269.
27) Chiang, W.-C., P.-L. Lin, W.-Y. Chen, and D.-C. Liu (2014). Marine fishes in eastern Taiwan. Fisheries Research Institute, Council of Agriculture, Keelung. vii + 331 pp. (in Chinese).
28) Hata, H., M. Itou, M. Yamada, M. Takayama, and H. Motomura (2015). Bramid fishes of Kagoshima Prefecture, southern Japan. Nat. Kagoshima, 41: 73–93.
29) Hata, H., M. Takayama, and H. Motomura (2016). First record of *Brama orcini* (Perciformes: Bramidae) from Tachibana Bay, Nagasaki Prefecture, southern Japan. Trans. Nagasaki Biol. Soc., 78: 22–24.
30) Hata, H. and H. Motomura (2016). Record of *Brama orcini* (Perciformes: Bramidae) found in the stomach of *Scomber australasicus* (Scombridae) from the Tokara Islands, Kagoshima Prefecture, southern Japan. Nat. Kagoshima, 42: 203–205.