

A Record of Rare Swimming Crab, *Thalamita cerasma cerasma* Wee and Ng, 1995 (Decapoda: Brachyura: Portunidae) from Okinawa Island, Ryukyu Islands, Japan

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ワタリガニ類の稀種、マレーベニツケガニ (十脚目：短尾亜目：ワタリガニ科) の沖縄島からの記録

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Abstract A rare swimming crab, *Thalamita cerasma cerasma*, collected from Okinawa Island, was described in detail. Okinawan *T. c. cerasma* is compared with other taxonomical reports of the species including *T. c. rectifrons*, resulting some characters were shared by *T. c. rectifrons* and reports of *T. c. cerasma* from some localities, and even the distinguishable characters of *T. c. rectifrons* were shared with all reports but holotype of *T. c. cerasma*. As results, it is likely that *T. c. rectifrons* is a junior synonym of *T. cerasma*, and we regarded our Okinawan specimen as *T. c. cerasma*.

Key words *Thalamita cerasma cerasma*, *T. c. rectifrons*, swimming crab, Portunidae, Okinawa Island, Taxonomy.

INTRODUCTION

Thalamita cerasma cerasma Wee and Ng, 1995 was originally described based on a male specimen from Singapore (Wee and Ng, 1995). Subsequently the occurrence of *T. c. cerasma* was reported from Shirahama and Tanabe Bay, Kii Peninsula, Japan (Takeda and Marumura, 1997). Moreover, Cosnier and Moosa (2002) described the subspecies, *T. c. rectifrons* from Rapa Island, Austral Islands and Tahiti Island, Society Islands of French Polynesia.

The authors obtained a female of rare swimming crab, *T. c. cerasma*, from

Okinawa Island, Ryukyu Islands, Japan. In this paper, we described the characters of the specimen in detail and compared with its taxonomical reports of other localities in order to clear up morphological differences.

MATERIAL AND METHODS

Thalamita cerasma cerasma was accidentally captured using crab-trap with the bait *Cololabis saira*. The trap was set in about 5 m depth of Ginowan Fishery Port (26°17.199'N, 127°44.623'E), Okinawa Island, Ryukyu Islands, Japan (Fig. 1), for about 3 hours (22:00 17 Oct. to 01:00 18

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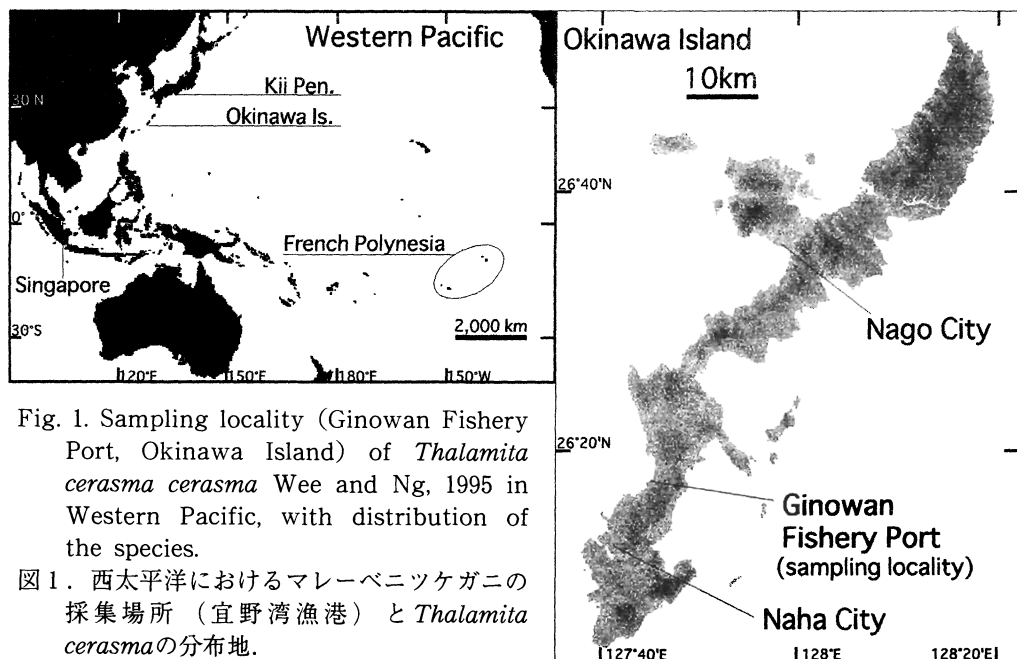


Fig. 1. Sampling locality (Ginowan Fishery Port, Okinawa Island) of *Thalamita cerasma cerasma* Wee and Ng, 1995 in Western Pacific, with distribution of the species.

図1. 西太平洋におけるマレーベニツケガニの採集場所（宜野湾漁港）と *Thalamita cerasma* の分布地。

Oct. 2000).

Carapace length (CL), carapace width (CW), frontal width (excluding inner supraorbital lobes, FW), posterior margin width (PW), and the length of 2nd ambulatory leg were measured using digital slide callipers (Mitsutoyo CD-20C).

Specimen examined was deposited in the Ryukyu University Museum, Fujukan (RUMF).

SYSTEMATICS

Family Portunidae ワタリガニ科

Genus *Thalamita* ベニツケガニ属

Thalamita cerasma cerasma Wee and

Ng, 1995 マレーベニツケガニ

(Figs. 2, 3)

Thalamita cerasma— Wee and Ng, 1995: 62-67, figs. 30-32; Takeda and Marumura, 1997: 16, figs. 1C, D.

Materials examined.— 1 female, CL, 37.37

mm, CW, 58.04 mm, RUMF-ZC-52, Ginowan Fishery Port, Okinawa Island, Ryukyu Islands, Japan, coll. T. Naruse, 18 Oct. 2000.

Description.

Carapace (Figs. 2, 3a, b).— Carapace wide, convex, and smooth. Hairs on outer part of protogastric lobe—the part between 1st and 2nd anterolateral teeth, between 2nd and 3rd anterolateral teeth, between 4th and 5th anterolateral teeth, suborbital region, subhepatic region, and inner margin of orbit. Subhepatic region granulated. Frontal ridge invisible, without granulation. Protogastric ridges faint but visible, with very tiny granules, arched, separated each other very much. Mesogastric ridge faint but granulated, nearly straight. Epibranchial ridge granulated and faint, directing anteroinner ward by its outer 1/2, and its inner 1/2 almost straight in the level of the posterior base of 3rd anterolateral tooth. Metogastric ridge faint but slightly

granulated. No posterior carapace ridge. Front cut into 6 lobes, their anterior margins straight; FW 1.32 times as wide as PW. Median pair of frontal lobe close each other very much; submedian pair slightly wider than median, inner margin slightly overlapping median; lateral lobe rounded on its outer, slightly separated from submedian. Supraorbital margin divided into 3 lobes; inner supraorbital lobe blunt at its anterouter angle, anteroinner margin swollen anteriorly.

Infraorbital margin granulated, inner angle not acute; infraorbital lobe densely granulated. Anterolateral margin having 5 teeth; 1st to 3rd teeth subequal in their size and larger than the others, 1st stouter and 3rd longer; 4th distinctly smallest. Ventral margin of epistome V-shaped at centre, seam visible, both sides straight; dorsal margin of epistome granulated, centre directing anteriorly and opened.

Antenna (Fig. 3c).— Basal antennal segment wider than unilateral 3 frontal

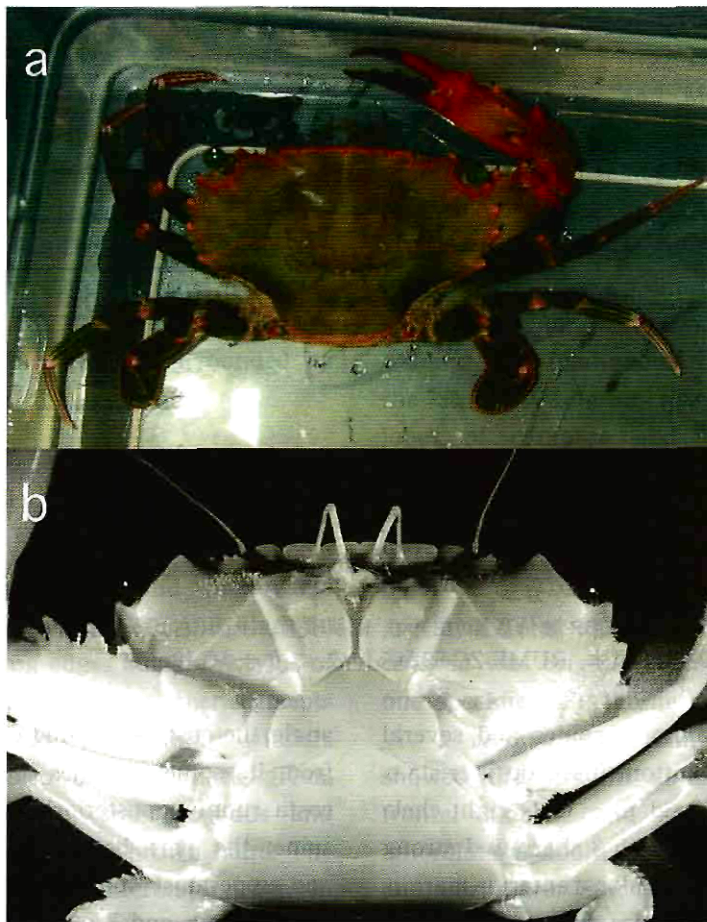


Fig. 2. Photographs of *Thalamita cerasma cerasma* Wee and Ng, 1995, collected from Okinawa Island.

a, dorsal view in living colour; b, ventral view. RUMF-ZC-52. (CL, 37.37mm, CW, 58.04mm).

図2. 沖縄島産マレーベニツケガニの写真.

a, 背面図(生時の色彩); b, 腹面図. RUMF-ZC-52. (甲長, 37.37mm; 甲幅, 58.04mm).

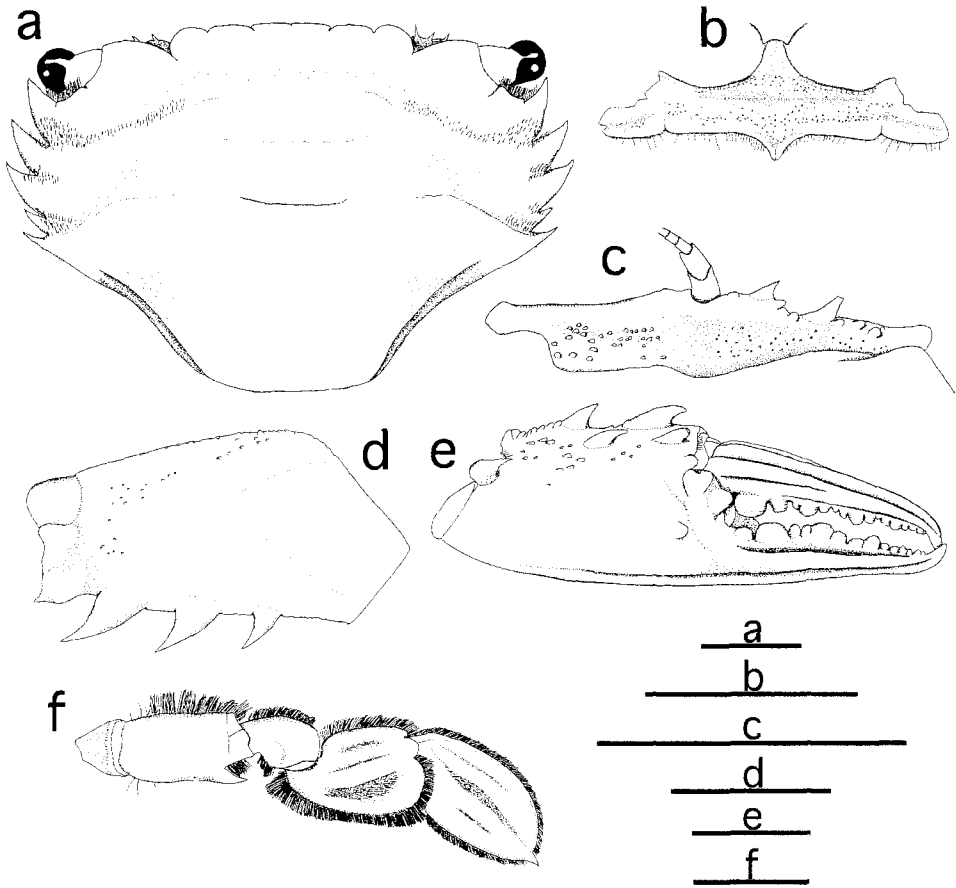


Fig. 3. *Thalamita cerasma cerasma* Wee and Ng, 1995, from Okinawa Island.

a, carapace; b, epistome of carapace; c, basal antennal segment, left; d, merus of cheliped, upper view, right; e, chela, outer surface, right; f, natatory leg, right. All drawings are of RUMF-ZC-52. Scales: 10mm.

図3. 沖縄島産マレーベニツケガニ.

a, 甲; b, 口上板; c, 第2触角基節(左); d, 鉗脚長節, 上面(右); e, 鉗部, 外面(右); f, 遊泳脚(右). 全ての図は, 標本, RUMF-ZC-52から作成. スケール: 10mm.

lobes width; having 2 spines and several granules, their bottom fused on a crista.

Chela (Figs. 3d, e).— Only right chela left. Merus armed with 3 sharp and strong spines equidistantly along anterior margin, they increased in size from proximal to distal; 2 additional small spines on upper and lower anterodistal margins; posterior margin to middle of distal part of upper surface slightly granulated. Carpus with a strong and sharp spine at distal inner

angle, the costa elongated dorsoproximally from its spine; 3 spines on outer surface, costa running posteriorly from outermost spine; the part between an inner spine and uppermost spines granulated. Manus with 2 inner and 3 outer spines on upper surface; distal inner spine damaged at its tip, but still larger, both inner teeth followed by granules on their proximal part; distal outer spine also damaged, the part between proximal and median outer

spines having several denticules. Outer surface of manus smooth, having a tubercle on posterior part of immovable finger; immovable finger having 2 outer, 1 inferior and 2 inner costae; movable finger having 3 outer, 1 supra and 2 inner costae. Tips of both fingers curving inward, inner margin with various sizes of rounded teeth; almost no gap when chela closed. Inner surface of chela smooth except for very slightly rugosed proximal inferior part.

Ambulatory and natatory legs.—2nd ambulatory leg longest, total length 1.86 and 1.20 times of CL and CW, respectively. Merus of natatory leg with 1 subdistal and 1 small distal spines on its posterior margin; propodus with 4-6 denticules on its 1/3 of distalposterior margin.

Abdomen (Fig. 2b).—Abdomen already broaden; 2nd to 4th abdominal segments convex on middle of proximal margin, proximal margin of telson surrounded by distal margin of 6th segment.

Coloration (Fig. 2a).—Carapace dorsal surface basically bright olive, margin and dorsal ridges vermilion. Manus of chela orange, both movable and immovable fingers red in proximal 2/3 and black in distal 1/3, cutting edges black. Dactylus of ambulatory legs whitish, the other segments dark green, and articulation whitish. Natatory leg also basically dark green, articulation whitish, and propodus and dactylus surrounded by brown hairs. The tip of spines armed on anterolateral margin of carapace, cheliped, and basal antennal segment blacken.

Thalamita cerasma rectifrons Crosnier and Moosa, 2002 showed greenish-whitish carapace colour (Crosnier and Moosa, 2002: 397), and it is rather similar to our

Okinawan specimen of *T. c. cerasma*. In contrast, only reddish colour and no other colouration have been observed in *T. cerasma* of Kii Peninsula (Marumura, pers. comm.). It is noteworthy that *T. rubridens*, which is distributed on Arabian Gulf and can be morphologically related to *T. cerasma*, has variable colour from beige to greenish (Apel and Spiridonov, 1998: 265), as well seen between *T. c. rectifrons* and *T. c. cerasma*.

Remarks.—Our specimen could be morphologically related with *Thalamita cerasma cerasma* Wee and Ng, 1995 and *T. c. rectifrons* Crosnier and Moosa, 2002, by smooth carapace with faint ridges and the presence of sharp spines on basal antennal segment.

Crosnier and Moosa (2002) regarded French Polynesian specimens as a distinct subspecies, *T. c. rectifrons*, because they differed from holotype of *T. c. cerasma* in the straight anterior margin of frontal lobes of carapace and the small 4th anterolateral tooth of carapace. Such variations in above characters, however, were possible when it was considered that holotype of *T. c. cerasma* is a quite aged specimen (Wee and Ng, 1995: 63) and *T. c. cerasma* was originally described only by one specimen. Furthermore, the report of *T. c. cerasma* from Kii Peninsula also showed the straight anterior margin of frontal lobes and the small 4th anterolateral tooth of carapace (Takeda and Marumura, 1997: 16). This also implies the possibility that the distinguishable characters of *T. c. rectifrons* from *T. c. cerasma* are intraspecific ones and it is likely that *T. c. rectifrons* is a junior synonym of *T. c. cerasma*. Therefore, in the present study, we regarded our

Table 1. Morphological comparison among *Thalamita cerasma cerasma*, *T. c. rectifrons*, and *T. rubridens*.表1. マレーベニツケガニと *Thalamita cerasma cerasma*, *T. rubridens* の形態比較.

Characters	<i>Thalamita cerasma cerasma</i>			<i>T. c. rectifrons</i>	<i>T. rubridens</i>
	Okinawa Island	Singapore(holotype)	Kii Peninsula	French Polynesia	Arabian Gulf
Carapace					
frontal margin	straight	uneven	straight	almost straight	straight-slightly projected
lateral-submedian lobes gape	similar with other gapes	v-shaped notch	deeper than other gapes	similar with other gapes	similar with other gapes(Fig)
frontal ridge	absent	present	present	present(in fig.)	present
4th anterolateral tooth	distinctly smaller than 5th	subequal to 5th	smaller than 5th	clearly smaller than 5th	5th somewhat stouter than 4th
subhepatic region	granulated	—	—	—	nearly smooth
epistome	opend	closed(in figure)	—	—	—
FW/PW ratio	1.32	—	—	—	1.40
Cheliped(sex, major or minor)(female, ?)					
		(male, both?)	(male?, major?)	(?, ?)	(?, ?)
merus anterior teeth	equidistance	2 distal and 1 proximal	—	—	2 distal and 1 proximal
merus distal inner spine	acute	spine	blunt	[spine]	[spine]
palm outer surgace	1 costa	1 costa	—	—	2 costae
Coloration of carapace					
	bright olive with vermilion margin	—	rufous	whitish with red margin	beige to greenish
Source	present study	Wee & Ng(1995)	Takeda & Marumura(1997)	Crosnier & Moosa(2002)	Apel & Spiridonov(1998)

Okinawan specimen as *T. c. cerasma*.

Table 1 summarized the morphological differences among the taxonomical reports of *T. c. cerasma*, *T. c. rectifrons*, and related species, *T. rubridens*. As mentioned above, *T. c. cerasma* from Okinawa Island and Kii Peninsula has characteristic similarity with French Polynesian *T. c. rectifrons*. In contrast, Kii Peninsular *T. c. cerasma* share a large gap between lateral and submedian lobes of front of carapace with Singaporean *T. c. cerasma*, though Okinawan *T. c. cerasma* and French Polynesian *T. c. rectifrons* have almost the same gap in size with the other gaps. Furthermore, there are also differences between Okinawan and Singaporean *T. c. cerasma* in the shape of dorsal margin of epistome and the arrangement of anterior teeth of chelipedal merus. These characters could not be confirmed in Kii Peninsular *T. c. cerasma* and French Polynesian *T. c. rectifrons* because no description was given.

We realize the necessity of further study using more specimens to reveal the intraspecific variation of *T. cerasma*.

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要 約

沖縄島産マレーベニツケガニ *Thalamita cerasma cerasma* を詳細に記載した。沖縄島産マレーベニツケガニを亜種 *T. c. rectifrons* を含む他地域からの分類学的研究と比較したところ、ある形質は *T. c. rectifrons* とマレーベニツケガニのいくつかの地域からの報告で共有されたり、*T. c. rectifrons* の分類形質がマレーベニツケガニのホロタイプ以外の報告で見られるなどした。これらの結果、*T. c. rectifrons* はマレーベニツケガニの新参動物異名の可能性があり、本報告では沖縄島産の標本をマレーベニツケガニとして扱った。

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