

琉球大学学術リポジトリ

奄美大島から得られたシマガツオ科魚類ヒメシマガツオ *Brama dussumieri*

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First record of the pomfret *Brama dussumieri* (Teleostei: Perciformes: Bramidae) from Amami-oshima Island, Ryukyu Islands, Japan

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Abstract. A specimen of bramid fish from the Amami Islands, Kagoshima Prefecture, previously recorded as *Brama japonica*, was re-identified as *Brama dussumieri*, being the first record of the latter from that area. To date, no confirmed record of *B. japonica* had existed from the islands.

Introduction

A single specimen of the pomfret *Brama japonica* Hilgendorf, 1878 (Perciformes: Bramidae), standard Japanese name “Shimagatsuo”, a widely distributed northern and eastern Pacific species (Mead 1972; Hatooka & Kai 2013), was recorded from the Amami Islands by Nakae et al. (2018). However, re-examination of the specimen led to its identification as *Brama dussumieri* Cuvier, 1831, previously recorded only from south of Okinawa Island in the Ryukyu Islands (Miura 2012; Hatooka & Kai 2013; Yamada & Kaneko 2013; Hibino et al. 2014). The specimen therefore represents the first record of *B. dussumieri* from the Amami Islands. Moreover, no confirmed records of *B. japonica* from the Amami Islands are known.

Counts and proportional measurements shown in Table 1 followed Mead (1972). All measurements were made with digital calipers to the nearest 0.1 mm. Abbreviations: SL (standard length), NSMT (National Museum of Nature and Science, Tsukuba).

Results and Discussion

Brama dussumieri Cuvier, 1831

Standard Japanese name: **Hime-shimagatsuo** (Fig. 1; Table 1)

Material examined. NSMT-P 81281, 91.3 mm SL, approx. 35 km west of Amami-oshima Island, Ryukyu Islands, Japan (28°12'05"N, 128°49'00"E), 68–132 m depth, 23 May 1969 (5:52–6:52 am), boat seine net.

Description. Body oblong, strongly compressed,

deepest at dorsal-fin origin; dorsal profile elevating from snout tip to dorsal-fin origin, thereafter lowering gently to end of dorsal-fin base; ventral profile lowering and convex from lower-jaw tip to pelvic-fin insertion, thereafter nearly straight to anal-fin origin and elevating gradually to end of anal-fin base. Dorsal and ventral profiles of caudal peduncle nearly straight. Anteriormost point of pectoral-fin insertion anterior to posterior tip of opercle. Lowermost point of pectoral-fin insertion slightly posterior to posterior tip of opercle. Posterior tip of pectoral fin pointed, reaching to just below 14th dorsal-fin ray origin. Dorsal, ventral, and posterior margins of pectoral fin nearly straight. Anteriormost point of pelvic-fin insertion slightly anterior to lowermost point of pectoral-fin insertion. Posteriormost point of pelvic-fin insertion slightly posterior to lowermost point of pectoral-fin insertion. Pelvic fin short, reaching just below 8th dorsal-fin ray origin, but not extending to anus. Dorsal-fin origin posterior to posteriormost point of pelvic-fin insertion. Dorsal contour of dorsal fin elevated from fin origin to 6th dorsal-fin ray tip, lowering to 9th dorsal-fin ray tip, thereafter parallel to dorsal profile of body. Anal-fin origin just below 11th dorsal-fin origin. Ventral profile of anal fin lowering from fin origin to 4th anal-fin ray tip, thereafter parallel to ventral profile of body. Dorsal and anal fins not recessible. Caudal fin deeply forked, upper lobe elongate, distinctly longer than lower lobe; posterior tips of both lobes pointed. Anus just anterior to anal-fin origin. Snout tip pointed. Lower jaw somewhat projecting, its anterior tip slightly anterior to anterior tip of maxilla. Upper lip not free anteriorly, connected to snout near anterior nostril. Mouth terminal, large. Maxilla just reaching posteriorly to vertical through anterior margin of iris, with several rows and one row of conical teeth on anterior, and lateral and posterior parts, respectively. Several small conical teeth on vomer and palatine. Two and one row of conical teeth on anterior and lateral parts of lower jaw, respectively. Four canine-like teeth anteriorly on lower jaw. Eye and iris round.



Fig. 1. Specimen of *Brama dussumieri*, NSMT-P 81281, 91.3 mm SL, west of Amami-oshima Island, Kagoshima Prefecture, Japan (preserved condition).

図1. ヒメシマガツオ *Brama dussumieri* (NSMT-P 81281, 標準体長91.3 mm, 鹿児島県奄美大島西方).

Interorbital space relatively narrow, convex between eyes. Nostrils paired, closely together anterior to orbit; anterior and posterior nostrils round and slit-like, respectively. Posterior margins of preopercle and opercle smooth. Lower edges of preopercle serrated. Scales covering body cycloid, vertically elongate, hard, and non-deciduous. Dorsal, anal, and caudal fins basally scaled. Maxilla and insertion of pectoral fin covered with minute scales. Pectoral and pelvic-fin axillary scales present.

Color in alcohol. Body uniformly pale. Melanophores densely distributed on all dorsal, anal, and caudal fin rays.

Distribution. *Brama dussumieri* is widely distributed in the Pacific and Indian oceans between latitudes of 20°N and 40°S, and in the Atlantic Ocean between 35°N and 25°S (Mead 1972; Moteki et al. 1995; Last & Moteki 2001; Mundy 2005; Jakob & Palm 2006; Carvalho-Filho et al. 2009; Hatooka & Kai 2013; Hibino et al. 2014; Hata 2017). The species has been recently recorded from Korea, including Gangneung and Gyeongsangnam on the east coast of the Korean Peninsula (Lee & Kim 2015). In Japanese waters, the species has been reported from the Pacific coast (Miyagi Prefecture and from Sagami Bay to southern Kyushu), coasts of the Japan and East China Seas (from Wakasa Bay to western Satsuma Peninsula, Kagoshima Prefecture), southern East China Sea, Ryukyu Islands (Amami-oshima Island, Okinawa Island, Kudaka Island, north of Miyako Island, and Yaeyama Islands), Kyushu-

Palau Ridge, Izu Islands, Ogasawara Islands, Okinotori-shima Island (Mead 1972; Mochizuki 1984a, b; Moteki et al. 1995; Shinohara et al. 2011; Miura 2012; Hatooka & Kai 2013; Yamada & Kaneko 2013; Hibino et al. 2014; Lee et al. 2014; Hata et al. 2015; Lee & Kim 2015; Fujiwara et al. 2018; Sonoyama et al. 2020; this study), and the marginal zone of the mid-ocean aspect of the Kuroshio Current from south of Kii Peninsula to east of the Amami Islands (Omori et al. 1997).

Remarks. The Amami specimen was assignable to the genus *Brama*, defined by Mead (1972) and Last & Moteki (2001) as having the upper lip not free anteriorly, being connected to the snout near the anterior nostril, a compressed head, terminal mouth, narrow interorbital area, and the dorsal and anal fins scaled and not recessible. Moreover, the specimen was specifically identified on the basis of the following combination of characters, which closely matched the diagnostic features of *Brama dussumieri* given by Mead (1972), Last & Moteki (2001) and Hatooka & Kai (2013): distance between lowermost point of pectoral-fin insertion to anteriormost point of pelvic-fin insertion 11.1% of SL and 39.7% of head length; dorsal-, anal-, and pectoral-fin rays 33, 28, and 20, respectively; and scales in horizontal series 58.

Although *B. dussumieri* is widely distributed in the Pacific, Indian, and Atlantic oceans (see Distribution), records of the species from the Ryukyu Islands have previously been restricted to

Table 1. Counts and measurements of *Brama dussumieri* specimen from Amami-oshima Island, Japan.表1. 奄美大島産ヒメシマガツオ*Brama dussumieri*の計数・計測形質.

		NSMT-P 81281
Standard length (SL; mm)	標準体長	91.3
Counts 計数形質		
Dorsal-fin rays	背鰭軟条数	33
Anal-fin rays	臀鰭軟条数	28
Pectoral-fin rays	胸鰭軟条数	20
Gill rakers on upper limb	上枝鰓耙数	4
Gill rakers on lower limb	下枝鰓耙数	11
Total gill rakers	総鰓耙数	15
Scales in horizontal series	縦列鱗数	58
Predorsal scales	背鰭前方鱗数	36
Scales above the lateral line	側線上方横列鱗数	10
Scales below the lateral line	側線下方横列鱗数	17
Pseudobranchial filaments	擬鰓弁数	23
Measurement (% SL) 計測形質		
Head length (HL)	頭長	28.0
Body depth	体高	50.8
Body width	体幅	9.2
Head width	頭幅	11.4
Pre-dorsal-fin length	背鰭前長	38.3
Pre-pectoral-fin length	胸鰭前長	29.1
Pre-pelvic-fin length	腹鰭前長	41.8
Pre-anal-fin length	臀鰭前長	58.2
Dorsal-fin base length	背鰭基底長	55.9
Anal-fin base length	臀鰭基底長	47.9
Distance between dorsal-fin origin to pectoral-fin insertion	背鰭起部から胸鰭基底上端までの距離	33.7
Distance between lowermost point of pectoral-fin insertion to pelvic-fin insertion	胸鰭基底下端から腹鰭起部までの距離 (39.7% of HL)	11.1
Distance between pectoral-fin insertion to anal-fin origin	胸鰭基底上端から臀鰭起部までの距離	29.8
Pectoral-fin length	胸鰭長	32.7
Pectoral-fin base length	胸鰭基底長	7.0
Pelvic-fin length	腹鰭長	14.5
5th dorsal-fin ray length	第5背鰭軟条長	18.7
5th from last dorsal-fin ray length	後ろから数えて5番目の背鰭軟条長	8.6
Upper caudal-fin lobe length	尾鰭上葉長	70.6
Lower caudal-fin lobe length	尾鰭下葉長	40.2
Central caudal-fin ray length	尾鰭中央の軟条長	15.0
Caudal-peduncle length	尾柄長	11.6
Caudal-peduncle depth	尾柄高	7.5
Snout length	吻長	5.8
Eye diameter (horizontal)	眼径 (水平径)	7.8
Eye diameter (greatest distance)	眼径 (最大径)	8.4
Interorbital width	眼隔域幅	7.1
Maxilla length	上顎長	14.4

Okinawa Island (Miura 2012: color photograph of an individual caught in Nakagusuku Bay and landed at Chinen Market), Kudaka Island (Yamada & Kaneko 2013: methods of trans-shipment and rearing of individuals caught off the island), north of Miyako Island (25°30.5'N, 125°28'E; Mead 1972: specimens reported in a taxonomic revision of Bramidae), and the Yaeyama Islands (Hibino et al. 2014: specimens collected off southeastern Ishigaki Island). Moteki et al. (1995) reported a single specimen collected from Okinawa Prefecture (ZUMT 38907), but without a precise locality. Nakae et al. (2018) reported the specimen examined herein, erroneously identifying it as *Brama japonica* Hilgendorf, 1878. *Brama japonica* can be distinguished from *B. dussumieri* by having higher counts of horizontal series scale rows (65–75 in *B. japonica* vs. 57–65 in *B. dussumieri*) and total gill rakers (17–20 vs. 13–15) (Mead 1972; Hatooka & Kai 2013). Not only does the present specimen represent the first record of *B. dussumieri* from the Amami Islands, but also there appear to be no existing records of bona fide *B. japonica* collected from those islands.

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奄美大島から得られたシマガツオ科魚類ヒメシマガツオ *Brama dussumieri*

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要約．奄美大島の魚類相を報告した Nakae et al. (2018) においてシマガツオ *Brama japonica* として報告された標本を精査したところ、ヒメシマガツオ *Brama dussumieri* に再同定された。ヒメシマガツオは全世界の暖海に広く分布するが、琉球列島においてはこれまで沖縄島、久高島、および八重山列島からのみ記録されていた。し

[記録] 畑：ヒメシマガツオの奄美大島からの記録

たがって、本研究の記載標本は本種の奄美群島における初めての記録となる。また、シマガツオの奄美大島における正確な記録がないことが明らかとなった。

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