

# Crabs dredged off the Ogasawara Islands (Crustacea, Decapoda, Brachyura)

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**Abstract.** Brachyuran crabs dredged off the Ogasawara Islands, southern Japan, are reported. The collection consists of 73 species of 16 families excluding pilumnoid and xanthoid crabs. Three new species, *Cryptodromia maculata* sp. nov. (Dromiidae), *Ebalia koyo* sp. nov. (Leucosidae), and *Pugettia ogasawaraensis* sp. nov. (Epialtidae), are described and illustrated. Forty-two species are newly added to the carcinological fauna of the Ogasawara Islands including 5 species new to Japanese waters. Biogeography of the recorded species is briefly discussed.

**Key words:** Crustacea, Decapoda, Brachyura, new species, Ogasawara Islands.

## Introduction

The Ogasawara (Bonin) Islands is located ca. 1,000 km south from Tokyo and an oceanic islands that have never been connected to continent landmasses (Fig. 1). Its terrestrial fauna and flora harbour a number of endemic species, but only a few marine organisms are known to be endemic to the islands, e.g. two species of hermit crabs (Asakura, 1991; Asakura *et al.*, 1994a, b) and five species of marine gastropods (Fukuda, 1993, 1994, 1995). However, faunal study of marine organisms having planktonic larval stage at the isolated islands is important to realize the potential ability to disperse and speciation.

Many authors have reported on taxonomy of brachyuran crabs collected from the Ogasawara Islands and the knowledge of brachyuran fauna of the islands is increasing. However, organized faunal survey by using dredge at the sea around the Ogasawara Islands is restricted to Takeda (1977). He recorded 28 species from 12 stations at the west side of Chichi-jima Island. Of these 5 species were new to science and 9 were new to Japanese waters. Other published works on brachyuran taxonomy on the basis of material from the Ogasawara Islands include Stimpson (1858, 1907), Rathbun (1894), Hirota (1894),

Matsuura (1894), Yoshihara (1901), Terazaki (1902–1905), Parisi (1918), Balss (1922), Odhner (1925), Sakai (1938, 1939, 1955, 1976), Miyake (1939, 1970), Takeda and Miyake (1968a, b, 1969a, b, 1976), Miyake and Takeda (1969, 1970), Imajima (1970), Ooishi (1970), Shigei (1970), Suzuki (1972), Takeda (1973), Türkay (1974), Takeda and Kurata (1976a, b, 1977a, b, 1984), Takeda and Tamura (1980, 1981), Asakura *et al.* (1994b), Takeda and Tachikawa (1995), Castro (2000), Marumura and Kosaka (2003), Kobayashi (2005), Komai *et al.* (2006), Komatsu and Takeda (2009), Castro and Ng (2010), and Nguyen and Ng (2010).

The National Museum of Nature and Science, Tokyo, conducted a zoological survey at the sea around the Ogasawara Islands during the years 2008–2010. The benthic animals were sampled by dredging at the depths of 36–3579 m along the whole Ogasawara Islands and Kaikata Seamount, which is located 115 km west of Haha-jima Island. Among a total of 136 stations, 60 stations were positive for brachyuran crabs at the depths of 36–499 m. The collections of brachyuran crabs are referred to 73 species of 16 families except pilumnoid and xanthoid crabs, which are under studying by Prof. Takeda of the Teikyo Heisei University. Of these three new species are de-

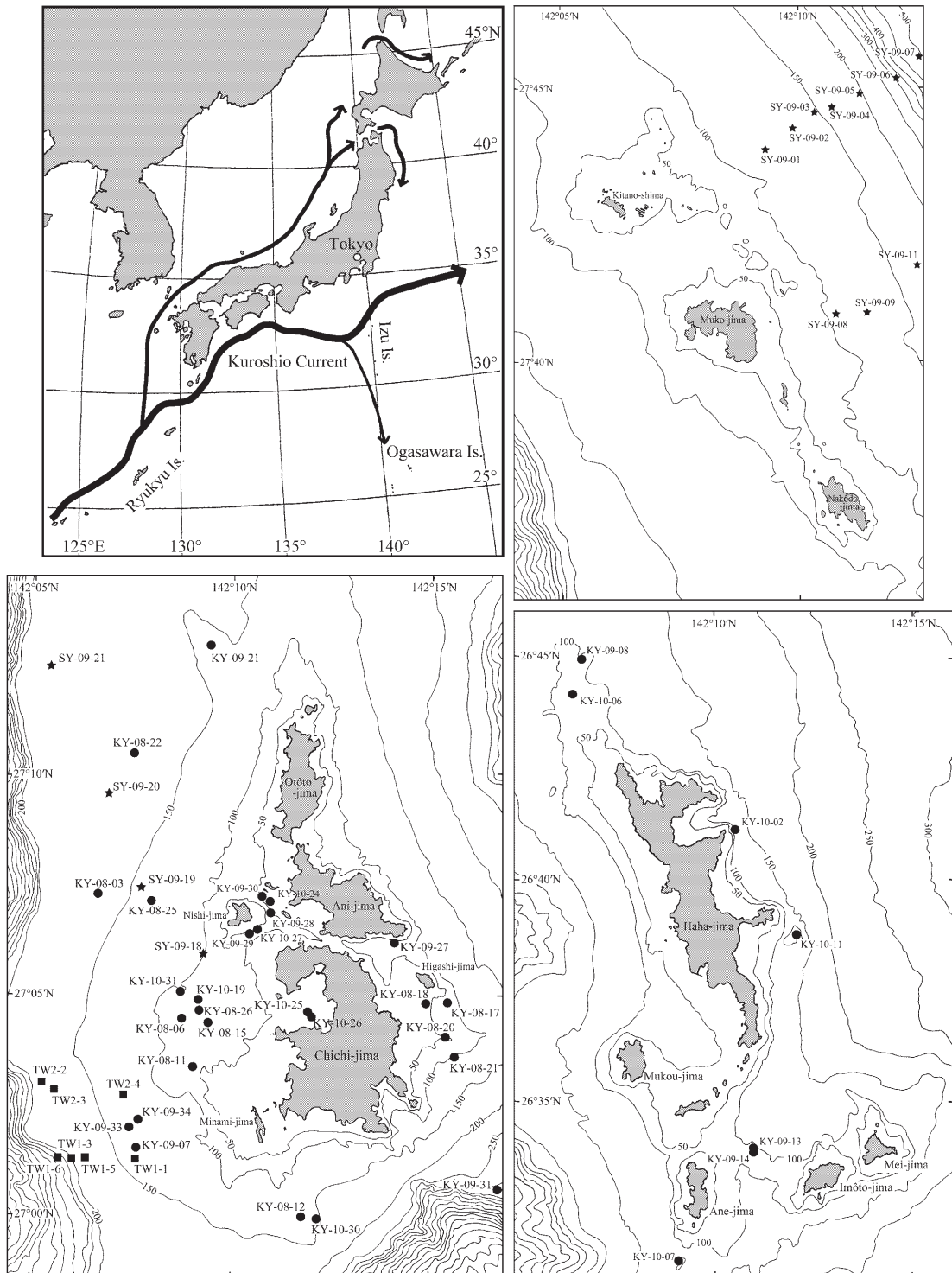


Fig. 1. Maps showing the survey area, the Ogasawara Islands (upleft reproduced from Nakano *et al.* (2009)).

Table 1. Sampling data of R/V *Koyo* 2008, 2009 and 2010 cruise. Abbreviations for sampling gears: BD: biological dredge of 50 cm span opening; RD: rocky dredge of 50 cm span opening; 1m RD: rocky dredge of 1 m span opening. The stations with asterisk are located outside the map.

| Station   | Locality                    | Position in |             | Position out           | Depth (m)   | Date         | Gear  |
|-----------|-----------------------------|-------------|-------------|------------------------|-------------|--------------|-------|
| KY-08-03  | West of Nishi-jima I.       | 27°07.45'N  | 142°06.38'E | 27°07.86'N 142°06.90'E | 154–152     | 24 Oct. 2008 | BD    |
| KY-08-06  | West of Chichi-jima I.      | 27°04.64'N  | 142°08.52'E | 27°04.69'N 142°08.68'E | 88–88       | 24 Oct. 2008 | RD    |
| KY-08-11  | West of Chichi-jima I.      | 27°03.62'N  | 142°08.89'E | 27°03.66'N 142°08.88'E | 56–62       | 27 Oct. 2008 | RD    |
| KY-08-12  | South of Chichi-jima I.     | 27°00.19'N  | 142°11.61'E | 27°00.21'N 142°11.74'E | 136–135     | 28 Oct. 2008 | RD    |
| KY-08-13* | South of Chichi-jima I.     | 26°58.07'N  | 142°09.07'E | 26°57.81'N 142°09.06'E | 150–152     | 28 Oct. 2008 | BD    |
| KY-08-15  | West of Chichi-jima I.      | 27°04.55'N  | 142°09.16'E | 27°04.73'N 142°09.31'E | 83–81       | 28 Oct. 2008 | RD    |
| KY-08-17  | East of Chichi-jima I.      | 27°05.02'N  | 142°15.22'E | 27°04.86'N 142°15.22'E | 70–69       | 29 Oct. 2008 | BD    |
| KY-08-18  | East of Chichi-jima I.      | 27°05.01'N  | 142°14.89'E | 27°04.88'N 142°14.87'E | 49–48       | 29 Oct. 2008 | BD    |
| KY-08-19* | East of Chichi-jima I.      | 27°06.07'N  | 142°18.56'E | 27°06.06'N 142°18.76'E | 175–176     | 29 Oct. 2008 | BD    |
| KY-08-20  | East of Chichi-jima I.      | 27°04.23'N  | 142°15.19'E | 27°04.22'N 142°15.06'E | 54–52       | 29 Oct. 2008 | BD    |
| KY-08-21  | East of Chichi-jima I.      | 27°03.84'N  | 142°15.44'E | 27°03.70'N 142°15.23'E | 95–98       | 29 Oct. 2008 | BD    |
| KY-08-22  | West of Ototo-jima I.       | 27°10.65'N  | 142°07.27'E | 27°10.71'N 142°07.37'E | 150–151     | 30 Oct. 2008 | BD    |
| KY-08-25  | West of Nishi-jima I.       | 27°07.31'N  | 142°07.70'E | 27°07.03'N 142°07.64'E | 129–127     | 30 Oct. 2008 | BD    |
| KY-08-26  | West of Chichi-jima I.      | 27°04.84'N  | 142°08.93'E | 27°04.98'N 142°09.15'E | 84–87       | 30 Oct. 2008 | BD    |
| KY-09-07  | West of Minami-jima I.      | 27°01.72'N  | 142°07.39'E | 27°01.93'N 142°07.28'E | 138.2–136   | 10 Jul. 2009 | BD    |
| KY-09-08  | North of Haha-jima I.       | 26°45.20'N  | 142°06.44'E | 26°45.38'N 142°06.55'E | 98.3–102.4  | 13 Jul. 2009 | BD    |
| KY-09-13  | South of Haha-jima I.       | 26°34.10'N  | 142°10.79'E |                        | 96.5        | 14 Jul. 2009 | BD    |
| KY-09-14  | South of Haha-jima I.       | 26°34.03'N  | 142°10.80'E | 26°34.04'N 142°10.81'E | 92–93.1     | 14 Jul. 2009 | BD    |
| KY-09-21  | Northwest of Ototo-jima I.  | 27°13.09'N  | 142°09.19'E | 27°13.19'N 142°09.23'E | 135.8–135.5 | 15 Jul. 2009 | BD    |
| KY-09-27  | East of Ani-jima Channel    | 27°06.29'N  | 142°13.88'E | 27°06.28'N 142°14.01'E | 81–83.4     | 15 Jul. 2009 | BD    |
| KY-09-28  | East of Nishi-jima I.       | 27°07.05'N  | 142°10.68'E | 27°07.02'N 142°10.69'E | 52.1–52     | 15 Jul. 2009 | BD    |
| KY-09-29  | South of Nishi-jima I.      | 27°06.59'N  | 142°10.25'E | 27°06.58'N 142°10.21'E | 60.7–60.3   | 16 Jul. 2009 | BD    |
| KY-09-30  | East of Nishi-jima I.       | 27°07.22'N  | 142°10.60'E | 27°07.28'N 142°10.58'E | 51.6–49.9   | 16 Jul. 2009 | BD    |
| KY-09-31  | Southeast of Chichi-jima I. | 27°00.84'N  | 142°16.81'E | 27°00.92'N 142°16.56'E | 311.4–299.7 | 16 Jul. 2009 | BD    |
| KY-09-33  | West of Minami-jima I.      | 27°02.19'N  | 142°07.26'E | 27°02.27'N 142°07.27'E | 136.5–136.6 | 16 Jul. 2009 | BD    |
| KY-09-34  | West of Minami-jima I.      | 27°02.34'N  | 142°07.52'E | 27°02.55'N 142°07.34'E | 138.9–140.9 | 16 Jul. 2009 | BD    |
| KY-10-02  | East of Haha-jima I.        | 26°41.44'N  | 142°10.33'E | 26°41.33'N 142°10.39'E | 115.3–114.8 | 5 Jul. 2010  | BD    |
| KY-10-06  | North of Haha-jima I.       | 26°44.29'N  | 142°06.23'E | 26°44.29'N 142°06.37'E | 76–72.9     | 5 Jul. 2010  | BD    |
| KY-10-07  | South of Ane-jima I.        | 26°31.60'N  | 142°08.85'E | 26°31.60'N 142°08.94'E | 104.7–99    | 6 Jul. 2010  | BD    |
| KY-10-11  | Anejima-dashi Bank          | 26°38.98'N  | 142°11.85'E | 26°38.95'N 142°11.96'E | 93.9–82.5   | 6 Jul. 2010  | BD    |
| KY-10-19  | West of Chihi-jima I.       | 27°04.82'N  | 142°08.95'E | 27°04.75'N 142°09.06'E | 86.9–90.5   | 7 Jul. 2010  | 1m RD |
| KY-10-23* | East of Chichi-jima I.      | 27°06.22'N  | 142°18.82'E | 27°06.04'N 142°18.69'E | 178.4–179.3 | 8 Jul. 2010  | BD    |
| KY-10-24  | East of Nishi-jima I.       | 27°07.23'N  | 142°10.70'E | 27°07.14'N 142°10.73'E | 47.4–50.8   | 8 Jul. 2010  | BD    |
| KY-10-25  | Futami Bay, Chihi-jima I.   | 27°04.77'N  | 142°11.68'E | 27°04.76'N 142°11.73'E | 42.2–41.6   | 9 Jul. 2010  | BD    |
| KY-10-26  | Futami Bay, Chihi-jima I.   | 27°04.68'N  | 142°11.72'E | 27°04.68'N 142°11.56'E | 36.2–40.4   | 9 Jul. 2010  | BD    |
| KY-10-27  | South of Nishi-jima I.      | 27°06.65'N  | 142°10.42'E | 27°06.61'N 142°10.29'E | 59–60.1     | 9 Jul. 2010  | BD    |
| KY-10-30  | South of Chichi-jima I.     | 27°00.14'N  | 142°12.11'E | 27°00.16'N 142°11.91'E | 146.8–138.7 | 9 Jul. 2010  | BD    |
| KY-10-31  | West of Chihi-jima I.       | 27°05.18'N  | 142°08.48'E | 27°05.12'N 142°08.39'E | 96.8–96.5   | 9 Jul. 2010  | BD    |

scribed and illustrated, 42 species are newly added to the carcinological fauna of the Ogasawara Islands including 5 species new to Japanese waters.

## Materials and Methods

This study primarily deals with the specimens of brachyuran crabs collected from the sea around the Ogasawara Islands, using R/V *Koyo* of the Tokyo Metropolitan Ogasawara Fisheries Center

Table 2. Sampling data of R/V *Tansei Maru* KT-09-2 cruise. Abbreviations for sampling gears: 1m BD: biological dredge of 1 m span opening; CBD: chain bag dredge of 50 cm span opening. The station with asterisk is located outside the map.

| Station           | Locality               | Position in            | Position out           | Depth (m)   | Date         | Gear  |
|-------------------|------------------------|------------------------|------------------------|-------------|--------------|-------|
| KT-09-2-KK1-2(1)* | Kaikata Seamount       | 26°40.00'N 140°55.54'E | 26°39.99'N 140°55.63'E | 172.5–165   | 16 Mar. 2009 | CBD   |
| KT-09-2-TW1-1     | West of Chichi-jima I. | 27°01.40'N 142°07.41'E | 27°01.36'N 142°07.47'E | 145.2–138.6 | 19 Mar. 2009 | 1m BD |
| KT-09-2-TW1-3     | West of Chichi-jima I. | 27°01.45'N 142°05.79'E | 27°01.48'N 142°05.87'E | 221.3–194.1 | 19 Mar. 2009 | 1m BD |
| KT-09-2-TW1-5     | West of Chichi-jima I. | 27°01.44'N 142°06.14'E | 27°01.38'N 142°06.18'E | 173.1–188.3 | 19 Mar. 2009 | 1m BD |
| KT-09-2-TW1-6     | West of Chichi-jima I. | 27°01.43'N 142°05.50'E | 27°01.35'N 142°05.56'E | 297.3–310.4 | 19 Mar. 2009 | 1m BD |
| KT-09-2-TW2-2     | West of Chichi-jima I. | 27°03.00'N 142°05.00'E | 27°02.99'N 142°05.04'E | 181.8–186.6 | 19 Mar. 2009 | 1m BD |
| KT-09-2-TW2-3     | West of Chichi-jima I. | 27°03.03'N 142°05.29'E | 27°03.00'N 142°05.40'E | 165.6–165.6 | 19 Mar. 2009 | 1m BD |
| KT-09-2-TW2-4     | West of Chichi-jima I. | 27°02.94'N 142°07.17'E | 27°02.95'N 142°07.25'E | 140.7–151.5 | 19 Mar. 2009 | 1m BD |

Table 3. Sampling data of TR/V *Shin'yo Maru* 2009 cruise. Abbreviations for sampling gear: BD: biological dredge of 50 cm span opening.

| Station  | Locality               | Position in            | Position out           | Depth (m) | Date         | Gear |
|----------|------------------------|------------------------|------------------------|-----------|--------------|------|
| SY-09-01 | East of Muko-jima I.   | 27°44.05'N 142°09.19'E | 27°44.01'N 142°09.15'E | 109–108   | 16 Nov. 2009 | BD   |
| SY-09-02 | East of Muko-jima I.   | 27°44.55'N 142°09.69'E | 27°44.47'N 142°09.76'E | 122–123   | 16 Nov. 2009 | BD   |
| SY-09-03 | East of Muko-jima I.   | 27°44.86'N 142°10.17'E | 27°44.72'N 142°10.21'E | 146–144   | 16 Nov. 2009 | BD   |
| SY-09-04 | East of Muko-jima I.   | 27°44.99'N 142°10.52'E | 27°44.79'N 142°10.40'E | 159–152   | 16 Nov. 2009 | BD   |
| SY-09-05 | East of Muko-jima I.   | 27°45.10'N 142°11.05'E | 27°44.78'N 142°10.89'E | 193–172   | 16 Nov. 2009 | BD   |
| SY-09-06 | East of Muko-jima I.   | 27°45.42'N 142°11.83'E | 27°45.13'N 142°11.57'E | 301–237   | 16 Nov. 2009 | BD   |
| SY-09-07 | East of Muko-jima I.   | 27°45.75'N 142°12.54'E | 27°45.41'N 142°12.10'E | 499–365   | 16 Nov. 2009 | BD   |
| SY-09-08 | East of Muko-jima I.   | 27°41.06'N 142°10.58'E | 27°41.05'N 142°10.40'E | 106–98.7  | 16 Nov. 2009 | BD   |
| SY-09-09 | East of Muko-jima I.   | 27°41.13'N 142°11.11'E | 27°41.00'N 142°10.88'E | 124–112   | 16 Nov. 2009 | BD   |
| SY-09-11 | East of Muko-jima I.   | 27°42.02'N 142°12.46'E | 27°42.16'N 142°12.07'E | 172–161   | 16 Nov. 2009 | BD   |
| SY-09-18 | West of Chichi-jima I. | 27°06.11'N 142°08.89'E | 27°06.07'N 142°09.06'E | 101–98    | 18 Nov. 2009 | BD   |
| SY-09-19 | West of Nishi-jima I.  | 27°07.62'N 142°07.35'E | 27°07.62'N 142°07.60'E | 144–140   | 18 Nov. 2009 | BD   |
| SY-09-20 | West of Ooto-jima I.   | 27°09.74'N 142°06.76'E | 27°09.72'N 142°06.83'E | 157–159   | 18 Nov. 2009 | BD   |
| SY-09-21 | West of Ooto-jima I.   | 27°12.80'N 142°05.13'E | 27°12.81'N 142°05.33'E | 161–159   | 18 Nov. 2009 | BD   |

(used gears include biological dredge of 50 cm span opening and rocky dredge of 50 cm and 1 m span openings), R/V *Tansei Maru* of the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) (used gears include biological dredge of 1 m span opening and chain bag dredge with 50 cm span opening) and TR/V *Shin'yo Maru* of the Tokyo University of Marine Science and Technology (used gear was biological dredge of 50 cm span opening). Data of sampling stations of R/V *Koyo*, R/V *Tansei Maru* and TR/V *Shin'yo Maru* are summarized in Table 1, Table 2 and Table 3, respectively. Specimens were fixed with 80% ethanol or rarely 10% formalin and preserved in 75% ethanol. All the specimens examined are deposited in the Showa Memorial Institute, National Museum of Nature and Science,

Tsukuba (NSMT-Cr S).

Superfamilial and familial arrangements follow Ng *et al.* (2008). Synonymy is listed only the record from the Ogasawara Islands. Measurements of specimens are provided for maximum carapace length (cl) by carapace width (cw) including rostral and lateral spines in millimeters (mm). In the majoid crabs, the carapace length was measured from the level of the base of the rostral spines to the posterior margin of carapace and the carapace width was measured excluding the lateral spines. Other abbreviations used in the text are: G1, first male gonopod; G2, second male gonopod; Jn, Japanese name; P2–5, second to fifth pereopods (first to fourth ambulatory legs).

### Taxonomic accounts

Section **Podotremata** Guinot, 1977

Superfamily **Dromioidea** De Haan, 1833

Family **Dromiidae** De Haan, 1833

*Cryptodromia maculata* sp. nov. [New Japanese name: Komon-iso-kaikamuri] (Figs. 2A, 3)

Materials examined. Holotype: male (cl  $5.3 \times$  cw  $5.6$  mm), NSMT-Cr S 875, KY-08-26, West of Chichi-jima I., Ogasawara Is.,  $27^{\circ}04.8'N$   $142^{\circ}08.9'E$  –  $27^{\circ}05.0'N$   $142^{\circ}09.2'E$ , 84–87 m, biological dredge, 30 October 2008.

Paratypes: 2 males ( $3.7 \times 3.9$ ,  $4.8 \times 5.0$ ), NSMT-Cr S 876, KY-08-15, South of Chichi-jima I.,  $27^{\circ}04.55'N$   $142^{\circ}09.16'E$  –  $27^{\circ}04.73'N$

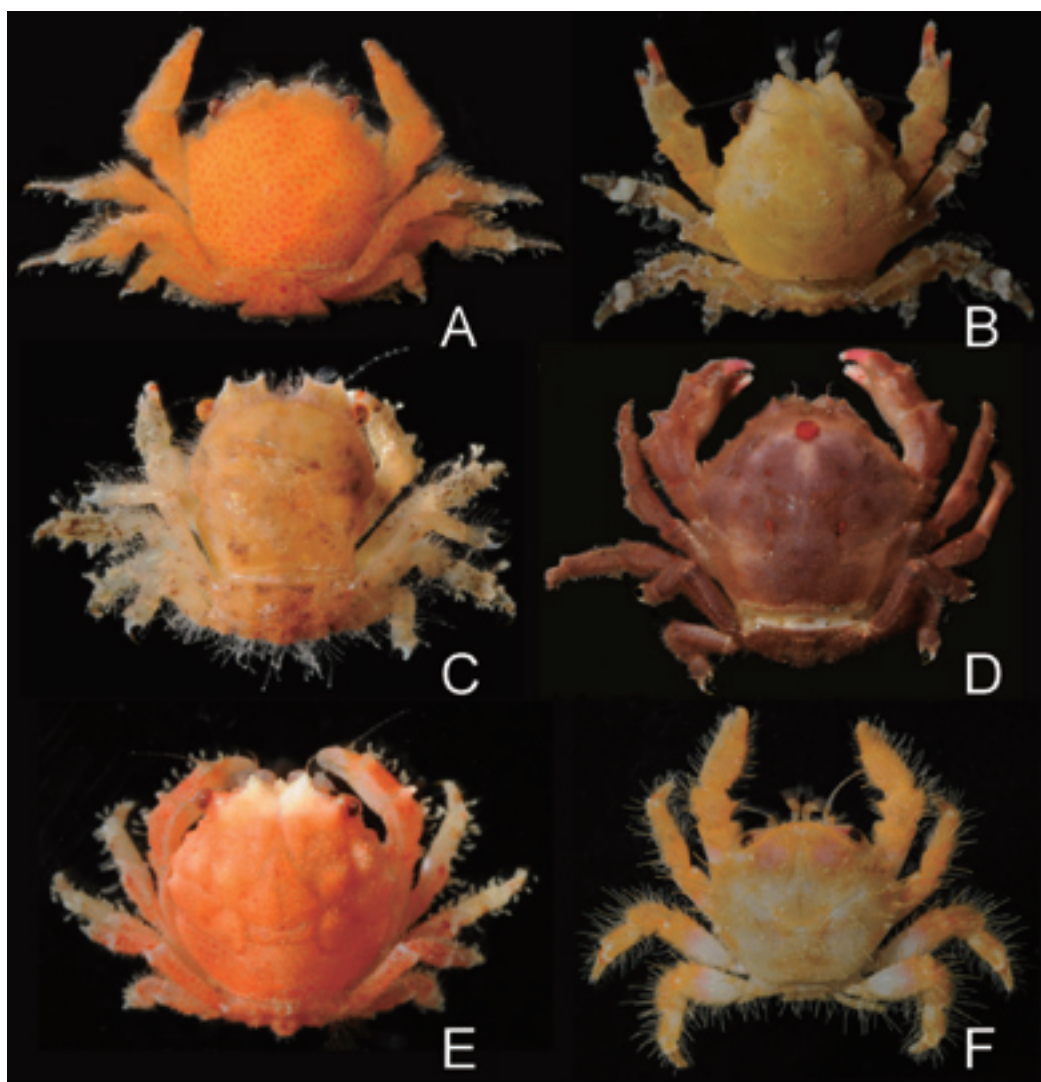


Fig. 2. A, *Cryptodromia maculata* sp. nov., holotype male ( $5.3 \times 5.6$ ), NSMT-Cr S 875; B, *Epigodromia rotunda* McLay, 1993, young female ( $5.6 \times 5.5$ ), NSMT-Cr S 881; C, *Homalodromia coppingeri* Miers, 1884, young female ( $4.6 \times 3.9$ ), NSMT-Cr S 882; D, *Lauridromia intermedia* (Laurie, 1906), male ( $29.4 \times 29.2$ ), NSMT-Cr S 883; E, *Takedromia yoshidai* (Takeda and Kurata, 1976), young female ( $5.5 \times 5.4$ ), NSMT-Cr S 884; F, *Dynomene pilumnoides* Alcock, 1900, male ( $7.6 \times 9.4$ ), NSMT-Cr S 887.

142°09.31'E, 83–81 m, rocky dredge, 28 October 2008; 1 male ( $4.2 \times 4.4$ ), NSMT-Cr S 877, KY-08-25, West of Chichi-jima I., 27°07.31'N 142°07.70'E – 27°07.03'N 142°07.64'E, 129–127 m, biological dredge, 30 October 2008; 1 young female ( $2.7 \times 2.7$ ), NSMT-Cr S 878, KY-09-28, East of Nishi-jima I., 27°07.05'N 142°10.68'E – 27°07.02'N 142°10.69'E, 52.1–52 m, biological dredge, 15 July 2009; 1 young female ( $2.8 \times 2.7$ ), NSMT-Cr S 879, KY-09-30, East of Nishi-jima I., 27°07.22'N 142°10.60'E – 27°07.28'N 142°10.58'E, 51.6–49.9 m, biological dredge, 16 July 2009.

Non-type: 1 juv., KY-09-21, NSMT-Cr S 880.

Description of male. Carapace (Figs. 2A, 3A) slightly wider than long, subquadrangular, very convex dorsally, smooth under cover of short setae, longer plumose setae near margins. Only branchial groove faintly marked. Rostrum tridentate; median tooth slender, deflexed; lateral teeth broadly triangular, horizontal. Anterolateral margin begins at level of postorbital tooth, armed with one triangular tooth just behind postorbital tooth, straight and slightly convergent behind tooth, interrupted only by branchial groove, without posterolateral tooth.

Supraorbital tooth very small, triangular; postorbital tooth acutely triangular, as large as median rostral tooth. Broadly triangular suborbital tooth, divided from postorbital tooth by short orbital fissure; subhepatic area flattened to accommodate cheliped when folded.

First segment of antenna (Fig. 3A) wider than long, beaked medially, lateral margin shorter than medial margin. Second segment broad basally, tapering, 1.5 times longer than wide basally, with low tubercle disto-laterally; medial margin curved, distally produced as a tongue-shaped process; exopod bluntly spine-shaped, firmly fixed to second segment, tip extends as far as medial process. Ratio of length of antennal flagellum to CW = 0.56. Epistom triangular, wider than long, weakly concave.

Basis of third maxilliped fused with ischium, but with suture; merus dentate on inner margin; palp exposed, slightly longer than merus; crista

dentata consists of 4 or 5 teeth.

Chelipeds moderate, 1.5 times as long as carapace in holotype; merus trigonal in cross-section, unarmed; carpus with 2 triangular tubercles on distal border, superior tubercle twice as large as inferior one; propodus (Fig. 3C) with small tubercle matching superior tubercle of carpus, with few granules on distal part of superior surface (not seen in figure), lower margin upcurved; fingers hollowed out internally, armed with rounded teeth on both cutting edges, with few granules on distal part of superior surface of dactyli, gaping basally.

P2 and P3 (Fig. 3D) shorter than chelipeds, fringed with longer plumose setae; meri with blunt, subdistal tooth on superior margin; propodi with strong distal lobe; dactyli 1.1 times longer than propodi, narrow, talon-like, inner margins armed with 4 or 5 small spines, increasing in size distally.

P4 (Fig. 3E) reduced; dactyli strongly curved, opposed by single propodal spine with another smaller spine on outer propodal margin. P5 (Fig. 3F) reduced, subdorsal; dactyli opposed by 2 propodal spines (opposite one hidden in figure) with 2 subequal and 1 smaller spines on outer propodal margin.

Abdomen (Fig. 3G) of six free somites. Male telson 1.2 times wider than long, subtriangular, constricted subdistally, rounded at tip. Uropod plates well developed, ovoid, visible externally. Abdominal locking mechanism consists of uropod plates fitting in front of small flange on bases of P2.

G1 (Fig. 3H) basal segment lobular, with simple setae on both margins; distal segment with median suture on sternal surface, tip acutely triangular with dense plumose setae. G2 (Fig. 3I) simple, needle-like, slightly longer than G1.

Color. Whole body yellow, dotted with small orange spots (Fig. 2A).

Camouflage. Most of crabs carried sponge caps.

Etymology. The specific name is derived from the Latin *maculata* (= spotted) alluding to the small orange spots on the carapace.

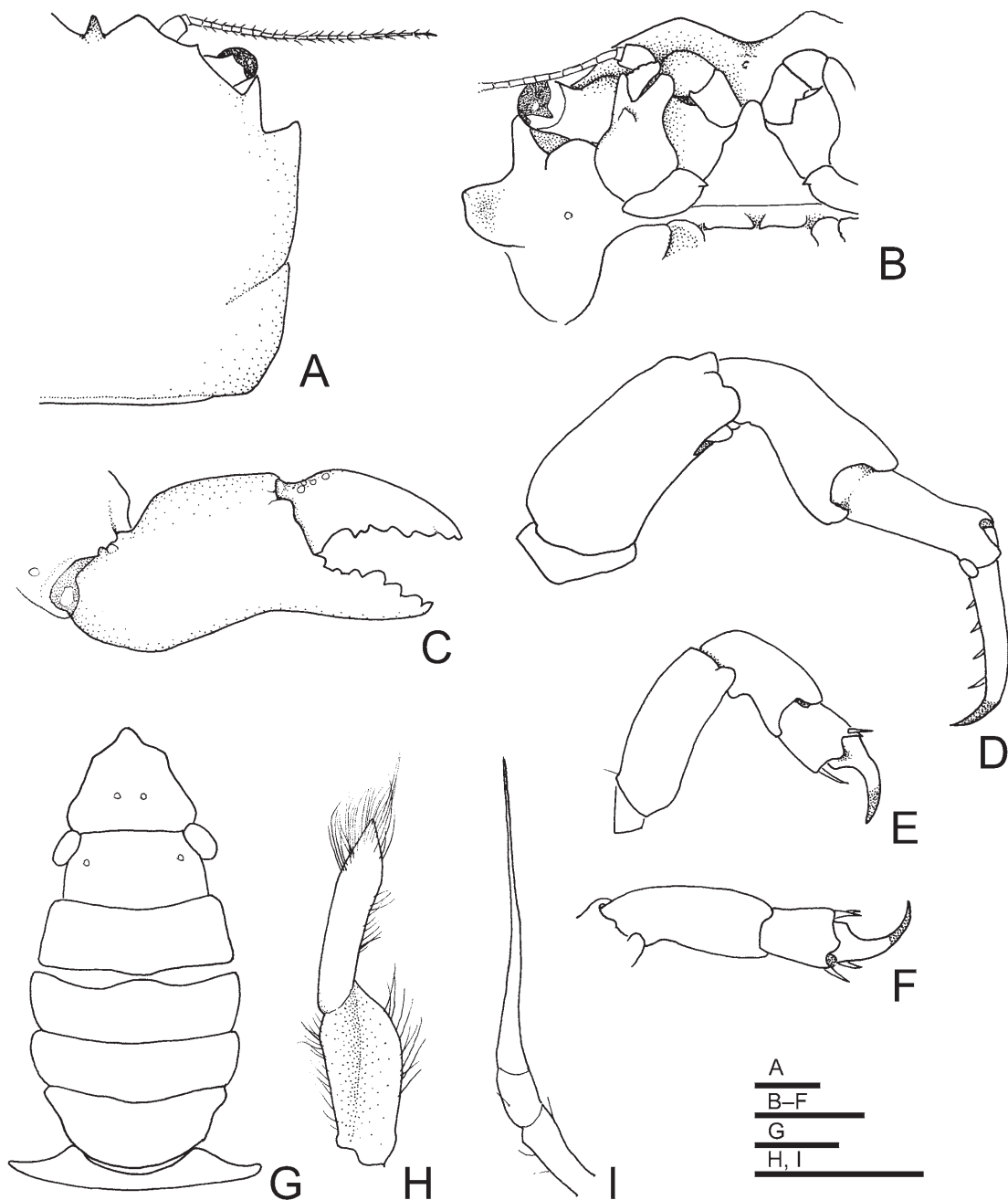


Fig. 3. *Cryptodromia maculata* sp. nov., holotype male (5.3 × 5.6), NSMT-Cr S 875. A, carapace (setae omitted), dorsal; B, frontal region, ventral; C, right chela, outer; D, right P3, dorsal; E, right P4, dorsal; F, right P5, dorsal; G, abdomen, ventral; H, right G1, ventral; I, right G2, ventral. Scales 1 mm.

Remarks. *Cryptodromia maculata* sp. nov. resembles *C. hilgendorfi* de Man, 1888 in the subquadrangular carapace having a single anterolat-

eral tooth, but *C. maculata* can be distinguished from *C. hilgendorfi* by the acutely triangular postorbital tooth (vs. only pointed in *C. hilgendorfi*),

the anteriorly directed, triangular anterolateral tooth (vs. subtruncate in *C. hilgendorfi*), two propodal spines opposing dactyli of P5 (vs. single in *C. hilgendorfi*) (cf. Campbell and Stephenson, 1970; McLay, 1993).

Distribution. Known only from the Ogasawara Islands, occurring at the depths of 50–129 m.

***Epigodromia rotunda*** McLay, 1993 [New Jn: Marumi-hime-kaikamuri] (Fig. 2B)

Material examined. SY-09-09, 1 young female ( $5.6 \times 5.5$ ), NSMT-Cr S 881.

Camouflage. The present specimen did not carried sponge cap as in holotype.

Remarks. The present specimen agrees well with the original description and illustrations by McLay (1993). Although the present specimen is larger than holotype ( $4.8 \times 4.2$  mm), it shows immature features, viz. the unopened vulva and the undeveloped pleopods. The first leg has small podobranch, so that this species is unapplicable to the keys to genera by McLay (1993).

Distribution. Previously known only from New Caledonia (McLay, 1993). This record greatly extends the geographical range northwards to the Ogasawara Islands. Occurring at the depths of 112–235 m.

***Homalodromia coppingeri*** Miers, 1884 [Jn: Hime-kinuge-kamuri] (Fig. 2C)

Material examined. KY-08-20, 1 young female ( $4.6 \times 3.9$ ), NSMT-Cr S 882.

Camouflage. The present specimen did not carried sponge cap.

Distribution. Widely distributed in the Indo-West Pacific Ocean (McLay, 1993). This is the first record from the Ogasawara Islands.

***Lauridromia intermedia*** (Laurie, 1906) [Jn: Aka-ge-kamuri] (Fig. 2D)

Material examined. KY-10-27, 1 male ( $29.4 \times 29.2$ ), NSMT-Cr S 883.

Camouflage. The present specimen carried octocoral, *Dendronephthya* sp.

Distribution. Western Indian Ocean to Australia, New Caledonia, Philippines, Taiwan, Japan.

Occurring at the depths of 7–150 m (Ahyong *et al.*, 2009). This is the first record from the Ogasawara Islands.

***Takedromia yoshidai*** (Takeda and Kurata, 1976) [Jn: Wantone-kamuri] (Fig. 2E)

*Cryptodromia yoshidai* Takeda and Kurata, 1976b: 19, pl. 1 fig. 1, pl. 2 figs. 3, 4.

Material examined. KY-09-29, 1 young female ( $5.5 \times 5.4$ ), NSMT-Cr S 884.

Remarks. The members of the genus *Takedromia* show significant sexual dimorphism, viz. the massive and elongate chelipeds and lacinated teeth of the anterolateral margin of the carapace in male. The present young female specimen looks very different from the original description and illustration by Takeda and Kurata (1976b), but belongs to *T. yoshidai* by the areolation of the carapace and the chelipedal carpus being with two subconical tubercles.

Distribution. Ogasawara Islands, Philippines, Chesterfield Islands, occurring at the depth of 60.3–200 m (Takeda and Kurata, 1976b; McLay, 1993; Takeda and Manuel-Santos, 2006; this study).

#### Family **Dynomenidae** Ortmann, 1892

***Dynomene pilumnoides*** Alcock, 1900 [Jn: Akatoge-kaikamuri] (Fig. 2F)

Materials examined. KY-08-13, 1 young female ( $3.4 \times 3.7$ ), NSMT-Cr S 885; KY-09-08, 1 male ( $5.7 \times 7.0$ ), NSMT-Cr S 886; SY-09-11, 1 male ( $7.6 \times 9.4$ ), NSMT-Cr S 887.

Distribution. Widely distributed in the Indo-West Pacific Ocean (McLay, 1999). This is the first record from the Ogasawara Islands.

#### Superfamily **Raninoidea** De Haan, 1839

##### Family **Raninidae** De Haan, 1839

***Notopoides latus*** Henderson, 1888 [Jn: Eri-asahigani-modoki] (Fig. 4A)

*Notopoides latus*: Takeda and Kurata, 1984: 196, figs. 1, 2.

Materials examined. KY-09-31, 1 young fe-

male ( $12.9 \times 9.1$ ), NSMT-Cr S 888; KT-09-2-TW1-6, 1 male with entopractans on inner surface of abdomen and gonopods ( $18.8 \times 13.5$ ), NSMT-Cr S 889.

Remarks. The present specimens agree well with the original description by Henderson (1888) and the subsequent description by Dawson and Yaldwyn (2002), but differ in that the lower margin of the chelipedal palm has 2 teeth (instead of 3). This feature appears in the Japanese specimens (Sakai, 1980; Takeda and Kurata, 1984;

Baba, 1986; this study).

Distribution. Widely distributed in the Indo-West Pacific Ocean (Dawson and Yaldwyn, 2002).

*Notopus dorsipes* (Linnaeus, 1758) [Jn: Asahigani-modoki] (Fig. 4B)

Material examined. KY-10-25, 1 male ( $26.2 \times 17.8$ ), NSMT-Cr S 890.

Distribution. Western Indian Ocean to Australia, Indonesia, China, Taiwan, Japan (Ahyong *et*

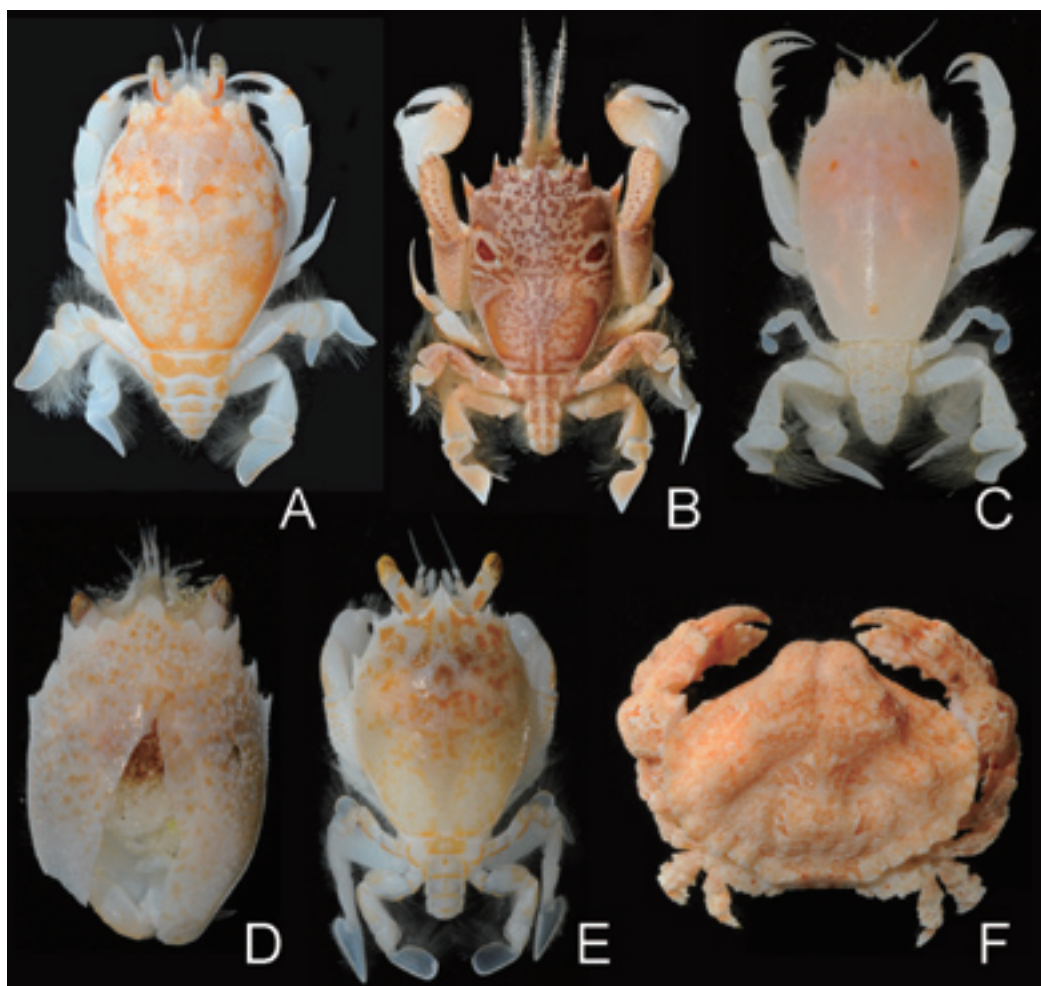


Fig. 4. A, *Notopoides latus* Henderson, 1888, male ( $18.8 \times 13.5$ ), NSMT-Cr S 889; B, *Notopus dorsipes* (Linnaeus, 1758), male ( $26.2 \times 17.8$ ), NSMT-Cr S 890; C, *Notosceles serratifrons* (Henderson, 1893), male ( $12.9 \times 7.2$ ), NSMT-Cr S 891; D, *Ranina ranina* (Linnaeus, 1758), 1 juvenile ( $12.7 \times 8.4$ ), NSMT-Cr S 896; E, *Umalia orientalis* (Sakai, 1963), young female ( $9.4 \times 6.7$ ), NSMT-Cr S 898; F, *Sakaila imperialis* (Sakai, 1963), male ( $12.3 \times 15.8$ ), NSMT-Cr S 900.

*al.*, 2009). This is the first record from the Ogasawara Islands.

***Notosceles serratifrons*** (Henderson, 1893) [Jn: Nokoha-asahi] (Fig. 4C)

Materials examined. KY-08-25, 1 male ( $12.9 \times 7.2$ ), NSMT-Cr S 891; KY-08-26, 1 specimen (broken on posterior body:  $16.3 \times 9.3$ ), NSMT-Cr S 892; KY-10-23, 1 female ( $11.1 \times 6.3$ ), NSMT-Cr S 893; KT-09-2-KK1-2(1), 1 young female (broken), 1 juv. ( $5.1 \times 2.7$ ), NSMT-Cr S 894; SY-09-19, 1 young female ( $7.8 \times 4.1$ ), NSMT-Cr S 895.

Remarks. The present specimens agree with the original description by Henderson (1893), but differ in that 1) the rostrum is sometimes shouldered (generally triangular, but not mentioned in the original description) and 2) the immovable finger of the chela has 4 denticle on cutting edges (5 in the original description).

Distribution. Sri Lanka to Australia, China, Taiwan, and Japan (Ahyong *et al.*, 2009). This is the first record from the Ogasawara Islands.

***Ranina ranina*** (Linnaeus, 1758) [Jn: Asahi-gani] (Fig. 4D)

Material examined. KY-08-26, 1 juvenile (sex indetermined, posterior body and pereopods lost except chelipeds and left P5;  $12.7 \times 8.4$ ), NSMT-Cr S 896.

Remarks. Although the present juvenile specimen appears quite different from the adult form in the front-orbital region, it agrees well with the illustration by Sakai (1937: Fig. 45c).

Distribution. Widely distributed in the Indo-West Pacific Oceans (Ahyong *et al.*, 2009). This is the first formal record from the Ogasawara Islands, but this species is well known to be caught for commercial fisheries in this area.

***Umalia misakiensis*** (Sakai, 1937) [Jn: Misaki-asahi-modoki] (Fig. 5A)

Material examined. KY-10-02, 1 young female ( $9.6 \times 7.3$ ), NSMT-Cr S 897.

Remarks. Despite the present specimens is still young, it agrees well with the original and subse-

quent descriptions and illustrations by Sakai (1937, 1965)

Distribution. Philippines and Japan, occurring at the depths of 100–150 m (K. Sakai, 2004). This is the first record from the Ogasawara Islands.

***Umalia orientalis*** (Sakai, 1963) [Jn: Toyo-asahi-modoki] (Figs. 4E, 5B)

Material examined. SY-09-01, 1 young female ( $9.4 \times 6.7$ ), NSMT-Cr S 898.

Comparative materials examined. Uwa Sea, Ehime Pref., Bungo Strait, Japan, 1 male ( $35.3 \times 26.7$ ), NSMT-Cr R 2790, trawl, 10 Apr. 1966. Ito-man, Okinawa I., Ryukyu Is., Japan, 1 male ( $23.5 \times 17.6$ ), NSMT-Cr 6502, 70–90 m, coll. Y. Nakasone, 26 Apr. 1974.

Remarks. The present specimen (Fig. 4E) differs from the original description and illustration by Sakai (1963) by that (1) the rostrum is proportionally larger; (2) the distance between exorbital and anterolateral spines is relatively shorter; (3) a spine on the dorsal margin of the chelipedal palm is absent (vs. present). But these differences may be caused by that the present specimen is still young and small. The form of the front-orbital spines and the dactyli of the ambulatory legs are typical for *U. orientalis* (Fig. 5B)

Distribution. China, Taiwan and Japan, occurring at the depths of 50–120 m (Ahyong *et al.*, 2009). This is the first record from the Ogasawara Islands.

Section **Eubrachyura** Saint Laurent, 1980

Superfamily **Aethroidea** Dana, 1851

Family **Aethridae** Dana, 1851

***Sakaila imperialis*** (Sakai, 1963) [Jn: Osachilagan] (Fig. 4F)

Materials examined. KY-08-19, 1 young male ( $3.3 \times 5.4$ ), NSMT-Cr S 899; KT-09-2-TW1-3, 1 male ( $12.3 \times 15.8$ ), NSMT-Cr S 900.

Distribution. Known only from Japan, occurring at the depths of 85–221 m (Miyake, 1983; this study). This is the first record from the Ogasawara Islands.

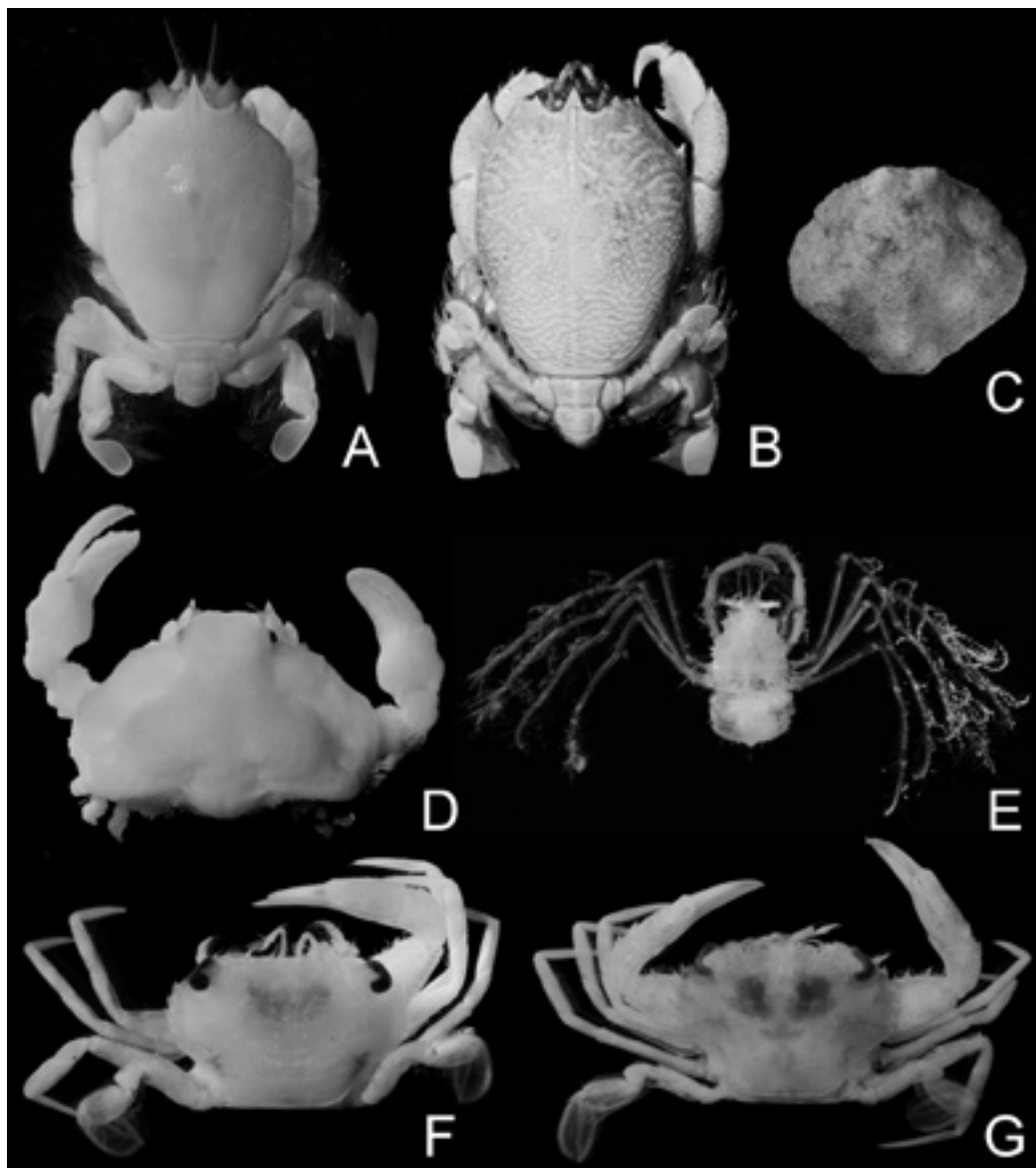


Fig. 5. A, *Umalia misakiensis* (Sakai, 1937), young female ( $9.6 \times 7.3$ ), NSMT-Cr S 897; B, *Umalia orientalis* (Sakai, 1963), male ( $35.3 \times 26.7$ ), NSMT-Cr R 2790; C, *Heteronucia toyoshioae* Komatsu and Takeda, 2005, carapace (empty shell;  $5.4 \times 5.9$ ), NSMT-Cr S 927; D, *Oreotlos lagarodes* Tan and Ng, 1996, young female ( $2.9 \times 4.2$ ), NSMT-Cr S 938; E, *Chalaroachaeus curvipes* de Man, 1902, ovig. female ( $3.5 \times 3.6$ ), NSMT-Cr S 1027; F, *Thalamita ocullea* Alcock, 1899, young male ( $5.1 \times 7.1$ ), NSMT-Cr S 1136; G, *Thalamita spinifera* Borradaile, 1902, male ( $6.6 \times 8.7$ ), NSMT-Cr S 1139.

Superfamily **Dorippoidea** MacLeay, 1838

Family **Ethusidae** Guinot, 1977

*Ethusa quadrata* Sakai, 1937 [Jn: Kaku-heikegani] (Fig. 6A)

Material examined. KY-08-22, 1 young male ( $4.6 \times 3.6$ ), NSMT-Cr S 901.

Distribution. Japan, East China Sea, Philippines, New Caledonia, occurring at the depths of 35–393 m (Castro, 2005). This is the first record



Fig. 6. A, *Ethusa quadrata* Sakai, 1937, young male ( $4.6 \times 3.6$ ), NSMT-Cr S 901; B, *Dairoides kusei* (Sakai, 1938), young male ( $7.9 \times 10.6$ ), NSMT-Cr S 902; C, *Henicoplax nitida* (Miers, 1879), young male ( $3.7 \times 5.6$ ), NSMT-Cr S 903; D, *Platyozius laevis* (Borradaile, 1902), young male ( $4.3 \times 4.6$ ), NSMT-Cr S 906; E, *Singhaplax styrax* Castro, 2007, male ( $4.1 \times 7.0$ ), NSMT-Cr S 911; F, *Goneplacoides marivenae* (Komatsu and Takeda, 2003), male ( $5.6 \times 8.5$ ), NSMT-Cr S 909.

from the Ogasawara Islands.

Superfamily **Eriphioidea** MacLeay, 1838

Family **Dairoididae** Števcíć, 2005

***Dairoides kusei*** (Sakai, 1938) [Jn: Hoshihada-hishi-gani] (Fig. 6B)

*Dairoides kusei*: Takeda and Kurata, 1976b: 27.

Material examined. KY-09-21, 1 young male ( $7.9 \times 10.6$ ), NSMT-Cr S 902.

Distribution. Philippines, Japan, Hawaii Is., occurring at the depths of 85–199 m (Takeda and Kurata, 1976b; Serène and Vadon, 1981; Ng and Tan, 1999).

Superfamily **Goneplacoidea** MacLeay, 1838

Family **Euryplacidae** Stimpson, 1871

***Henicoplax nitida*** (Miers, 1879) [Jn: Kiba-gani] (Figs. 6C, 8A–C)

*Heteroplax nitida*: Takeda, 1977: 133.

Materials examined. KY-08-17, 1 young male ( $3.7 \times 5.6$ ), NSMT-Cr S 903; SY-09-02, 1 young female ( $4.3 \times 6.1$ ), NSMT-Cr S 904.

Additional material examined. Takinoura Bay, Ani-jima I., dredge, 45 m, coll. M. Takeda and M. Imajima, 15 Jun. 1976, 1 male ( $3.8 \times 5.4$ ), NSMT-Cr 4453.

Remarks. Recently Castro and Ng (2010) established a new genus, *Henicoplax*, for this species and 4 other species. All the congeners show restricted distribution.

Distribution. Japan, Korea Strait, Hong Kong, occurring at shallow tidal water to 123 m (Castro and Ng, 2010; this study).

***Platyzozius laevis*** (Borradaile, 1902) [New Jn: Hira-enko-gani] (Fig. 6D)

*Platyzozius laevis*: Castro and Ng, 2010: 84, Figs.

33A–F; 34A–F; 35A–G; 38A–C.

Materials examined. KY-08-20, 1 young male ( $3.7 \times 4.1$ ), NSMT-Cr S 905; KY-09-28, 1 young male ( $4.3 \times 4.6$ ), NSMT-Cr S 906.

Remarks. Recently Castro and Ng (2010) reappraised this genus and species.

Distribution. Widely distributed in the Indo-West Pacific Ocean, occurring at intertidal water deep to 200 m (Castro and Ng, 2010).

Family **Goneplacidae** MacLeay, 1838

***Goneplacoides marivenae*** (Komatsu and Takeda, 2003) [New Jn: Medaka-gani-modoki] (Fig. 6F)

Materials examined. KY-08-18, 1 young male ( $2.3 \times 3.2$ ), NSMT-Cr S 907; KT-09-2-KK1-2(1), 1 female (broken on carapace), 4 young females ( $3.2 \times 4.3$ – $3.4 \times 4.4$ ), NSMT-Cr S 908; KT-09-2-TW1-5, 1 male ( $5.6 \times 8.5$ ), 1 female ( $5.8 \times 8.8$ ), NSMT-Cr S 909; KT-09-2-TW2-2, 1 young male ( $4.1 \times 5.9$ ), NSMT-Cr S 910.

Remarks. *Goneplax megalops* Komatsu and

Takeda, 2003, was reduced to a junior subjective synonym of *Goneplacoides marivenae* (Komatsu and Takeda, 2003), by Castro (2007) because the former is a young form of *G. marivenae*. The specimens collected from the Japanese waters are much smaller than typical form of *G. marivenae*, but the male chelae being leaving a gap between the cutting edges, the developed male gonopod, and the broadened female abdomen which looks mature. However, ovigerous female specimen has not been collected from the Japanese waters. This supports Castro's opinion, but color in life of the Japanese specimens is rather different from the specimen from New Caledonia described by Castro (2007). Difference of size at sexual maturity in populations from different localities is often found in majid species of *Schizophrys*, *Notomithrax* and *Leptomithrax* (Griffin and Tranter, 1986).

Distribution. Japan, Taiwan, Philippines, Indonesia, Chesterfield Is., New Caledonia, occurring at the depths of 48–660 m (Castro, 2007; this study). This is the first record from the Ogasawara Islands and extends its bathymetrical range shallow to 48 m.

***Singhaplax styrax*** Castro, 2007 [Jn: Yamato-medaka-gani] (Fig. 6E)

Material examined. KY-09-31, 1 male ( $4.1 \times 7.0$ ), NSMT-Cr S 911; SY-09-06, 1 ovig. female ( $3.0 \times 5.1$ ), NSMT-Cr S 912; SY-09-20, 1 ovig. female ( $2.7 \times 4.4$ ), NSMT-Cr S 913.

Distribution. Japan and Indonesia, occurring at the depths of 110–311.4 m (Castro, 2007; this study). This is the first record from the Ogasawara Islands.

Superfamily **Leucosioidea** Samouelle, 1819

Family **Leucosiidae** Samouelle, 1819

***Ebalia hayamaensis*** Sakai, 1963 [Jn: Hayama-ebalia] (Figs. 7A, 8J–L)

*Ebalia hayamaensis*: Takeda, 1977: 134, fig. 3A; Marumura and Kosaka, 2003: 25.

Materials examined. KY-08-26, 1 male ( $4.1 \times 5.2$ ), NSMT-Cr S 914; KY-09-14, 1 ovig. female ( $4.9 \times 6.4$ ), NSMT-Cr S 915; SY-09-09, 1 ovig.

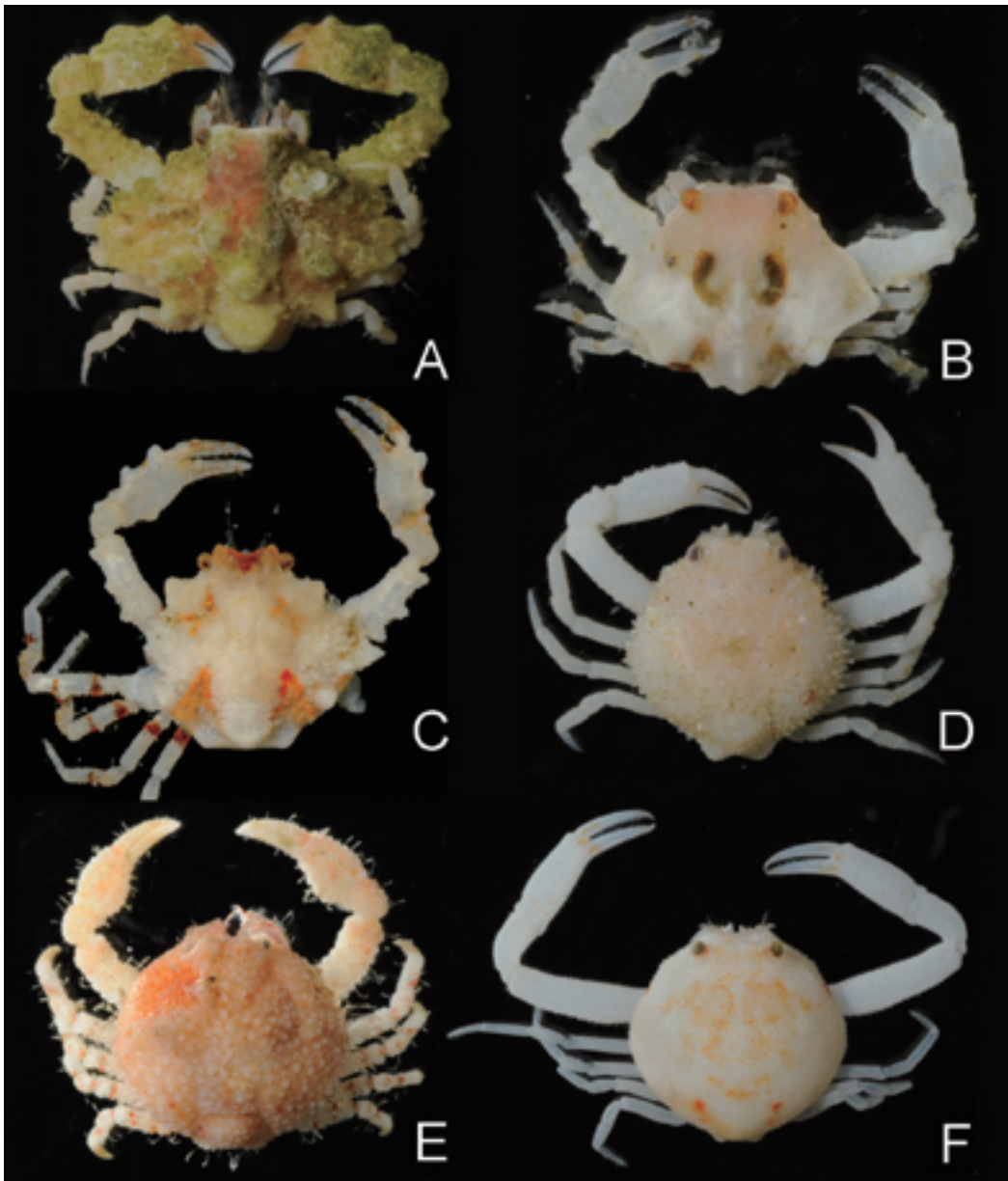


Fig. 7. A, *Ebalia hayamaensis* Sakai, 1963, male ( $4.1 \times 5.2$ ), NSMT-Cr S 914; B, *Ebalia humilis* Takeda, 1977, male ( $2.1 \times 2.7$ ), NSMT-Cr S 918; C, *Ebalia sakaii* Takeda and Miyake, 1972, ovig. female (cl 2.5 mm), NSMT-Cr S 923; D, *Ebalia tuberculosa* (A. Milne-Edwards, 1873), young male ( $4.7 \times 4.7$ ), NSMT-Cr S 925; E, *Heteronucia perlata* (Sakai, 1963), ovig. female ( $7.8 \times 8.2$ ), NSMT-Cr S 926; F, *Toru granuloides* (Sakai, 1961), male ( $12.7 \times 12.0$ ), NSMT-Cr S 954.

female ( $4.7 \times 6.1$ ), NSMT-Cr S 916.

Supplementary description. Male abdomen narrow, elongate triangular. Somites 1 and 2 very short, transversely rectangular. Somites 3 to 6

fused together, elongate trapezoidal, with small triangular tooth near distal end. Telson elongate tongue-shaped.

G1 (Fig. 8J, K) straight, with semicircular lobe

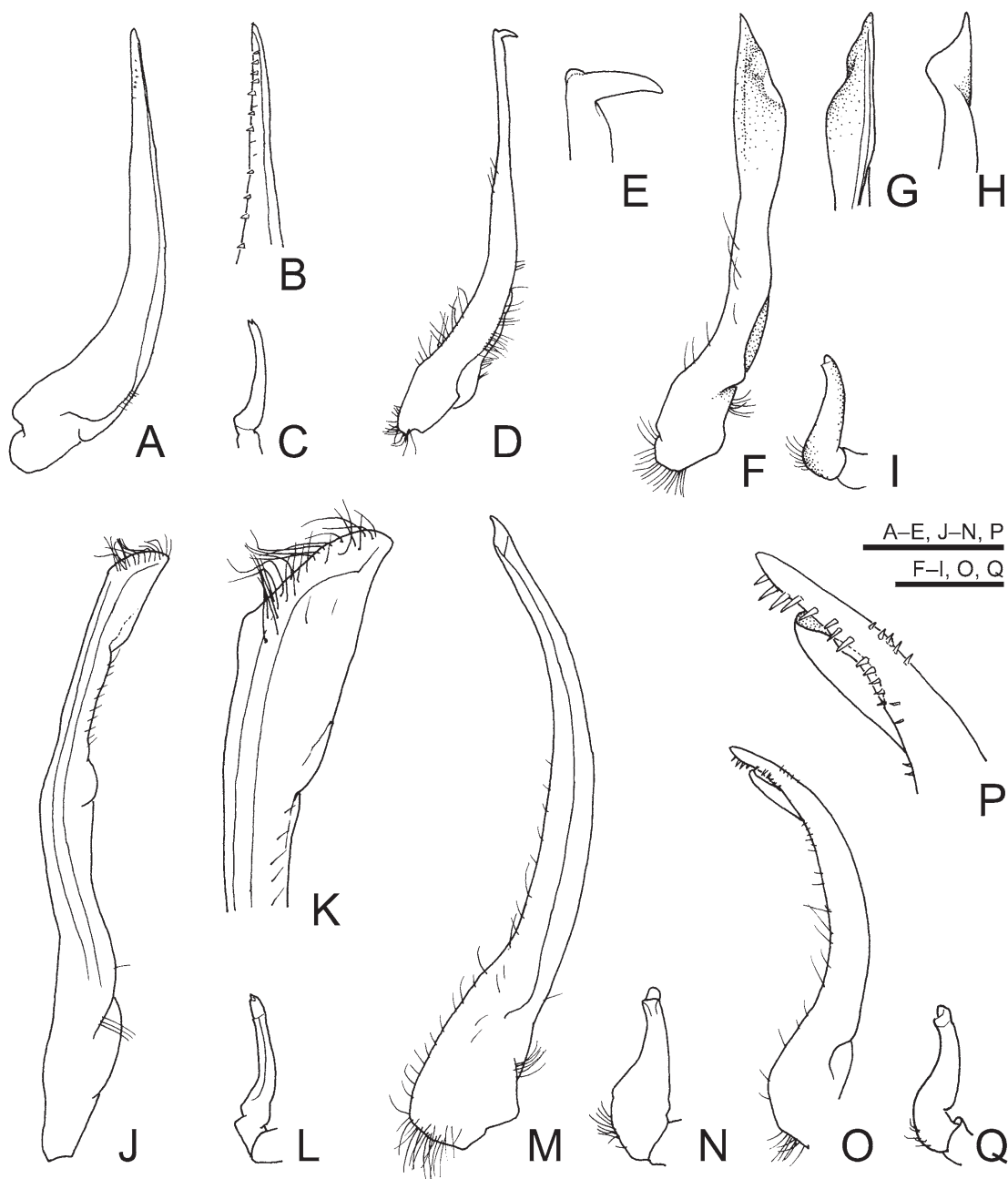


Fig. 8. Right gonopods. A–C, *Henicoplax nitida* (Miers, 1879), male ( $3.8 \times 5.4$ ), NSMT-Cr 4453, A, G1, abdominal; B, tip of same; C, G2, abdominal. D, E, *Toru granuloides* (Sakai, 1961), male ( $12.7 \times 12.0$ ), NSMT-Cr S 954, D, G1, abdominal; E, tip of same. F–I, *Hyastenus ambonensis* Griffin and Tranter, 1986, males ( $7.1 \times 5.4$ ), NSMT-Cr S 957, F, G1, abdominal; G, tip of same, sternal; H, mesial; I, G2, abdominal. J–L, *Ebalia hayamaensis* Sakai, 1963, male ( $4.1 \times 5.2$ ), NSMT-Cr S 914, J, G1, abdominal; K, tip of same; L, G2, abdominal. M, N, *Naxioides taurus* (Pocock, 1890), male ( $17.6 \times 12.8$ ), NSMT-Cr 15394, M, G1, abdominal; N, G2, abdominal. O–Q, *Prismatopus occidentalis* (Griffin, 1970), male ( $7.1 \times 5.3$ ), NSMT-Cr S 1077, O, G1, abdominal; P, tip of same; Q, G2, abdominal. Scales for A, C, E–J, L = 0.5 mm; B, K, P = 0.25 mm; D = 2 mm; M–O, Q = 1 mm.

at midlength of mesial margin; distal part slightly dilated, obliquely subtruncate, with dense setae on disto-lateral margin. G2 (Fig. 8L) short, 0.3 times as long as G1, tip triangular.

Remarks. Description and illustration of the male abdomen and gonopods are provided here for the first time.

Distribution. Known only from Japan (Sagami Bay, off Shiono-misaki Cape, Ryukyu Is., Ogasawara Is.), occurring at the depths of 65–124 m (Sakai, 1963; Marumura and Kosaka, 2003; this study).

***Ebalia humilis*** Takeda, 1977 [Jn: Ogasawara-ebalia] (Fig. 7B)

*Ebalia humilis* Takeda, 1977: 115, figs. 2 (A, B), 3 (B–D); Takeda and Kurata, 1984: 198; Marumura and Kosaka, 2003: 25.

*Praebebalia taeniata*: Takeda and Kurata, 1977b: 141, fig. 1 (not *Praebebalia taeniata* Takeda, 1977).

Materials examined. KY-08-18, 1 ovig. female ( $3.1 \times 3.8$ ), NSMT-Cr S 917; KY-08-21, 1 male ( $2.1 \times 2.7$ ), NSMT-Cr S 918; Ohmura beach, Chichi-jima I., intertidal water, coll. T. Komai, 17 Jul. 2009, 1 male ( $2.3 \times 2.6$ ), 1 ovig. female ( $2.7 \times 3.3$ ), NSMT-Cr S 919.

Distribution. Known from Ogasawara Is. and Kermadec Is, occurring at intertidal water deep to 90 m (Komatsu and Takeda, 2007; this study).

***Ebalia koyo*** sp. nov. [New Jn: Koyo-ebalia] (Figs. 9–11)

Materials examined. Holotype: male (cl 2.1 mm; damaged on left lateral angle), NSMT-Cr S 920, KY-09-21, NE Ototo-jima I., Ogasawara Is.,  $27^{\circ}13.09'N$   $142^{\circ}09.19'E$  –  $27^{\circ}13.19'N$   $142^{\circ}09.23'E$ , 135.8–135.5 m, dredge, coll. H. Komatsu (R/V *Koyo*), 15 July 2009.

Paratype: 1 female ( $2.5 \times 3.5$ ), NSMT-Cr S 921, off Chichi-jima I., Ogasawara Is., Japan, 100 m, coll. S. Nagai, December 1991.

Additional material examined. Paratype: 1 male ( $2.2 \times 2.8$ ), NSMT-Cr S 922, off Yamatomura, Amami-oshima I., northern Ryukyu Is., Japan, 150 m, coll. S. Nagai, 5 May 1998.

Description. Carapace (Figs. 9, 10) subpentagonal in general outline, 1.3 times broader than long in male, 1.4 times in female, convex dorsally; upper surface entirely covered with microscopic, flat granules. Front strongly produced, with pair of short ridge obliquely running from lateral angle towards midline, ridges not confluent each other; margin divided into two lobes by median triangular notch. Orbit with two longitudinal sutures on dorsal roof; infraorbital lobe with V-shaped notch with short suture. Gastro-cardiac region raised, with pair of small gastric tubercles and faint cardiac tubercle. Intestinal region prominently convex, subtriangular in outline. Hepatic region scarcely swollen; border indistinct, inside from general outline. Pterygostomian margin obliquely straight, not lamellar, divided from branchial margin by broad V-shaped notch. Branchial region convex postero-laterally, sloping antero-laterally; margin lamellar, slightly upturned, antero-lateral margin divergent, with low broadly rounded lobe, making tongue-shaped angle with postero-lateral margin; postero-lateral margin convergent, with large triangular tooth in posterior half, with transverse bump on posterior margin of tooth in female. Posterior margin bilobed, triangular with rounded tip in male, as large as lateral angle of carapace, small and rounded in female.

Ocular peduncle short. Antennule slightly obliquely folded in fossa; basal segment occupying ventral half, covered with round granules. Basal segment of antenna transversely ovoid; second segment subcylindrical, fitting into orbital hiatus.

Mandible (Fig. 11A, B) calcified; cutting edge triangular in outline, weakly pointed medially; endopod palp three-segmented, terminal segment fringed with short setae. Maxillule (Fig. 11C): coxal endite subcylindrical, directed mesially, with some terminal setae; basal endite triangular, with stout, thin setae on mesial margin; endopod almost reduced, small, rounded with short terminal setae. Maxilla (Fig. 11D): coxal endite small, roundly bilobed; basal endite small, rounded, with tuft of terminal setae; endopod tongue-

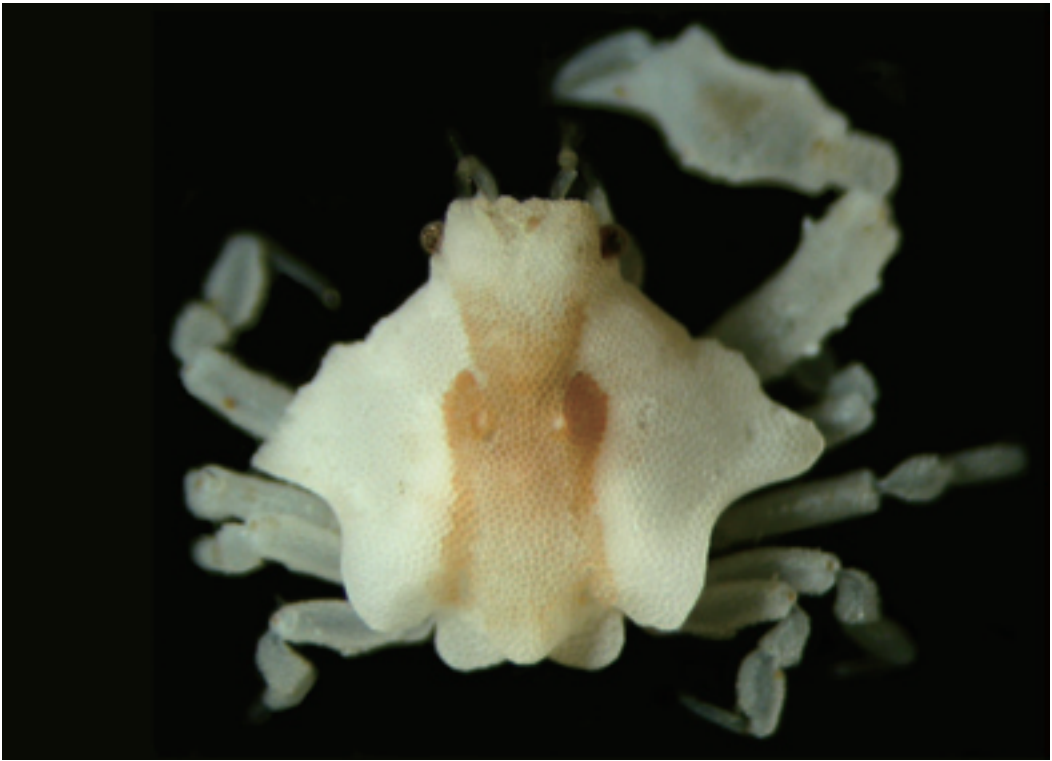


Fig. 9. *Ebalia koyo* sp. nov., holotype male (cl 2.1 mm), NSMT-Cr S 920.

shaped; exopod (scaphognathite) longitudinally expanded into ovate structure, entirely fringed with short setae. First maxilliped (Fig. 11E): coxal endite semiglobular, with dense setae; basal endite lobular, largely expanded into triangular structure, fringed with long setae; endopod lobular, longitudinally expanded, fitting in efferent channel, plicate on upper surface, with short setae along anterior half of mesial margin; exopod longitudinally filiform, with long setae on distal part of mesial margin, bearing flagellum with tuft of long terminal setae. Second maxilliped (Fig. 11F): endopod with long setae along inner margins of merus and propodus and outer margin of propodus, dactylus fringed with stout setae around tip; exopod filiform, tapering distally, with long setae on distal portion of mesial margin, bearing flagellum with tuft of long terminal setae.

Third maxilliped (Fig. 11G, H) entirely covered with microscopic, flat granules; basis fused with ischium, but with remnant suture on internal

surface; ischium 0.8 times as long as merus along mesial margin; merus elongate triangular; palp 3-segmented, with dense setae; exopod arcuated on lateral margin, with small triangular tooth on proximal end, fringed with very short setae on lateral margin, internal ridge stout.

Cheliped (Figs. 9, 10) moderate, 1.3 times as long as carapace, entirely covered with microscopic, flat granules as on carapace; coxal condyles reduced in both sexes; merus triangular in cross-section, flat on dorsal surface, with some tubercles on outer and ventral margins and subdistal tubercle on inner margin, weakly convex on outer margin; carpus subglobular; palm convex dorsally, with rounded, subproximal lobe and triangular, distal lobe on outer margin, with some tubercles on inner border; fingers slender, tapering distally, with interlocking, minute teeth on both cutting edges; movable finger curved, 0.7 times as long as palm measured along outer margin.

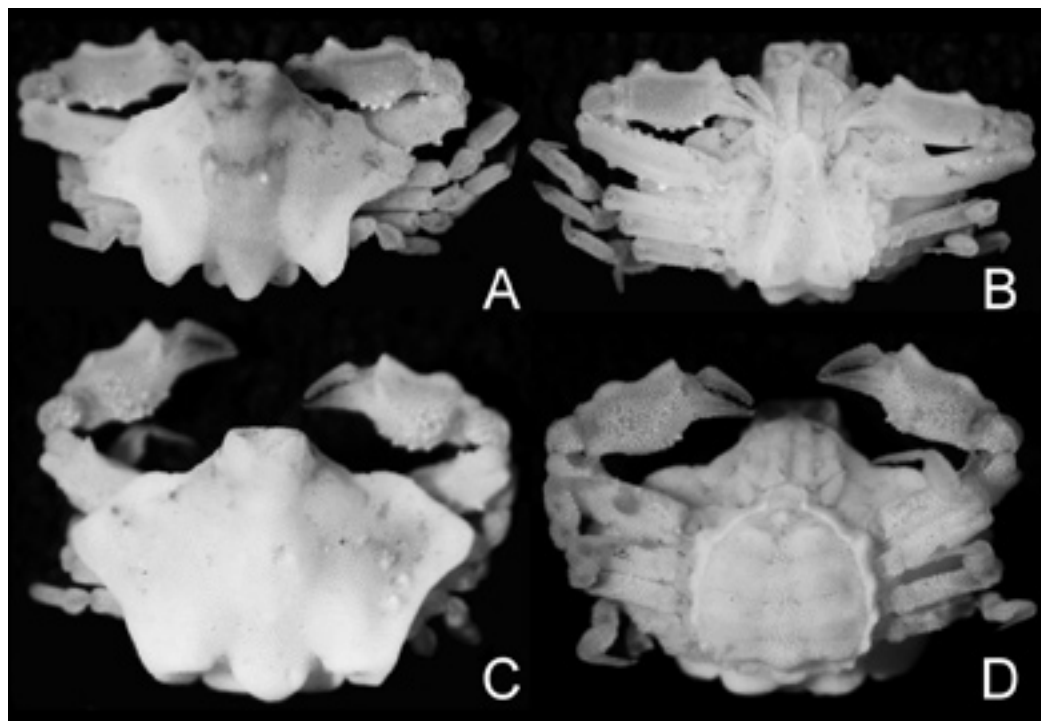


Fig. 10. *Ebalia koyo* sp. nov., A, B, paratype male (2.2 × 2.8), NSMT-Cr S 922; C, D, paratype female (2.5 × 3.5), NSMT-Cr S 921.

Ambulatory legs (Fig. 11I) slender gradually decreasing in length from first to fourth, similar in shape, covered with microscopic, flat granules except on dactyli; coxal condyles reduced in both sexes; meri, carpi and propodi subcylindrical, covered with mushroom-like granules on outer and inner surfaces of meri and outer surface of carpi, with acute granules on inner surface of propodi; dactyli slender, subcylindrical, with small rounded dactylo-propodal lock on proximal border of dorsal surface.

Male thoracic sternum covered with microscopic, flat granules as on carapace, episternites not divided entirely; first to fourth sternites completely fused; abdominal cavity reaching to buccal cavern; median suture absent; transverse sutures between sternites 4/5, 5/6, 6/7 and 7/8 medially interrupted.

Female thoracic sternum covered with microscopic, flat granules as on carapace; first to fourth sternites fused together; abdominal cavity reach-

ing to buccal cavern; sutures as in males.

Male abdomen (Fig. 11J) covered with microscopic, flat granules as on carapace; somite 1 very short, transversely linear; somite 2 short, transversely subrectangular; main fused section composed of somites 3 to 6, elongate trapezoidal, swollen at both side of proximal 0.3, with large triangular tooth at near distal border, side margin divided with small V-shaped notch between somites 5/6 discernible; telson tongue-shaped with triangular tip.

Female abdomen (Fig. 10D) covered with microscopic, flat granules as on carapace; somite 1 completely concealed beneath carapace; somite 2 short, transversely subrectangular; main fused section ovate, composed of somites 3 to 6, moderately convex ventrally, divided into subregions by 3 transverse and 2 median longitudinal grooves, with small subdistal tubercle; telson tongue-shaped.

G1 (Fig. 11K) subcylindrical, weakly constrict-

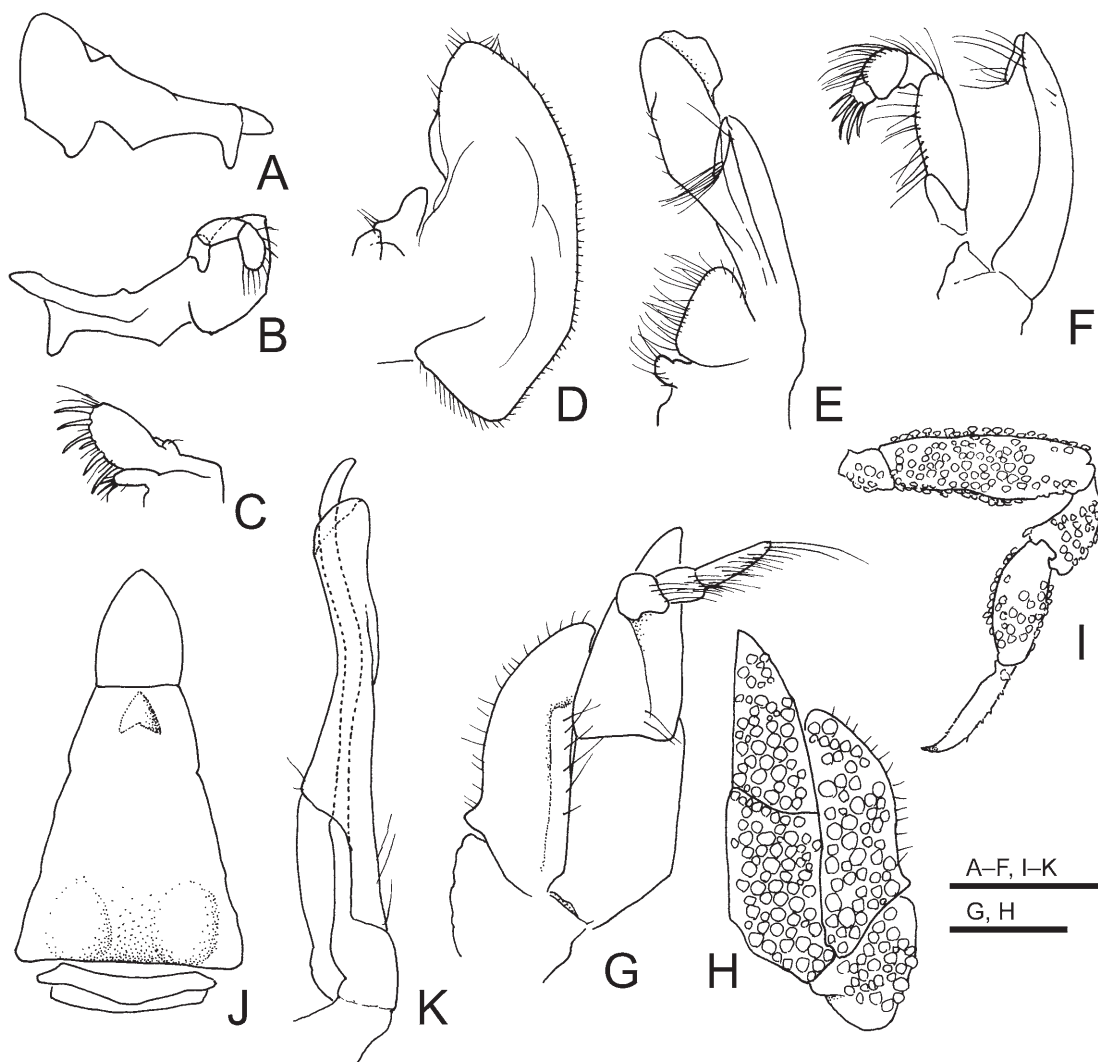


Fig. 11. *Ebalia koyo* sp. nov., holotype male (cl 2.1 mm), NSMT-Cr S 920. A, B, mandible; C, maxillule; D, maxilla; E, first maxilliped; F, second maxilliped; G, H, third maxilliped; I, right P2; J, abdomen; K, left G1 and G2, abdominal. Scales for A–H, K = 0.25 mm; I, J = 0.5 mm.

ed at distal 0.4, with rounded distal aperture. G2 (Fig. 11K) filiform, slightly longer than G1, inserted into proximal aperture of G1; tip protruding from distal aperture of G1.

**Color in life.** Carapace white with broad, reddish, median band extending posteriorly from the neck of frontal region; pereiopods white, with some reddish spots.

**Etymology.** Named after R/V *Koyo* of the Tokyo Metropolitan Ogasawara Fisheries Center; used a noun in apposition.

**Remarks.** *Ebalia koyo* sp. nov. resembles *E. humilis* Takeda, 1977 and *E. stellaris* Naruse and Ng, 2006 in the expanded branchial region, the triangularly projecting intestinal region, the bilobed posterior lobes, the formula of abdomen, and the elongate G2. But *E. koyo* can be distinguished from *E. humilis* and *E. stellaris* by that 1) the frontal ridge is high (vs. only marked in *E. humilis* and *E. stellaris*); 2) the pterygostomial margin of the carapace has no tubercle (vs. with median tubercle); 3) the chelipedal palm has

rounded, subproximal lobe (vs. without lobe); 4) the chelipedal dactylus of full grown male is not strongly curved (vs. strongly arcuate and having semicircular gap between the cutting edges); 5) the tip of G2 is straight (vs. strongly recurved).

Distribution. Known from Ogasawara Is. and Amami-oshima Is., occurring at the depths of 100–150 m.

***Ebalia sakaii*** Takeda and Miyake, 1972 [Jn: Sakai-ebalia] (Fig. 7C)

Materials examined. KY-08-12, 1 ovig. female (cl 2.5 mm; damaged), NSMT-Cr S 923; KY-09-21, 1 young male (carapace lost), NSMT-Cr S 924.

Distribution. Known only from Japan (Amami-oshima Is., Tsushima Strait and Ogasawara Is.), occurring at the depths of 125–150 m (Takeda and Miyake, 1972; Marumura and Kosaka, 2003; this study). This is the first record from the Ogasawara Islands.

***Ebalia tuberculosa*** (A. Milne-Edwards, 1873) [Jn: Yamato-ebalia] (Fig. 7D)

Material examined. SY-09-07, 1 young male ( $4.7 \times 4.7$ ), NSMT-Cr S 925.

Distribution. Widely distributed in Indo-West Pacific; occurring at the depths of 50–550 m (Takeda, 2001). This is the first record from the Ogasawara Islands.

***Heteronucia perlata*** (Sakai, 1963) [Jn: Maru-tsubu-kobushi] (Fig. 7E)

Material examined. KY-09-34, 1 ovig. female ( $7.8 \times 8.2$ ), NSMT-Cr S 926.

Distribution. Philippines, East China Sea, Japan, occurring at the depths of 65–219 m (Chen, 1989; Takeda and Komatsu, 2005). This is the first record from the Ogasawara Islands.

***Heteronucia toyoshioae*** Komatsu and Takeda, 2005 [New Jn: Toyoshio-tsubu-kobushi] (Fig. 5C)

Material examined. KT-09-2-KK1-2 (1), 1 carapace (empty shell;  $5.4 \times 5.9$ ), NSMT-Cr S 927.

Distribution. Known only from Ryukyu Is. and Izu Is., Japan, occurring at the depths of 145–176

m (Komatsu and Takeda, 2005). This is the first record from the Ogasawara Islands.

***Oreotlos angulatus*** (Rathbun, 1906) [Jn: Togari-karuishi-kobushi] (Fig. 12A)

Materials examined. KY-08-15, 1 ovig. female ( $10.7 \times 16.5$ ), NSMT-Cr S 928; KT-09-2-KK1-2(1), 1 young female ( $4.4 \times 6.2$ ), NSMT-Cr S 929.

Distribution. Known only from Hawaii and Japan, occurring at the depths of 80–172.5 m (Tan and Ng, 1995; Marumura and Kosaka, 2003; this study). This is the first record from the Ogasawara Islands.

***Oreotlos heuretos*** Tan and Ng, 1995 [Jn: Ogasawara-karuishi-kobushi] (Fig. 12B)

*Oreophorus (Oreotlos) latus*: Takeda, 1977: 119, pl. 1C (not *Oreotlos latus* (Borradaile, 1903)).

*Oreotlos heuretos* Tan and Ng, 1995: 148, pls. 13C–F, 14A.

Materials examined. KY-08-11, 1 male ( $5.1 \times 7.7$ ), NSMT-Cr S 930; KY-09-21, 1 male ( $4.1 \times 6.0$ ), 1 ovig. female ( $7.5 \times 12.3$ ), NSMT-Cr S 931; KY-09-21, 1 young male ( $2.9 \times 4.1$ ), NSMT-Cr S 932; KY-09-28, 1 male ( $4.3 \times 6.5$ ), 1 young male ( $2.7 \times 4.0$ ), NSMT-Cr S 933; KY-09-30, 1 young male ( $2.1 \times 3.0$ ), NSMT-Cr S 934; KY-10-06, 1 young male ( $2.9 \times 3.9$ ), NSMT-Cr S 935; KY-10-27, 1 young male ( $2.2 \times 3.1$ ), NSMT-Cr S 936; Ohmura beach, Chichi-jima I., coll. T. Komai, 17 July 2009, 1 male ( $5.3 \times 7.9$ ), NSMT-Cr S 937.

Distribution. Japan, Malay Archipelago, Philippines, occurring at intertidal water deep to 80 m (Tan and Ng, 1995; Marumura and Kosaka, 2003; this study).

***Oreotlos lagarodes*** Tan and Ng, 1995 [Jn: Hawaii-karuishi-kobushi] (Fig. 5D)

Material examined. KY-09-30, 1 young female ( $2.9 \times 4.2$ ), NSMT-Cr S 938.

Distribution. Hawaii, Laysan Is., Rongelap, Guam, Saipan, Japan, occurring at intertidal water deep to 51.6 m (Tan and Ng, 1995; Marumura and Kosaka, 2003; this study). This is the first re-

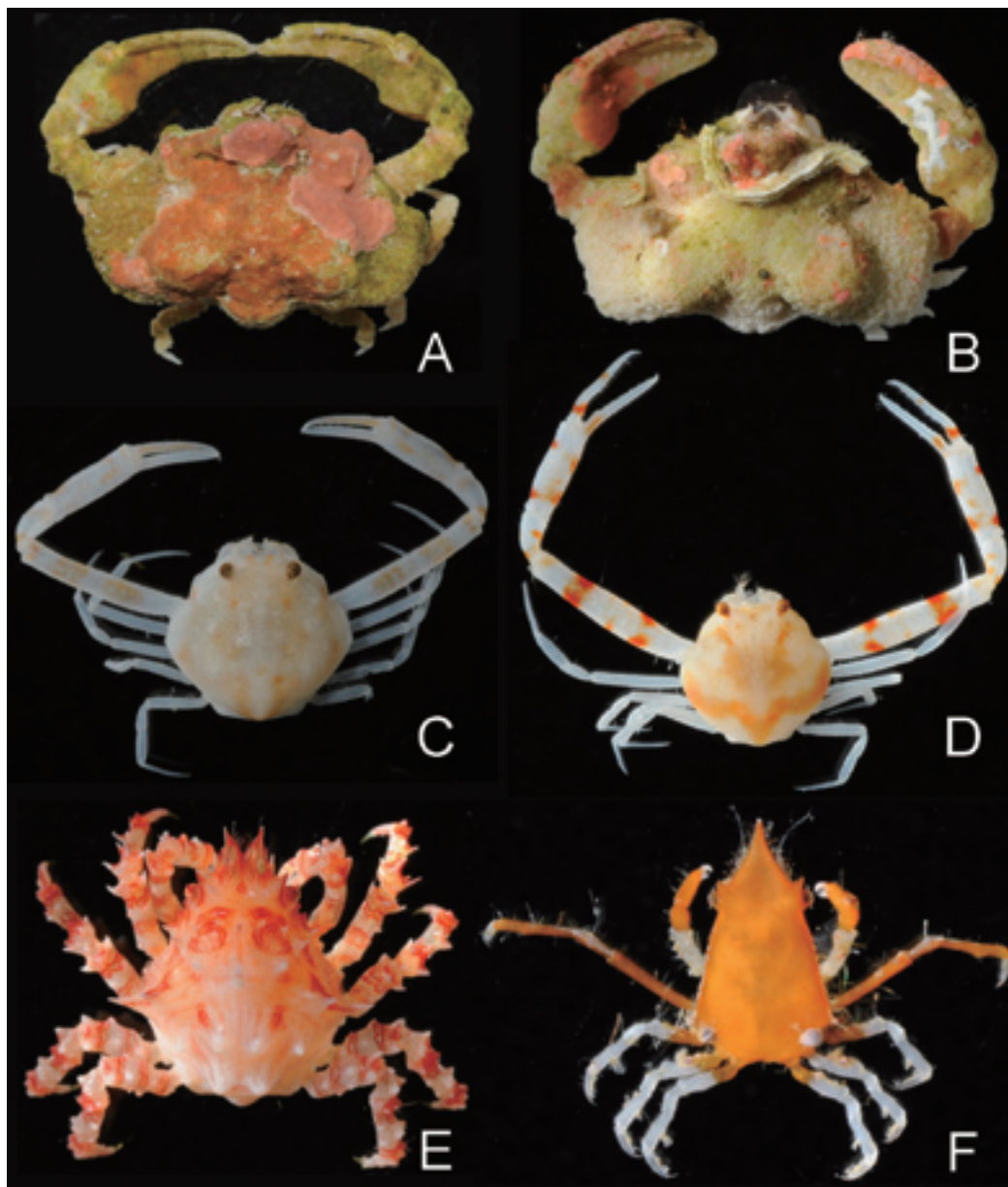


Fig. 12. A, *Oreotlos angulatus* (Rathbun, 1906), female ( $10.7 \times 16.5$ ), NSMT-Cr S 928; B, *Oreotlos heuretos* Tan and Ng, 1995, ovig. female ( $7.5 \times 12.3$ ), NSMT-Cr S 931; C, *Praebebalia dondonae* Chen, 1989, female ( $4.5 \times 4.7$ ), NSMT-Cr S 939; D, *Praebebalia taeniata* Takeda, 1977, male ( $3.3 \times 3.3$ ), NSMT-Cr S 940; E, *Hoplophrys oatesi* Henderson, 1893, male ( $6.1 \times 4.8$ ), NSMT-Cr S 955; F, *Huenia pacifica* Miers, 1879, young males ( $4.2 \times 3.2$ ), NSMT-Cr S 956.

cord from the Ogasawara Islands.

*Praebebalia dondonae* Chen, 1989 [New Jn: Philippines-ebalia-modoki] (Fig. 12C)

Material examined. SY-09-07, 1 female with rhizocepharan parasite in abdominal cavity ( $4.5 \times 4.7$ ), NSMT-Cr S 939.

Remarks. The present specimen agrees well

with the original description and illustration by Chen (1989). Chen (1989) erroneously described the female abdomen as being composed of the first somite and the fused second to sixth somites, however, the first somite is completely concealed beneath the carapace in fact. Therefore the female abdomen is actually composed of the second somite and the fused third to sixth somites. Male specimen is hitherto not known.

**Distribution.** Previously known only from the type locality (NE Mindoro I., Philippines, 181–170m) (Chen, 1989). This is the first record from Japan and extends the bathymetrical range deep to 499 m.

***Praebebalia taeniata*** Takeda, 1977 [Jn: Ogasawara-ebalia-modoki] (Fig. 12D)

*Praebebalia taeniata* Takeda, 1977: 118, figs. 2C–H, 4A; Takeda and Kurata, 1984: 198, fig. 10; Marumura and Kosaka, 2003: 26.

Not *Praebebalia taeniata*: Takeda and Kurata, 1977a: 141, fig. 1 (= *Ebalia humilis* Takeda, 1977).

**Materials examined.** KY-08-03, 1 male ( $3.3 \times 3.3$ ), NSMT-Cr S 940; KY-08-19, 2 males ( $3.2 \times 3.3$ ,  $3.5 \times 3.6$ ), 1 female ( $3.3 \times 3.6$ ), NSMT-Cr S 941; KY-09-21, 1 young female ( $2.6 \times 2.7$ ), NSMT-Cr S 942; KY-10-02, 1 ovig. female ( $3.2 \times 3.2$ ), NSMT-Cr S 943; KY-10-19, 1 ovig. female ( $3.1 \times 3.2$ ), NSMT-Cr S 944; KT-09-2-TW2-4, 1 male ( $3.1 \times 3.0$ ), NSMT-Cr S 945; SY-09-01, 1 male ( $3.0 \times 2.9$ ), NSMT-Cr S 946; SY-09-02, 1 ovig. female ( $3.3 \times 3.3$ ), NSMT-Cr S 947; SY-09-06, 1 male ( $3.7 \times 3.8$ ), NSMT-Cr S 948; SY-09-08, 1 ovig. female ( $3.5 \times 3.6$ ), 1 female ( $3.2 \times 3.2$ ), NSMT-Cr S 949; SY-09-18, 1 male ( $3.6 \times 3.6$ ), NSMT-Cr S 950; SY-09-20, 3 males ( $3.2 \times 3.2$ – $3.3 \times 3.2$ ), 2 ovig. females ( $3.4 \times 3.5$ ,  $3.5 \times 3.6$ ), NSMT-Cr S 951.

**Distribution.** Known only from the Ogasawara Islands, occurring at the depths of 90–301 m (Takeda, 1977; Marumura and Koasaka, 2003; this study).

***Toru granuloides*** (Sakai, 1961) [Jn: Ibonashi-kobushi] (Figs. 7F, 8D, E)

**Materials examined.** KY-09-31, 1 carapace (empty shell;  $9.4 \times 9.4$ ), NSMT-Cr S 952; SY-09-07, 2 young males ( $4.7 \times 4.6$ ,  $6.5 \times 6.6$ ), NSMT-Cr S 953; 1 male ( $12.7 \times 12.0$ ), NSMT-Cr S 954, off Haha-jima I.,  $26^{\circ}43'50''\text{N}$   $142^{\circ}18'19''\text{E}$  –  $26^{\circ}43'52''\text{N}$   $142^{\circ}18'08''\text{E}$ , 331–325 m, TR/V *Shin'yo Maru*, st. 1, coll. M. Osawa, 18 October 1998.

**Remarks.** The present specimens agree well with the original description by Sakai (1961), but differ in the shape of the first gonopod illustrated by Galil (2003) based on a male from the Loyalty Islands. The apical process of the first gonopod is short in the present specimen (Fig. 8D, E), whereas it is long and sickle-shaped in Galil's figure. Our specimen may be still young and the gonopod may be incompletely formed. It is necessary to check the male gonopods of the type specimens from Japan, but it could not be located in the Kanagawa Prefectural Museum of Natural History and the Kitakyushu Museum of Natural History and Human History.

**Distribution.** Fiji, Wallis I., Vanuatu, Loyalty Is., New Caledonia, Japan; occurring at the depths of 50–550 m (Galil, 2003). This is the first record from the Ogasawara Islands.

Superfamily **Majoidea** Samouelle, 1819

Family **Epialtidae** MacLeay, 1838

***Hoplophrys oatesi*** Henderson, 1893 [Jn: Iso-konpeito-gani] (Fig. 12E)

*Hoplophrys ogilbryi*: Ooishi, 1970: 91, pl. 13(5).

**Materials examined.** KY-09-14, 1 male ( $6.1 \times 4.8$ ), 1 female ( $10.2 \times 7.9$ ), NSMT-Cr S 955.

**Distribution.** Widely distributed in the Indo-West Pacific Ocean, occurring at the depths of 2–93 m (Griffin and Tranter, 1986; this study).

***Huenia pacifica*** Miers, 1879 [New Jn: Taiheiyo-konoha-gani] (Fig. 12F)

*Huenia proteus*: Takeda and Kurata, 1976a: 121, fig. 2c.

**Materials examined.** KY-08-18, 4 young males ( $3.0 \times 2.3$ – $4.2 \times 3.2$ ), NSMT-Cr S 956.

**Remarks.** The present specimens agree well

with the subsequent description and illustration of juvenile specimen by Takeda and Marumura (2010). Takeda and Kurata (1976a) recorded anterior half of carapace and ambulatory legs of *Huenia proteus* de Haan, 1839, from the gut contents of *Epinephelus fasciatus* from the Ogasawara Islands, but it possibly belongs to *H. pacifica*.

**Distribution.** Indonesia, Philippines, Japan, Australia, Fiji, Salas y Gómez I., occurring at the depths of 2–49 m (Takeda and Marumura, 2010; this study). This is the first record from the Ogasawara Islands.

***Hyastenus ambonensis*** Griffin and Tranter, 1986 [New Jn: Ambon-tsuno-gani] (Figs. 8F–I, 13A)

**Materials examined.** KY-08-15, 3 males ( $4.8 \times 3.2$ – $7.1 \times 5.4$ ), 1 young male, 1 ovig. female ( $6.4 \times 4.5$ ), NSMT-Cr S 957; KY-08-20, 1 male ( $6.7 \times 4.8$ ), NSMT-Cr S 958; KY-10-31, 1 ovig. female ( $8.0 \times 5.8$ ), NSMT-Cr S 959.

**Remarks.** *Hyastenus ambonensis* Griffin and Tranter, 1986, is previously known only by the original description based on two female specimens from Ambon, Indonesia. Thus, this is the second record of the species and the first record of male. The first male gonopod (Fig. 8F–H) is flattened and broadened distally and strongly upturned on distomesial margin. The present specimens agree well with the original description by Griffin and Tranter (1986), but differ in that 1) the dorsal surface of the merus of the first ambulatory leg has three tubercle (vs. smooth in the original description); 2) the dactylus of the fourth ambulatory leg has 6 or 7 teeth (vs. 8 in the original description).

**Distribution.** Indonesia and Japan, occurring at the depths of 52–90 m (Griffin and Tranter, 1986; this study). This is the first record from the Ogasawara Islands.

***Hyastenus kyusyuensis*** (Yokoya, 1933) [Jn: Kyushu-tsuno-gani] (Figs. 13B, 14)

*Hyastenus kyushuensis*: Marumura and Kosaka, 2003: 33.

**Materials examined.** KY-08-15, 1 young male

( $5.0 \times 3.3$ ), NSMT-Cr S 960; KY-08-21, 1 juv., NSMT-Cr S 961; KY-08-26, 1 ovig. female ( $9.0 \times 5.9$ ), NSMT-Cr S 962; KY-09-07, 1 ovig. female ( $9.6 \times 6.2$ ), 1 young female ( $6.3 \times 4.5$ ), NSMT-Cr S 963; KY-09-08, 1 young female ( $7.7 \times 5.1$ ), NSMT-Cr S 964; KY-10-11, 1 male ( $5.2 \times 3.4$ ), NSMT-Cr S 965; KY-10-31, 1 male ( $5.9 \times 3.9$ ), 1 ovig. female ( $6.5 \times 4.6$ ), NSMT-Cr S 966; KT-09-2-TW2-4, 1 female ( $7.8 \times 5.9$ ), NSMT-Cr S 967.

**Additional materials examined.** 1 young male ( $5.6 \times 3.9$ ), NSMT-Cr S 968, Kurose Bank, Izu Islands,  $33^{\circ}22.01'N$   $139^{\circ}41.60'E$  –  $33^{\circ}21.97'N$   $139^{\circ}41.93'E$ , 116–123 m, rocky dredge, R/V *Takunan*, coll. H. Komatsu, 16 July 2008; 1 male ( $11.7 \times 8.5$ ), NSMT-Cr 21462, north of Mage-jima I., Ohsumi Is., western Japan,  $30^{\circ}49.95'N$   $130^{\circ}51.13'E$  –  $30^{\circ}50.06'N$   $130^{\circ}51.46'E$ , 119–111 m, TR/V *Toyoshio Maru* 2009-03 cruise, stn 2, beam trawl, coll. H. Komatsu, 19 May 2009; 1 male ( $10.3 \times 7.5$ ), NSMT-Cr 9448, Minabe, Kii Peninsula, Japan, coll. M. Marumura, 21 February 1987; 1 male ( $6.7 \times 5.3$ ), NSMT-Cr 15060, East China Sea,  $28^{\circ}28.98'N$   $125^{\circ}30.41'E$  –  $28^{\circ}26.92'N$   $125^{\circ}31.21'E$ , 107–112 m, otter trawl, R/V *Yoko Maru*, stn 21, coll. H. Saito and G. Shinohara, 21 October 2001.

**Comparative material examined.** *Hyastenus convexus* (Miers, 1884): 1 ovig. female ( $10.9 \times 7.6$ ), NSMT-Cr 9677, off Doren, Ohima Passage, Amami Islands, Ryukyu Islands, Japan, coll. M. Takeda, 8 August 1988.

**Remarks.** *Hyastenus kyusyuensis* (Yokoya, 1933) was briefly described and illustrated on the basis of a single male from west of Tanega-shima Island, Osumi Islands, western Japan. The type specimen could not be located in the University Museum, the University of Tokyo and the Kitakyushu Museum of Natural History and Human History. Subsequently *H. kyusyuensis* was described and illustrated by Sakai (1935, 1936, 1938, 1965, 1976), but his description and illustration are different from the original description in the presence of a mesogastric tubercle except in Sakai (1935). Considered with presence of 1 mesogastric, 2 protogastric and 3 epibranchial tu-

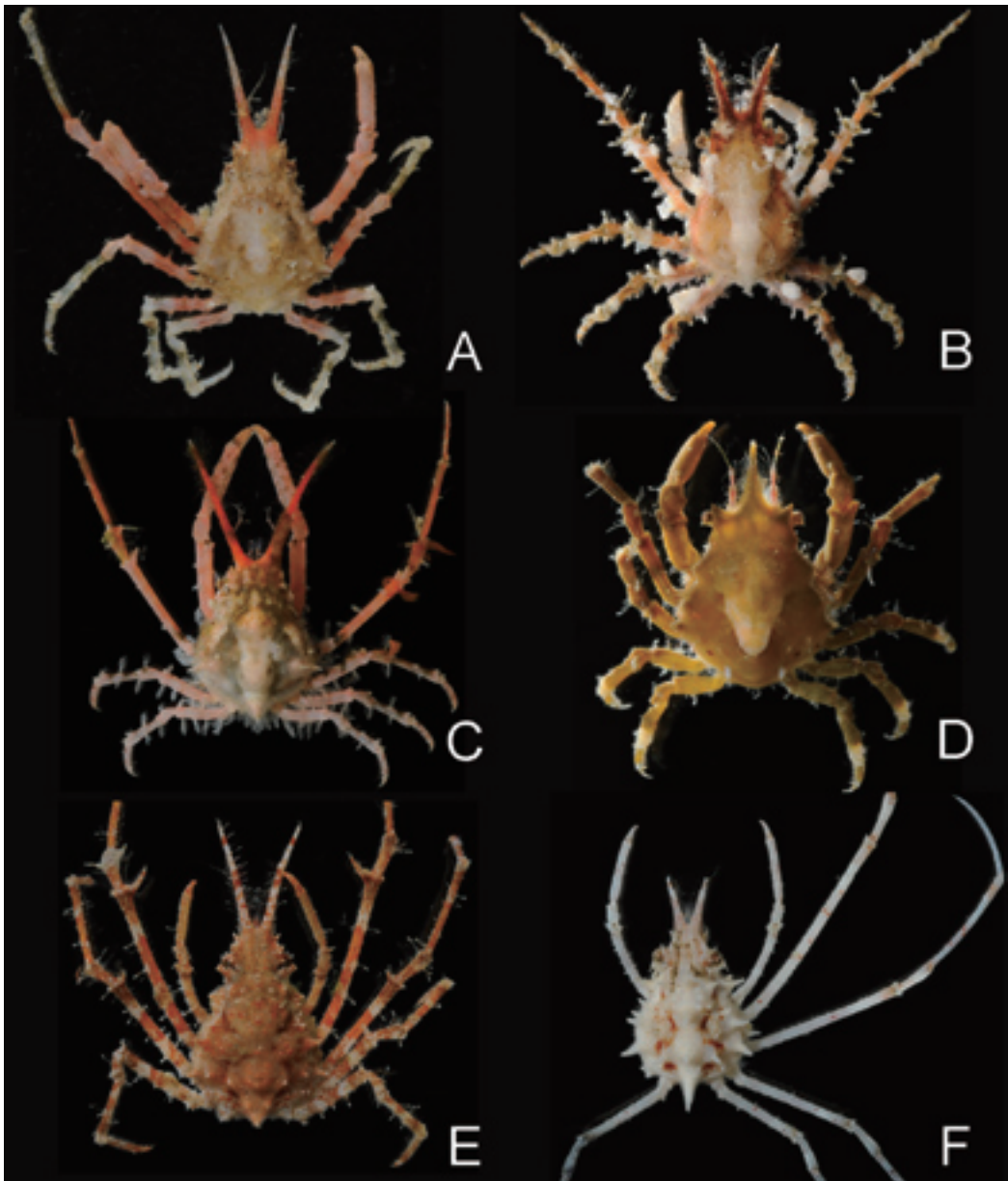


Fig. 13. A, *Hyastenus ambonensis* Griffin and Tranter, 1986, males ( $7.1 \times 5.4$ ), NSMT-Cr S 957; B, *Hyastenus kysyuensis* (Yokoya, 1933), male ( $5.9 \times 3.9$ ), NSMT-Cr S 966; C, *Lahaina ovata* Dana, 1951, male ( $8.9 \times 6.6$ ), NSMT-Cr S 981; D, *Menaethius monoceros* (Latreille, 1825), male ( $5.9 \times 4.7$ ), NSMT-Cr S 987; E, *Naxioides taurus* (Pocock, 1890), young female ( $16.7 \times 11.4$ ), NSMT-Cr S 991; F, *Phalangipus hystrix* (Miers, 1886), young male ( $10.2 \times 6.7$ ), NSMT-Cr S 994.

bercles, his species actually belongs to *H. convexus* (Miers, 1884) except in Sakai (1935) (cf. Griffin and Tranter, 1986). Sakai's description differs from the subsequent description of *H. con-*

*vexus* by Griffin and Tranter (1986) in having a single tubercle on the mesogastric region (vs. 2 tubercles in Griffin and Tranter (1986)), but the tubercle might be too obscure to recognize it.

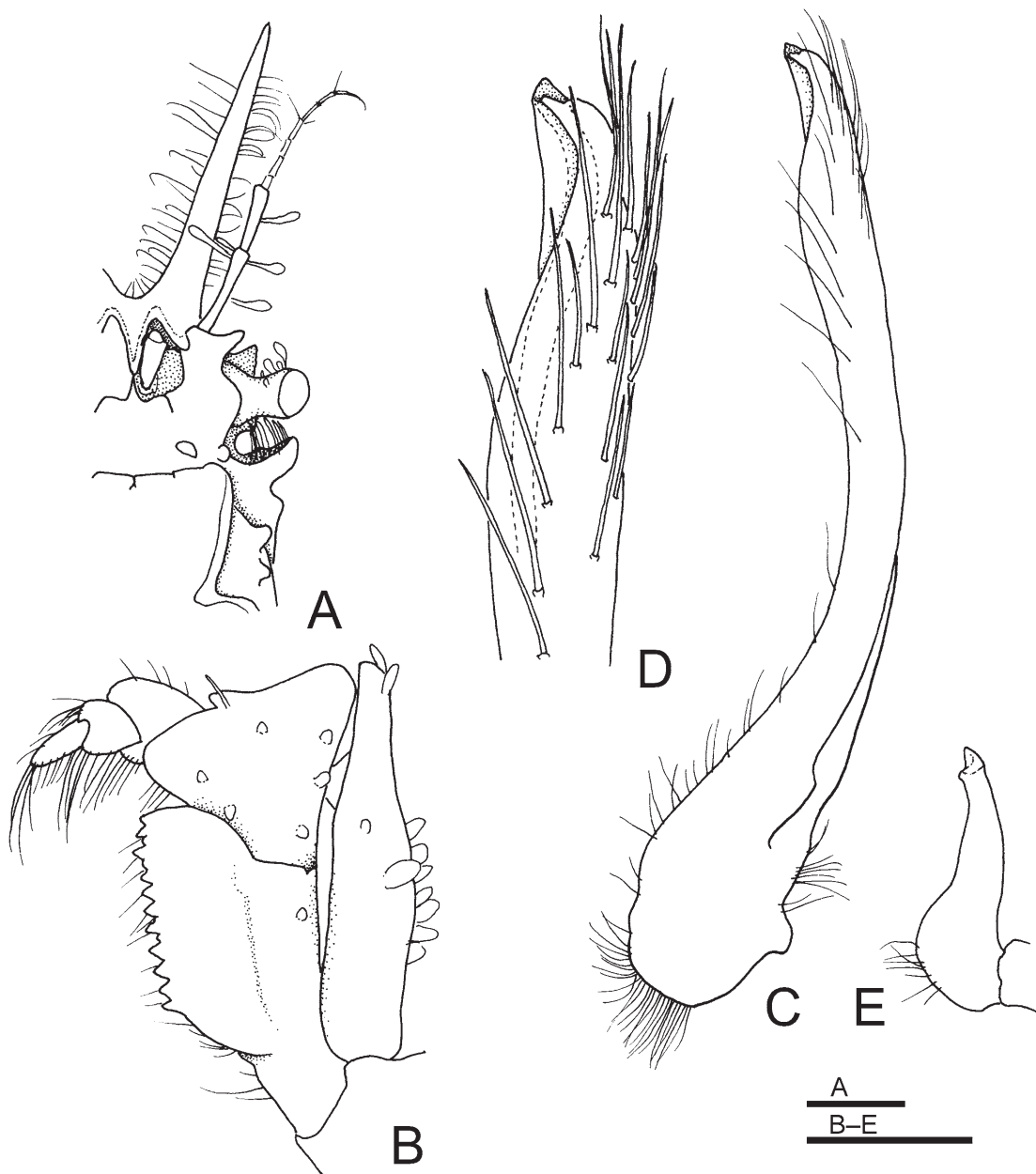


Fig. 14. *Hyastenus kyusyuensis* (Yokoya, 1933). A, B, male ( $5.9 \times 3.9$ ), NSMT-Cr S 966; C–E, male ( $11.7 \times 8.5$ ), NSMT-Cr 21462. A, anterior part of carapace, ventral; B, right third maxilliped, ventral; C, G1, abdominal; D, tip of same; E, G2, abdominal. Scales for A = 1 mm; B, C, E = 0.5 mm; D = 0.25 mm.

Illustrations of the antero-ventral face of the carapace (Fig. 14A), the third maxilliped (Fig. 14B) and the male gonopods (Fig. 14C–E) are provided for the first time.

Distribution. Known only from Japan, occur-

ring at the depths of 80–151.5 m (Yokoya, 1933; Sakai, 1935; Miyake, 1937; Takeda and Miyake, 1969b; Marumura and Kosaka, 2003; this study).

*Lahaina ovata* Dana, 1951 [Jn: Maru-tsuno-gani-

modoki] (Fig. 13C)

*Hyastenus tenuicornis*: Takeda, 1977, 122, pl. 13C, D; Takeda and Kurata, 1977b: 142, figs. 2, 3; Marumura and Kosaka, 2003: 33.

Materials examined. KY-08-06, 2 young males, 1 ovig. female ( $6.5 \times 4.8$ ), 1 young female, NSMT-Cr S 970; KY-08-11, 1 ovig. ( $6.4 \times 4.7$ ), NSMT-Cr S 971; KY-08-15, 1 young male, 1 young female, 3 juvs., NSMT-Cr S 972; KY-08-20, 1 male ( $4.7 \times 4.2$ ), 1 young male, 1 young female, NSMT-Cr S 973; KY-08-21, 1 ovig. female ( $5.6 \times 4.0$ ), NSMT-Cr S 974; KY-08-26, 1 ovig. female ( $6.1 \times 4.5$ ), NSMT-Cr S 975; KY-09-08, 1 male ( $6.4 \times 5.1$ ), NSMT-Cr S 976; KY-09-14, 1 male ( $4.6 \times 3.0$ ), 1 juv., NSMT-Cr S 977; KY-09-28, 2 males ( $6.8 \times 5.0$ ,  $8.4 \times 6.4$ ), 3 ovig. females ( $5.9 \times 4.3$ – $7.0 \times 5.4$ ), NSMT-Cr S 978; KY-09-29, 3 males ( $6.0 \times 4.5$ – $7.2 \times 5.3$ ), 2 ovig. female ( $6.2 \times 4.8$ ,  $6.9 \times 5.3$ ), 1 juv., NSMT-Cr S 979; KY-09-30, 5 ovig. female ( $5.9 \times 4.3$ – $7.0 \times 5.2$ ), 2 juvs., NSMT-Cr S 980; KY-10-06, 1 male ( $8.9 \times 6.6$ ), NSMT-Cr S 981; KY-10-07, 1 male ( $7.7 \times 5.9$ ), NSMT-Cr S 982; KY-10-27, 1 ovig. female ( $6.9 \times 5.4$ ), NSMT-Cr S 983; KY-10-31, 1 ovig. female ( $5.8 \times 4.2$ ), NSMT-Cr S 984; SY-09-21, 1 young male, NSMT-Cr S 985.

Remarks. This species is one of the most common majoid crab in the Ogasawara Islands. *Hyastenus tenuicornis* Pocock, 1890 was reduced to a junior subjective synonym of this species by Griffin (1974).

Distribution. Widely distributed in the Indo-West Pacific Oceans from Seychelles and Red Sea east to Hawaii Islands, occurring at the depths of 18–161 m (K. Sakai, 2004; this study). The present record extends the bathymetrical range deep to 161 m.

*Menaethius monoceros* (Latreille, 1825) [Jn: Ikaku-gani] (Fig. 13D)

*Menaethius monoceros*: Takeda and Kurata, 1976a: 123, figs. 2f, 4a; 1977a: 108; 1977b: 142; Takeda, 1977: 134.

Materials examined. KY-09-30, 1 young male ( $3.8 \times 3.0$ ), 1 young female ( $3.9 \times 3.1$ ), NSMT-Cr S 986; Tsuri-hama Beach, Chichi-jima I., coll. H.

Komatsu, 11 Jul. 2009, 1 male ( $5.9 \times 4.7$ ), NSMT-Cr S 987; Futami Port, Chichi-jima I., coll. H. Komatsu, 8 Jul. 2009, 1 female ( $5.6 \times 4.5$ ), 1 young female, NSMT-Cr S 988; Oki Port, Hahajima I., coll. H. Komatsu, 13 Jul. 2009, 1 male ( $4.2 \times 3.1$ ), 3 young males, 1 ovig. female ( $6.3 \times 4.8$ ), NSMT-Cr S 989.

Distribution. Widely distributed in the Indo-West Pacific Oceans from Red Sea and eastern Africa to French Polynesia, occurring at intertidal area to 57 m (K. Sakai, 2004).

*Naxioides taurus* (Pocock, 1890) [Jn: Ko-eda-tsuno-gani] (Figs. 8M, N, 13E)

*Naxioides mammillata*: Takeda and Kurata, 1976a: 122, fig. 5a [not *Naxioides mammillata* (Ortmann, 1893)].

Materials examined. KY-08-06, 1 young male ( $4.9 \times 3.1$ ), NSMT-Cr S 990; KY-08-15, 1 young female ( $16.7 \times 11.4$ ), NSMT-Cr S 991; KY-09-30, 1 female ( $23.2 \times 16.1$ ), 1 young female ( $5.1 \times 3.3$ ), NSMT-Cr S 992.

Additional materials examined. 4 males ( $15.6 \times 11.7$ – $17.6 \times 12.8$ ), 2 ovig. females ( $14.9 \times 10.6$ ,  $17.8 \times 12.3$ ), 2 young females ( $11.6 \times 7.7$ ,  $11.5 \times 7.9$ ), NSMT-Cr 15394, Balicasag I., Bohol, Philippines, coll. local fishermen, February 2003.

Remarks. Takeda and Kurata (1976a) recorded an anterior part of carapace of *Naxioides mammillata* (Ortmann, 1893) from the gut contents of lethrinid fish, *Gymnocranius japonicus*, from the Ogasawara Islands, but their species actually refers to this species in due to the divergent rostrum. Illustration of the male gonopods (Fig. 8M, N) is provided.

Distribution. Widely distributed in the Indo-West Pacific Oceans from Red Sea and eastern Africa to Australia, Indonesia, Philippines and Japan, occurring at the depths of 16–88 m (Griffin and Tranter, 1986; this study). This is the first record from the Ogasawara Islands.

*Phalangipus hystrix* (Miers, 1886) [Jn: Ashinaga-tusno-gani] (Fig. 13F)

Material examined. SY-09-18, 1 young male ( $10.2 \times 6.7$ ), NSMT-Cr S 994.

Distribution. Widely distributed in the Indo-West Pacific Oceans from Red Sea to Indonesia, Australia and Japan, occurring at the depths of 36–180 m (K. Sakai, 2004). This is the first record from the Ogasawara Islands.

***Pugettia ogasawaraensis*** sp. nov. [New Jn: Ogasawara-mo-gani] (Figs. 15A, 16)

Materials examined. Holotype: male ( $7.7 \times 5.6$ ), NSMT-Cr S 995, SY-09-04, east off Muko-jima I., Ogasawara Is.,  $27^{\circ}44.99'N$   $142^{\circ}10.52'E$  –  $27^{\circ}44.79'N$   $142^{\circ}10.40'E$ , 159–152m, dredge, TR/V *Shin'yo Maru*, coll. H. Komatsu, 16 November 2009.

Paratypes: 1 young male ( $5.3 \times 3.9$ ), NSMT-Cr S 996, KY-08-15, south of Chichi-jima I., Ogasawara Is.,  $27^{\circ}04.55'N$   $142^{\circ}09.16'E$  –  $27^{\circ}04.73'N$   $142^{\circ}09.31'E$ , 83–81 m, dredge, R/V *Koyo*, coll. T. Fujita, H. Namikawa and M. Okanishi, 28 October 2008; 1 young male ( $4.7 \times 3.5$ ), 1 young female ( $4.8 \times 3.4$ ), NSMT-Cr S 997, SY-09-02, east off Muko-jima I., Ogasawara Is.,  $27^{\circ}44.55'N$   $142^{\circ}09.69'E$  –  $27^{\circ}44.47'N$   $142^{\circ}09.76'E$ , 122–123m, dredge, TR/V *Shin'yo Maru*, coll. H. Komatsu, 16 November 2009; 1 young female ( $6.1 \times 4.2$ ), NSMT-Cr S 998, same data as holotype; 1 male ( $6.4 \times 4.3$ ), 1 young female ( $6.4 \times 4.3$ ), NSMT-Cr S 999, SY-09-09, east off Muko-jima I., Ogasawara Is.,  $27^{\circ}41.13'N$   $142^{\circ}11.11'E$  –  $27^{\circ}41.00'N$   $142^{\circ}10.88'E$ , 124–112m, dredge, TR/V *Shin'yo Maru*, coll. H. Komatsu, 16 November 2009.

Description. Carapace (Fig. 15A) pyriform, 1.3–1.5 times longer than broad; surface smooth, two lateral spines, curled setae on rostral spines, protogastric region and lateral face of branchial region.

Rostral spines short, divergent, fused for basal 0.25, subconical, tapering to sharp apex, length 0.35 postrostral carapace length. Supraorbital eave armed with acute, triangular preorbital lobe directed rather obliquely forward and weakly upward; antorbital lobe small, obtusely rounded, continuous from preorbital lobe; postorbital and hepatic lobes completely fused to form winglike plate, separated from eave by U-shaped hiatus,

lateral margin weakly divergent posteriorly, slightly concave; postorbital lobe acute triangular in dorsal and lateral views, directed forward and horizontal; hepatic lobe expanded laterally, obtusely rounded.

Hepatic region not elaveted, unarmed. Epibranchial region roundly convex with faint tubercle on center; epibranchial spine prominent, conical, directed laterally and slightly upward. Gastric regions prominently elevated, with one median mesogastric and pair of protogastric faint tubercles arranged in broad triangle, metagastric region elevated, highest. Cardiac region prominently elevated, slightly lower than metagastric elevation, both sides of cardiac elevation divided into crescent subregions by longitudinal grooves. Intestinal region moderately projecting posteriorly, rounded. Branchial and intestinal margins rimmed with round granules, double-margined in posterior part, posterior margin confluent with branchial margin below epibranchial spine.

Basal antennal segment (Fig. 16A) broad, smooth, anterolateral angle weakly produced forward into rounded tooth, lateral margin almost straight, medially convex dorsally; second and third segment flatted, plate-like. Conical tubercle lateral to green gland. Pterygostomian region smooth, margin with 3 rounded tubercles.

Third maxilliped (Fig. 16B) covered with flat granules; ischium with shallow median groove; anterolateral angle of merus produced, rounded, upturned; exopod with acute granules along lateral margin. Anterolateral angle of mouthfield produced, rounded.

Cheliped (P1; Fig. 16C, D) of male moderate, as long as carapace; merus smooth, subrectangular in cross-section, each margin sharp, dorsal margin highly carinate, distally ending in large triangular tooth, outer margin with some granules, outer-ventral margin entirely granulated, inner-ventral margin smooth, distal margin with 1 large median and 2 lateral triangular tubercles dorsally; carpus with 2 granulated ridges on dorsal face, ridge divergent distally, outer ridge directed ventrally in distal half, parallel with outer-distal margin, outer-distal margin ridged, granulate; palm

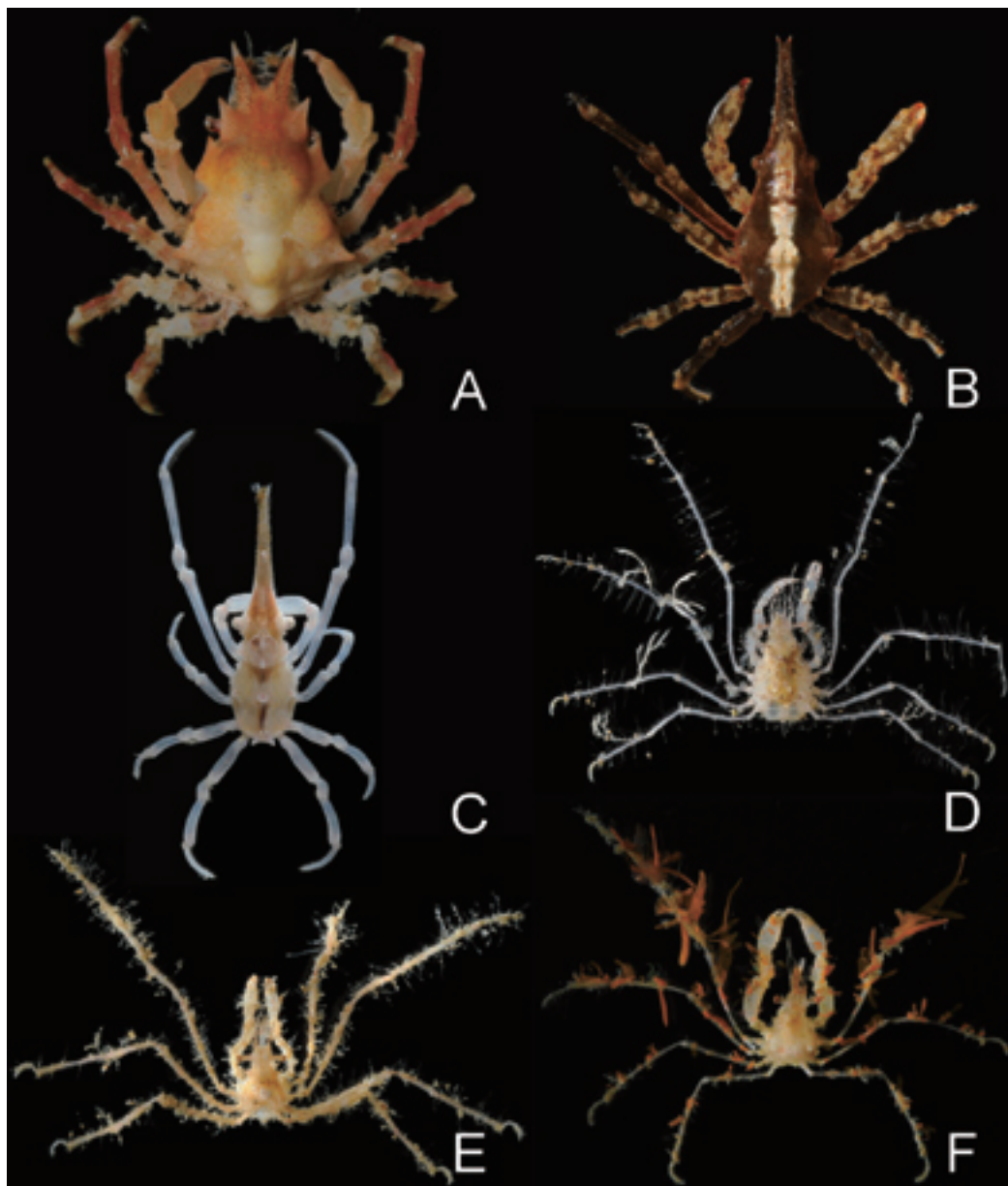


Fig. 15. A, *Pugettia ogasawaraensis* sp. nov., holotype male ( $7.7 \times 5.6$ ), NSMT-Cr S 995; B, *Xenocarcinus conicus* (A. Milne-Edwards, 1865), male ( $7.7 \times 4.5$ ), NSMT-Cr S 1000; C, *Xenocarcinus tuberculatus* White, 1847, male ( $8.8 \times 4.5$ ), NSMT-Cr S 1001; D, *Achaeus boninensis* Miyake and Takeda, 1969, ovig. female ( $7.0 \times 5.1$ ), NSMT-Cr S 1002; E, *Achaeus brevifalcatus* Rathbun, 1911, male ( $4.3 \times 2.8$ ), NSMT-Cr S 1006; F, *Achaeus curvirostris* (A. Milne-Edwards, 1873), male ( $3.8 \times 3.1$ ), NSMT-Cr S 1024.

1.3 times longer than height, dorsal and ventral margins sharp; fingers 0.85 times as long as palm, without gape between cutting edges, furnished with small triangular teeth in distal 0.7 of both

edges.

Ambulatory legs (P2–P5) slender, sparsely with club setae, similar in shape, P2 longest, 1.4 times as long as carapace, P5 0.9 times as long as

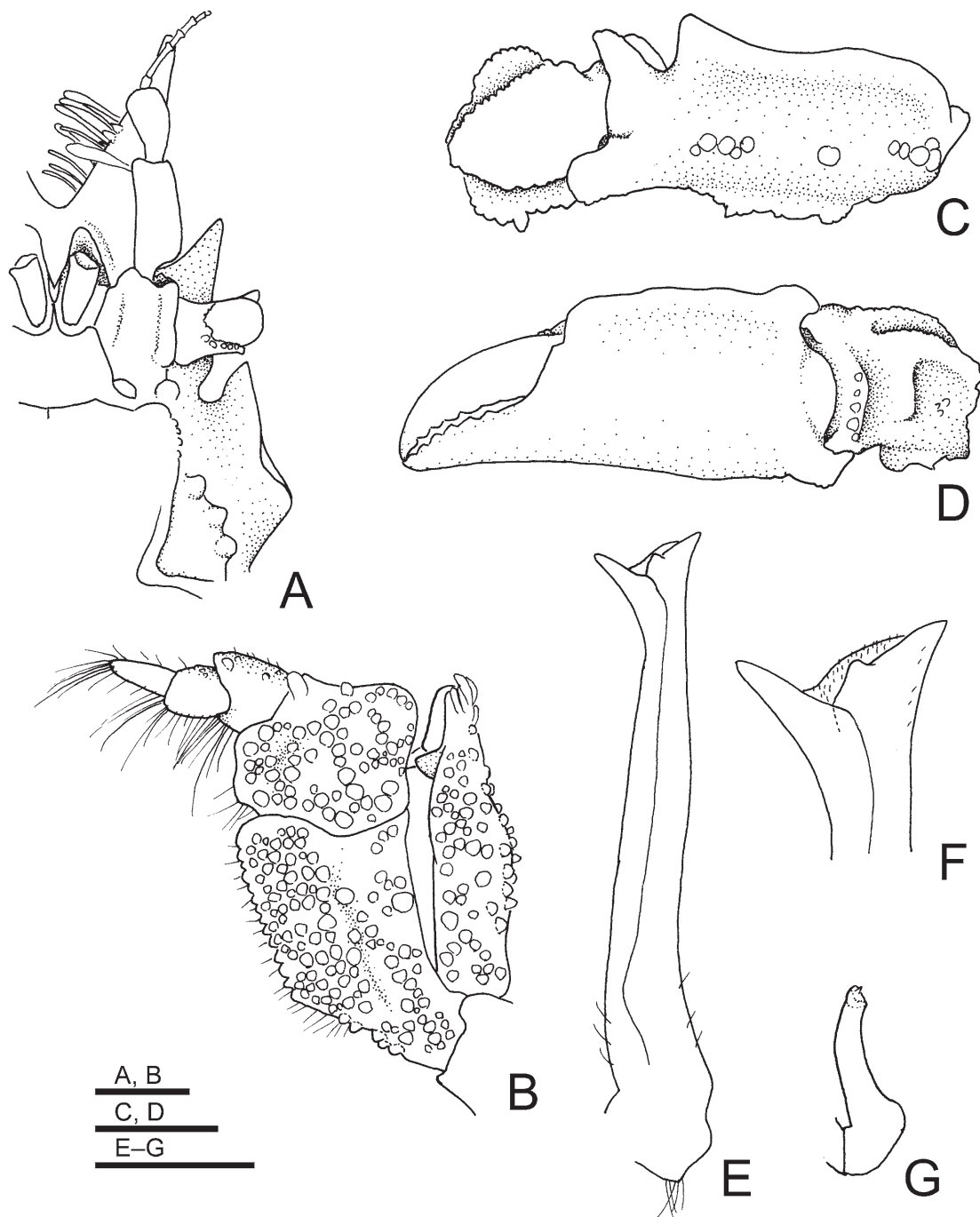


Fig. 16. *Pugettia ogasawaraensis* sp. nov., holotype male (7.7 × 5.6), NSMT-Cr S 995. A, anterior part of carapace, ventral; B, right third maxilliped, ventral; C, D, left cheliped, lateral; E, G1, abdominal; F, tip of same; G, G2, abdominal. Scales for A, C, D = 1mm; B, E, G = 0.5 mm; F, 0.25 mm.

carapace; merus subcylindrical, dorsal margin sharp, not carinate, with soft setae, distal margin

with 3 triangular tubercles dorsally as in cheliped; carpus with 2 dorsal ridges; dactylus with 6 very

small tubercles ventrally.

Male thoracic sternum covered with granules, episternites divided; sternites 1–4 fused together, with very short suture between sternites 3/4 laterally; sutures between sternites 4/5 and 5/6 interrupted medially, sutures between 6/7 and 7/8 entire, median longitudinal suture extending from suture between sternites 6/7 posteriorly.

Male abdomen covered with coarse granules; all segments free; telson triangular with rounded tip.

First male gonopod (G1; Fig. 16E, F) slender, straight, compressed, dilated at tip; tip divided into 3 lobes, slender mesial lobe, broad lateral lobe and small triangular median lobe directed abdominally, median part behind median lobe with very short spinules. Second male gonopod (G2; Fig. 16G) short, 0.3 times as long as G1; distal segment rounded.

**Etymology.** The specific name was named after the type locality, the Ogasawara Islands.

**Remarks.** *Pugettia ogasawaraensis* sp. nov. resembles *P. incisa* (de Haan, 1850) in the postorbital and hepatic lobes being completely fused to form a winglike plate, which is unique for these two species in the genus *Pugettia*, but can be distinguished from *P. incisa* by that 1) both sides of cardiac prominence are divided (undivided in *P. incisa*); 2) epibranchial region is roundly raised (vs. not raised); 3) the chelipedal merus is rectangular in cross-section (vs. triangular); 4) mesial process of the tip of the first male gonopod is smaller than lateral process (vs. larger than lateral process) (cf. Sakai, 1938; Gordon, 1931; Griffin and Tranter, 1986).

*Pugettia ogasawaraensis* is thought to be derived from *P. incisa*, which is an East Asia endemic element, and its ancestor was possibly drifted from the coast of mainland of Japan by countercurrent of Kuroshio Current (Fig. 1). Such an East Asia endemic species unique for the Ogasawara Islands is known for two decapod crustacean species, viz. *Pagurus insulae* and *Petrolisthes mesodactylon* (cf. Asakura, 1991; Asakura *et al.*, 1994a, b), and five molluscan species, viz. *Cellana mazatlanica*, *Nipponacmea boninensis*,

*Monodonta* aff. *australis*, *M. perplexa boninensis* and *Turbo* sp. (cf. Fukuda, 1993, 1994, 1995).

**Distribution.** Known only from the Ogasawara Islands, occurring at the depths of 81–159 m.

***Xenocarcinus conicus*** (A. Milne-Edwards, 1865) [Jn: Nakazawa-isobana-gani] (Fig. 15B)

Material examined. KY-09-28, 1 male ( $7.7 \times 4.5$ ), NSMT-Cr S 1000.

**Distribution.** Widely distributed in the Indo-West Pacific Oceans from Red Sea and Réunion to Indonesia and Japan, occurring at the depths of 13–80 m (K. Sakai, 2004). This is the first record from the Ogasawara Islands.

***Xenocarcinus tuberculatus*** White, 1847 [Jn: Ibo-isobana-gani] (Fig. 15C)

*Xenocarcinus tuberculatus*: Takeda, 1973: 31.

Material examined. KY-10-31, 1 male ( $8.8 \times 4.5$ ), NSMT-Cr S 1001.

**Distribution.** Indian Ocean: Red Sea and east coast of Africa; West Pacific Ocean: Singapore, Sulu Archipelago, Hong Kong, Japan and Australia, occurring at the depths of 10–150 m (K. Sakai, 2004).

#### Family **Inachidae** MacLeay, 1838

***Achaeus boninensis*** Miyake and Takeda, 1969 [Jn: Ogasawara-achaeus] (Fig. 15D)

*Achaeus boninensis* Miyake and Takeda, 1969: 27, fig. 2; Takeda and Kurata, 1976a: 121, fig. 2a, b.

Material examined. KY-09-07, 1 ovig. female ( $7.0 \times 5.1$ ), NSMT-Cr S 1002.

**Distribution.** Known only from the Ogasawara Islands, occurring at the depths of 136–200 m (Miyake and Takeda, 1969; this study).

***Achaeus* cf. *brevidactylus*** Sakai, 1938

Material examined. KY-10-31, 1 young male ( $2.2 \times 1.8$ ), NSMT-Cr S 1003.

**Remarks.** The present specimen is too small to identify into the species. But it resembles *Achaeus brevidactylus* Sakai, 1938, in that 1) the carapace is smooth except very low gastric and cardiac tu-

bercles; 2) the dactyli of P4 and P5 are not strongly falcated. However it differs in that the telson of young male is broadly triangular (vs. sharply triangular in the original description). An adult specimen is needed for exact identification.

*Achaeus brevifalcatus* Rathbun, 1911 [Jn: Seychelles-achaeus] (Fig. 15E)

*Achaeus brevifalcatus*: Miyake and Takeda, 1969: 23, fig. 1.

Materials examined. KY-08-06, 1 male ( $5.0 \times 3.1$ ), 2 ovig. females ( $4.5 \times 3.2$ ,  $5.1 \times 3.8$ ), NSMT-Cr S 1004; KY-08-21, 2 males ( $4.5 \times 3.0$ ,  $4.5 \times 3.0$ ), 1 ovig. female ( $4.7 \times 3.5$ ), 1 female ( $4.3 \times 3.3$ ), NSMT-Cr S 1005; KY-09-07, 1 male ( $4.3 \times 2.8$ ), NSMT-Cr S 1006; KY-09-29, 1 young female, NSMT-Cr S 1007; KY-10-19, 1 female ( $5.4 \times 4.0$ ), NSMT-Cr S 1008; KT-09-2-TW1-1, 1 male ( $4.3 \times 2.9$ ), 1 female ( $5.3 \times 4.1$ ), NSMT-Cr S 1009; SY-09-04, 1 male ( $4.2 \times 2.7$ ), NSMT-Cr S 1010; SY-09-11, 1 male ( $4.8 \times 2.5$ ), NSMT-Cr S 1011.

Distribution. Indian Ocean: Red Sea, Seychelles and Mauritius; West Pacific Ocean: Indonesia, Japan and Hawaii; occurring at the depths of 60–234 m (K. Sakai, 2004; this study). This study extends the bathymetrical range shallow to 60 m.

*Achaeus curvirostris* (A. Milne-Edwards, 1873) [Jn: Naga-kubi-achaeus] (Fig. 15F)

*Achaeus fissifrons*: Takeda, 1977: 122.

Materials examined. KY-08-06, 2 males ( $4.0 \times$

$2.8$ ,  $4.2 \times 2.9$ ), 1 ovig. female ( $4.6 \times 3.5$ ), NSMT-Cr S 1012; KY-08-15, 6 males ( $3.2 \times 2.2$ – $5.4 \times 3.6$ ), 2 ovig. female ( $3.3 \times 2.6$ ,  $3.6 \times 2.9$ ), 1 female ( $3.7 \times 2.8$ ), 1 young female, NSMT-Cr S 1013; KY-08-18, 1 young female, NSMT-Cr S 1014; KY-08-21, 2 males ( $3.6 \times 2.3$ ,  $3.6 \times 2.6$ ), 1 ovig. female ( $3.6 \times 2.7$ ), 2 juvs., NSMT-Cr S 1015; KY-08-25, 1 female ( $3.5 \times 2.8$ ), NSMT-Cr S 1016; KY-08-26, 2 males ( $4.1 \times 2.9$ ,  $6.3 \times 4.4$ ), 1 ovig. female ( $4.5 \times 3.3$ ), NSMT-Cr S 1017; KY-09-14, 1 ovig. female ( $4.1 \times 3.2$ ), 1 young female, NSMT-Cr S 1018; KY-09-28, 1 male ( $7.2 \times 4.9$ ), 1 ovig. female ( $5.3 \times 3.7$ ), 1 female ( $5.1 \times 4.0$ ), 1 young female, NSMT-Cr S 1019; KY-09-29, 1 male ( $4.8 \times 3.3$ ), 1 ovig. female ( $5.0 \times 4.0$ ), 1 juv., NSMT-Cr S 1020; KY-09-30, 2 males ( $5.0 \times 3.5$ ,  $5.8 \times 4.3$ ), 2 ovig. females ( $4.5 \times 3.8$ ,  $4.9 \times 3.9$ ), 1 female ( $4.7 \times 4.0$ ), NSMT-Cr S 1021; KY-09-34, 3 males ( $4.8 \times 3.4$ – $5.5 \times 3.8$ ), NSMT-Cr S 1022; KY-10-07, 1 female ( $5.4 \times 4.2$ ), NSMT-Cr S 1023; KY-10-24, 1 male ( $3.8 \times 3.1$ ), 1 female ( $4.6 \times 3.8$ ), NSMT-Cr S 1024; KY-10-27, 1 ovig. female ( $4.5 \times 3.8$ ), NSMT-Cr S 1025; KT-09-2-TW2-3, 1 male ( $4.0 \times 2.7$ ), NSMT-Cr S 1026.

Remarks. This species is the most abundant species of the genus *Achaeus* at the sea around the Ogasawara Islands. A key to the species of the genus *Achaeus* known from the Ogasawara Islands is provided.

Distribution. Widely distributed in the Indo-West Pacific Oceans from east coast of Africa to Indonesia, Japan and Australia, occurring at the depths of 36–166 m (K. Sakai, 2004).

### Key to the species of the genus *Achaeus* known from the Ogasawara Islands

1. Supraorbital eave with a spine ..... *A. curvirostris*  
Supraorbital eave without spine ..... 2
2. Branchial region with three small spines ..... *A. boninensis*  
Branchial region without spines ..... *A. brevifalcatus*

*Chalaroachaeus curvipes* de Man, 1902 [Jn: Ku-bi-nashi-achaeus] (Fig. 5E)

Material examined. KY-08-26, 1 ovig. female ( $3.5 \times 3.6$ ), NSMT-Cr S 1027.

Remarks. The present specimen agrees well with the subsequent description and illustration

by Griffin and Tranter (1986). This species is well known to attach fragments of bryozoan to the body and the pereopods by itself in Japan (Mine-mizu, 2000; Kato and Okuno, 2001; Kawamoto and Okuno, 2003).

Distribution. Known from Indonesia and Japan,

occurring at the depths of 2–87 m (Takeda, 1989; this study). This is the first record from the Ogasawara Islands and extends the bathymetrical range deep to 87 m.

***Cyrtomaia lamellata*** Rathbun, 1906 [Jn: Mitsutoge-owston-gani] (Fig. 17A)

*Cyrtomaia platypes*: Takeda and Kurata, 1976b: 24, pl. 2 fig. 1.

Materials examined. KY-08-15, 1 ovig. female ( $9.6 \times 10.3$ ), NSMT-Cr S 1028; KY-08-25, 1 male ( $7.9 \times 7.9$ ), NSMT-Cr S 1029; KY-09-34, 1 young male ( $5.9 \times 5.3$ ), NSMT-Cr S 1030; SY-09-09, 1 ovig. female ( $9.8 \times 10.0$ ), NSMT-Cr S 1031.

Distribution. West Pacific: Japan, Timor, New Caledonia, New Zealand, Hawaii, occurring at the depths of 81–290 m (Griffin and Tranter, 1986; Takeda and Komatsu, 2005; this study). This study extends the bathymetrical range shallow to 81 m.

***Grypachaeus hyalinus*** (Alcock and Anderson, 1894) [Jn: Hasami-ashi-achaeus] (Fig. 17B)

Materials examined. KY-08-21, 1 male ( $3.0 \times 1.9$ ), NSMT-Cr S 1032; KY-08-25, 1 male ( $4.0 \times 2.3$ ), NSMT-Cr S 1033; KY-09-21, 1 male ( $4.8 \times 2.7$ ), NSMT-Cr S 1034; KY-10-11, 1 young female ( $5.2 \times 2.8$ ), NSMT-Cr S 1035; KY-10-31, 1 male ( $6.2 \times 3.7$ ), 1 young female ( $6.0 \times 3.7$ ), NSMT-Cr S 1036.

Remarks. The present specimens agree well with the subsequent illustration of the male gonopod by Griffin (1974).

Distribution. East coast of Africa, Sri Lanka, Timor, Philippines, South China Sea, Japan, occurring at the depths of 50–208 m (Takeda and Komatsu, 2005). This is the first record from the Ogasawara Islands.

***Paratymolus bituberculatus*** Haswell, 1880 [Jn: Queensland-mametsubugani] (Fig. 17C)

*Paratymolus bituberculatus*: Takeda, 1977: 121, pl. 12B.

Materials examined. KY-08-15, 1 male ( $2.7 \times 2.6$ ), NSMT-Cr S 1037; KY-09-29, 1 ovig. female ( $3.4 \times 3.5$ ), NSMT-Cr S 1038.

Remarks. The present male specimen agrees well with the illustration by Loh and Ng (1999: Fig. 2E–H) in the shape of the male gonopod. Although Loh and Ng (1999) described that the pre-orbital angle of the supraorbital cave and the anterior tubercle of the anterolateral margin of the carapace are inconspicuous in male, those of the present male specimen are well developed as in female illustrated by Loh and Ng (1999: Fig. 3). Loh and Ng (1999) also treated height of the gastric tubercle as a diagnostic character between *P. tuberculata* and *P. pubescens* Miers, 1879, but it seems to be variable intraspecifically.

Loh and Ng (1999) considered the record of this species by Takeda (1977) from the Ogasawara Islands as *P. pubescens* Miers, 1879. However, the female specimens of Takeda (1977) and the present specimens agree well with the illustration by Loh and Ng (1999: Fig. 3) and therefore they should belong to *P. bituberculatus*.

Distribution. Western Australia, Indonesia and Japan, occurring at intertidal zone deep to 134 m (Loh and Ng, 1999; this study).

***Pleistacantha simplex*** Rathbun, 1932 [Jn: Himehari-senbon] (Fig. 17D)

Material examined. KY-09-31, 1 female ( $4.8 \times 3.8$ ), NSMT-Cr S 1039.

Remarks. The present specimen is much smaller than the holotype male (cl 10.5 mm), but the spinulation on the rostral spines, the supraorbital cave, and the basal antennal article agrees well with the subsequent description and illustration by Sakai (1935).

Distribution. Indonesia, Philippines and Japan, occurring at the depths of 50–540 m (Sakai, 1976; Griffin and Tranter, 1986). This is the first record from the Ogasawara Islands.

***Prosphorachaeus suluensis*** Rathbun, 1916 [Jn: Ko-achaeus-modoki] (Fig. 17F)

Materials examined. KY-08-15, 1 male ( $2.6 \times 2.2$ ), 1 female ( $2.9 \times 2.6$ ), NSMT-Cr S 1040; KY-08-21, 1 male ( $2.8 \times 2.5$ ), NSMT-Cr S 1041.

Remarks. The present specimens agree well with the original description by Rathbun (1916),

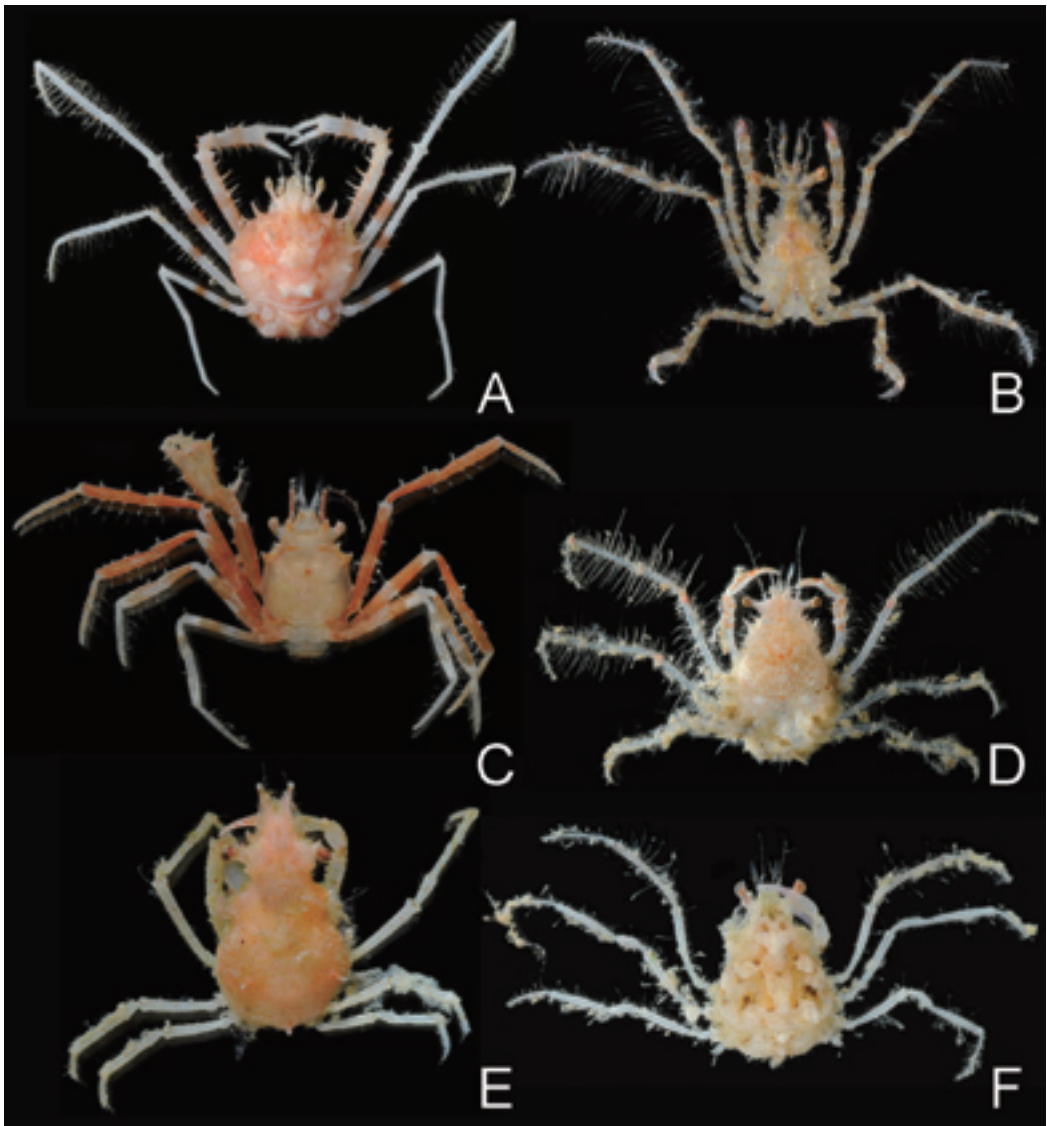


Fig. 17. A, *Cyrtomaia lamellata* Rathbun, 1906, ovig. female ( $9.8 \times 10.0$ ), NSMT-Cr S 1031; B, *Grypachaeus hyalinus* (Alcock and Anderson, 1894), male ( $6.2 \times 3.7$ ), NSMT-Cr S 1036; C, *Paratymolus bituberculatus* Haswell, 1880, male ( $2.7 \times 2.6$ ), NSMT-Cr S 1037; D, *Pleistacantha simplex* Rathbun, 1932, female ( $4.8 \times 3.8$ ), NSMT-Cr S 1039; E, *Sunipea indicus* (Alcock, 1895), male ( $4.0 \times 2.8$ ), NSMT-Cr S 1042; F, *Prosphorachaeus suluensis* Rathbun, 1916, female ( $2.9 \times 2.6$ ), NSMT-Cr S 1040.

but differ in that 1) there are two small spinules behind the supraorbital margin, the second of which represents the postocular spine in the original description (vs. without spinules in the present specimens); 2) there is a small tubercle on posterior slope of the cardiac spine (vs. without tubercle in the present specimens); 3) there is a

small tubercle on the epibranchial region and on each side of the posterior margin in the present specimen (vs. absent in the original description). The shape of the first male gonopod agrees well with the illustration by Takeda and Miyake (1969b).

Distribution. Sulu Archipelago and Japan, oc-

curing at the depths of 5.5–105 m (Takeda and Miyake, 1969b; Griffin and Tranter, 1986). This is the first record from the Ogasawara Islands.

*Sunipea indicus* (Alcock, 1895) [Jn: Andamanachaeus] (Fig. 17E)

*Aepinus indicus*: Takeda, 1977: 122, fig. 4B.

Materials examined. KY-08-15, 7 males ( $3.6 \times 2.5$ – $4.0 \times 2.8$ ), 8 ovig. females ( $5.0 \times 3.4$ – $5.4 \times 3.8$ ), NSMT-Cr S 1042; KY-08-21, 2 males ( $3.6 \times 2.5$ ,  $3.8 \times 2.5$ ), 1 ovig. female ( $5.4 \times 3.6$ ), NSMT-Cr S 1043; KY-08-22, 1 female ( $5.4 \times 3.8$ ), NSMT-Cr S 1044; KY-08-26, 1 ovig. female ( $5.3 \times 3.7$ ), NSMT-Cr S 1045; KY-09-07, 1 female ( $6.2 \times 4.4$ ), NSMT-Cr S 1046; KY-09-14, 1 male ( $3.8 \times 2.6$ ), NSMT-Cr S 1047; KY-09-21, 3 ovig. females ( $5.2 \times 3.6$ – $5.7 \times 3.8$ ), 1 female ( $6.5 \times 4.6$ ), NSMT-Cr S 1048; KY-09-21, 1 ovig. female ( $5.4 \times 3.7$ ), NSMT-Cr S 1049; KY-09-28, 3 females ( $5.5 \times 3.7$ – $5.5 \times 4.1$ ), 1 juv., NSMT-Cr S 1050; KY-09-29, 1 ovig. female ( $5.9 \times 4.0$ ), NSMT-Cr S 1051; KY-09-34, 1 young female, NSMT-Cr S 1052; KY-10-31, 1 ovig. female ( $4.9 \times 3.4$ ), 1 young female ( $4.0 \times 2.7$ ), NSMT-Cr S 1053; KT-09-2-TW1-5, 1 female ( $6.5 \times 4.0$ ), NSMT-Cr S 1054; KT-09-2-TW2-4, 1 male ( $3.8 \times 2.6$ ), NSMT-Cr S 1055; SY-09-04, 1 male ( $4.3 \times 2.5$ ), NSMT-Cr S 1056; SY-09-09, 1 ovig. female ( $5.5 \times 3.5$ ), NSMT-Cr S 1057; SY-09-11, 1 ovig. female ( $6.2 \times 3.9$ ), NSMT-Cr S 1058.

Remarks. This species is abundant in the offshore bottoms of the Ogasawara Islands, but it has not been found from the other area in the Japanese waters.

Distribution. Widely distributed in the Indo-West Pacific Oceans from east coast of Africa to Indonesia, Philippines, Ogasawara Is. and northern Australia, occurring at the depths of 47–300 m (Griffin and Tranter, 1986; K. Sakai, 2004).

#### Family Majidae Samouelle, 1819

*Entomonyx spinosus* Miers, 1884 [Jn: Togekaimen-gani] (Fig. 18A)

Materials examined. KY-08-06, 1 male ( $14.0 \times 10.7$ ), NSMT-Cr S 1059; KY-08-15, 1 male ( $8.4$

$\times 6.1$ ), NSMT-Cr S 1060; KY-09-13, 1 ovig. female (damaged, cw 9.8 mm), NSMT-Cr S 1061; KY-09-28, 1 male ( $11.1 \times 9.2$ ), NSMT-Cr S 1062; KY-09-30, 1 young male ( $7.4 \times 5.4$ ), NSMT-Cr S 1063; KT-09-2-TW1-1, 1 ovig. female ( $15.1 \times 11.5$ ), NSMT-Cr S 1064.

Distribution. Widely distribute in the Indian Ocean from Red Sea and Mozambique east to western Australia and in the West Pacific Ocean from Japan and East China Sea, occurring at the depths of 60–150 m (K. Sakai, 2004). This is the first record from the Ogasawara Islands.

*Leptomithrax bifidus* Ortmann, 1893 [Jn: Himekoshima-gani] (Fig. 18B)

*Leptomithrax bifidus*: Takeda and Kurata, 1976b: 25, fig. 3B–D.

Materials examined. KY-09-21, 1 young female ( $11.4 \times 8.7$ ), NSMT-Cr S 1065; KY-10-30, 1 ovig. female ( $25.8 \times 23.0$ ), NSMT-Cr S 1066; KY-10-31, 1 young female ( $9.8 \times 7.4$ ), NSMT-Cr S 1067; SY-09-05, 1 juv., NSMT-Cr S 1068.

Distribution. Known only from Japan and Korea, occurring at the depths of 36–540 m (K. Sakai, 2004).

*Micippa parca* Alcock, 1895 [Jn: Mitsutogetama-watakuzu-gani] (Fig. 18C)

*Micippa parca*: Takeda, 1977: 124, pl. 2B.

Materials examined. KY-09-28, 1 female ( $8.4 \times 6.8$ ), 1 young female ( $7.1 \times 5.5$ ), NSMT-Cr S 1069; KY-09-29, 2 young females ( $4.5 \times 3.3$ ,  $5.0 \times 3.8$ ), NSMT-Cr S 1070; KY-09-30, 1 juv., NSMT-Cr S 1071; KY-10-06, 1 ovig. female ( $8.7 \times 7.0$ ), NSMT-Cr S 1072; KY-10-24, 1 young female ( $6.4 \times 5.5$ ), NSMT-Cr S 1073.

Distribution. Andaman Islands in the Indian Ocean and Japan, Sulu Archipelago, Indonesia, Hawaii and French Polynesia in the West Pacific Ocean, occurring at shoreline deep to 72 m (Griffin and Tranter, 1986; Poupin, 1996).

*Prismatopus occidentalis* (Griffin, 1970) [New Jn: Minami-kaimen-gani] (Figs. 8O–Q, 18D)

Materials examined. KY-08-25, 1 male ( $5.9 \times 4.2$ ), 2 young males, 1 ovig. female ( $6.2 \times 4.5$ ), 2

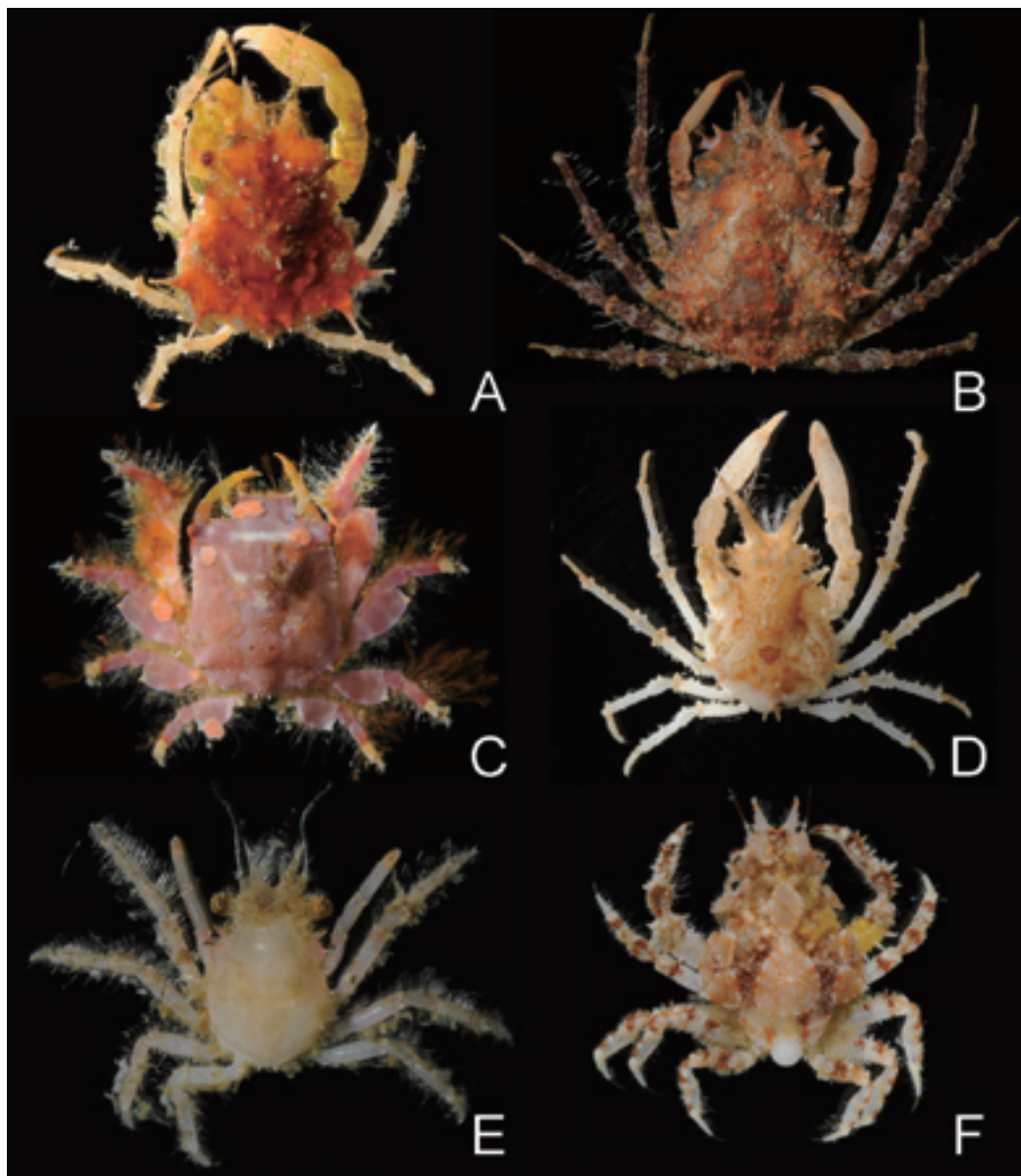


Fig. 18. A, *Entomonyx spinosus* Miers, 1884, male ( $14.0 \times 10.7$ ), NSMT-Cr S 1059; B, *Leptomithrax bifidus* Ortmann, 1893, ovig. female ( $25.8 \times 23.0$ ), NSMT-Cr S 1066; C, *Micippa parca* Alcock, 1895, young female ( $7.1 \times 5.5$ ), NSMT-Cr S 1069; D, *Pristatopus occidentalis* (Griffin, 1970), male ( $7.1 \times 5.3$ ), NSMT-Cr S 1077; E, *Schizophroidea hilensis* (Rathbun, 1906), young female ( $4.5 \times 3.1$ ), 1 juv., NSMT-Cr S 1087; F, *Seिताoides orientalis* (Sakai, 1961), young female ( $5.4 \times 3.7$ ), NSMT-Cr S 1088.

female ( $6.8 \times 5.0$ – $8.2 \times 6.2$ ), NSMT-Cr S 1074; KY-09-07, 1 young male, 1 young female, NSMT-Cr S 1075; KY-09-21, 1 male ( $7.2 \times 5.2$ ), 1 female ( $8.1 \times 5.9$ ), NSMT-Cr S 1076; KY-09-33, 1 male ( $7.1 \times 5.3$ ), NSMT-Cr S 1077; KY-10-30,

1 male ( $6.9 \times 5.0$ ), NSMT-Cr S 1078; KT-09-2-TW1-1, 2 ovig. females ( $7.5 \times 5.4$ ,  $8.9 \times 6.5$ ), NSMT-Cr S 1079; KT-09-2-TW2-4, 1 male ( $7.1 \times 5.3$ ), NSMT-Cr S 1080; SY-09-03, 1 female ( $7.0 \times 5.1$ ), NSMT-Cr S 1081; SY-09-21, 1 male

( $7.4 \times 5.3$ ), 1 female ( $7.1 \times 5.2$ ), NSMT-Cr S 1082.

Remarks. The present specimens agree well with the original description and illustration by Griffin (1970), but differ in that 1) the chelipedal merus and carpus are less tuberculate; 2) the first male gonopod more strongly outcurved (Fig. 80).

Distribution. Previously known only from western Australia, occurring at the depths of 112–188 m (Griffin and Tranter, 1986). This is the second record of the species and greatly extends its geographical range northward.

*Schizophröida hilensis* (Rathbun, 1906) [Jn: Manazuru-nokogiri-gani] (Fig. 18E)

? *Schizophröida simodaensis*: Takeda, 1977: 124, fig. 4C.

Materials examined. KY-08-15, 1 young female ( $5.1 \times 3.7$ ), NSMT-Cr S 1083; KY-08-20, 1 young female ( $4.5 \times 3.2$ ), NSMT-Cr S 1084; KY-09-29, 1 young male ( $4.5 \times 3.2$ ), NSMT-Cr S 1085; KY-09-30, 1 young male ( $4.5 \times 3.2$ ), NSMT-Cr S 1086; KY-10-07, 1 young female ( $4.5 \times 3.1$ ), 1 juv., NSMT-Cr S 1087.

Remarks. According to Griffin and Tranter (1986), the identity of each member of the genus *Schizophröida*, *S. hilensis* (Rathbun, 1906), *S. manazuruana* Sakai, 1933, and *S. simodaensis* Sakai, 1933, is still in question. Although Takeda (1977) recorded *S. simodaensis* from the Ogasawara Islands, the present specimen can be identified as *S. hilensis* by the morphological appearance including the shape of the male gonopod. Further revisional study is needed to clarify the identity of each species.

Distribution. West Pacific Ocean: Japan, New Caledonia, New Zealand and Hawaii, occurring at low tidal mark deep to 105 m (Griffin and Tranter, 1986; this study). This is the first record from the Ogasawara Islands.

*Seiitaoides orientalis* (Sakai, 1961) [Jn: Kofukitsuno-gani] (Fig. 18F)

*Eurynome orientalis*: Takeda, 1977: 124.

Materials examined. KY-08-15, 1 young female ( $5.4 \times 3.7$ ), NSMT-Cr S 1088; KY-09-21, 1

young female ( $4.7 \times 3.3$ ), NSMT-Cr S 1089; KY-09-34, 1 young female ( $6.4 \times 4.6$ ), NSMT-Cr S 1090.

Distribution. Japan, East China Sea, Philippines, Indonesia and western Australia, occurring at the depths of 45–245 m (Takeda and Komatsu, 2005).

Superfamily **Palicoidea** Bouvier, 1898

Family **Palicidae** Bouvier, 1898

*Neopalicus jukesii* (White, 1847) [Jn: Shikaku-itoashi-gani] (Fig. 19A)

*Neopalicus jukesii*: Castro, 2000: 554, figs. 39b, 40b, c, 41c, 49, 61c.

Materials examined. KY-08-15, 1 young female ( $4.5 \times 5.0$ ), NSMT-Cr S 1091; KY-09-28, 1 male ( $8.0 \times 8.6$ ), NSMT-Cr S 1092; KY-09-29, 1 broken young specimen (cb 6.1), NSMT-Cr S 1093; KY-09-30, 1 male ( $6.6 \times 7.4$ ), NSMT-Cr S 1094; KY-10-27, 1 ovig. female ( $8.1 \times 9.1$ ), NSMT-Cr S 1095; KY-10-31, 1 male ( $7.1 \times 8.0$ ), NSMT-Cr S 1096.

Distribution. Widely distributed in the Indo-West Pacific, occurring at the depths of 10–146 m (Castro, 2000).

*Pseudopalicus serripes* (Alcock and Anderson, 1895) [Jn: Itoashi-gani] (Fig. 19B)

*Palicus* aff. *serripes*: Takeda and Kurata, 1976a: 132, fig. 6e.

Materials examined. KY-09-30, 1 male ( $7.8 \times 8.9$ ), NSMT-Cr S 1097; KY-10-31, 1 male ( $8.3 \times 9.3$ ), 3 young males ( $4.5 \times 4.8$ ,  $6.5 \times 7.1$ ), 2 broken specimens, NSMT-Cr S 1098.

Remarks. Although Takeda and Kurata (1976a) recorded this species in question based on a young female from the Ogasawara Islands, the present specimens agree well with the diagnostic characters shown by Castro (2000: Table 2). Therefore, the record of Takeda and Kurata (1976a) can be considered as a juvenile of *Pseudopalicus serripes*.

Distribution. Widely distributed in the Indo-West Pacific Oceans, occurring at the depths of 30–120 m (Castro, 2000).



Fig. 19. A, *Neopalicus jukesii* (White, 1847), male ( $8.0 \times 8.6$ ), NSMT-Cr S 1092; B, *Pseudopalicus serripes* (Alcock and Anderson, 1895), male ( $8.3 \times 9.3$ ), NSMT-Cr S 1098; C, *Cavoportunus dubius* (Laurie, 1906), male ( $9.8 \times 12.3$ ), NSMT-Cr S 1113; D, *Lupocyclus quinque-dentatus* Rathbun, 1906, young male ( $7.3 \times 8.4$ ), NSMT-Cr S 1114; E, *Portunus (Xiphonectes) macrophthalmus* Rathbun, 1906, male ( $7.7 \times 15.8$ ), NSMT-Cr S 1116; F, *Portunus (Monomia) gradiator* Fabricius, 1798, male ( $35.6 \times 63.8$ ), NSMT-Cr S 1115.

Superfamily **Parthenopoidea** MacLeay, 1838

Family **Parthenopidae** MacLeay, 1838

*Pseudolambrus beaumonti* (Alcock, 1896) [Jn: Kobu-hishi-gani] (Fig. 20)

?*Pseudolambrus beaumonti*: Takeda and Kurata, 1976a: 124, fig. 2g.

*Pseudolambrus* ? sp.: Takeda and Kurata, 1976a: 125 (part), fig. 5b.

Materials examined. KY-08-17, 1 juvenile ( $4.2 \times 4.5$ ), NSMT-Cr S 1099; KY-08-21a, 1 male ( $7.1 \times 7.1$ ), NSMT-Cr S 1100; KY-08-21b, 1 male ( $6.2 \times 6.9$ ), NSMT-Cr S 1101; KY-08-25, 1 ovig. female ( $10.6 \times 12.2$ ), NSMT-Cr S 1102; KY-08-26, 1 female ( $9.1 \times 10.6$ ), 2 young females ( $7.3 \times 8.4$ ,  $7.8 \times 8.9$ ), NSMT-Cr S 1103; KY-09-29, 1 ovig. female ( $9.3 \times 10.9$ ), NSMT-Cr S 1104; KY-10-24, 1 young female ( $7.1 \times 7.6$ ), NSMT-Cr S

1105; SY-09-20, 1 female ( $10.3 \times 12.2$ ), NSMT-Cr S 1106.

Remarks. As previously mentioned by Ng and Rahayu (2000), *Pseudolambrus beaumonti* (Alcock, 1896) has significant sexual dimorphism (Fig. 20). Takeda and Kurata (1976a) recorded this species in question based on the left cheliped obtained from the gut contents of *Epinephelus fasciatus*. This elongated cheliped agrees well with the major cheliped of males photographed by Ng and Rahayu (2000: fig. 4). Takeda and Kurata (1976a) also recorded *Pseudolambrus* ? sp. based on the right cheliped and the anterior part of the carapace from the gut contents of *Gymnocranius japonicus*. The anterior part of the cara-

pace (Takeda and Kurata, 1976a: Fig. 5b) may belong to this species, but the right cheliped (Takeda and Kurata, 1976a: Fig. 4c) may not. Because the upper margin of palm being straight (whereas having a basal lobe in *Ps. beaumonti*, but in juvenile the lobe is small; see Fig. 20).

Kawamoto and Okuno (2003) recorded this species from Kume-jima Island, the Ryukyu Islands, but their specimen seems to belong to *Ps. lobatus* (Flipse, 1930), a senior subjective synonym of *Ps. ozakii* Sakai, 1969, due to rounded lobe on the base of the outer margin of the chelipedal palm.

Distribution. Sri Lanka, Mauritius, Andaman Sea, Japan, occurring at the depths of 50–159 m

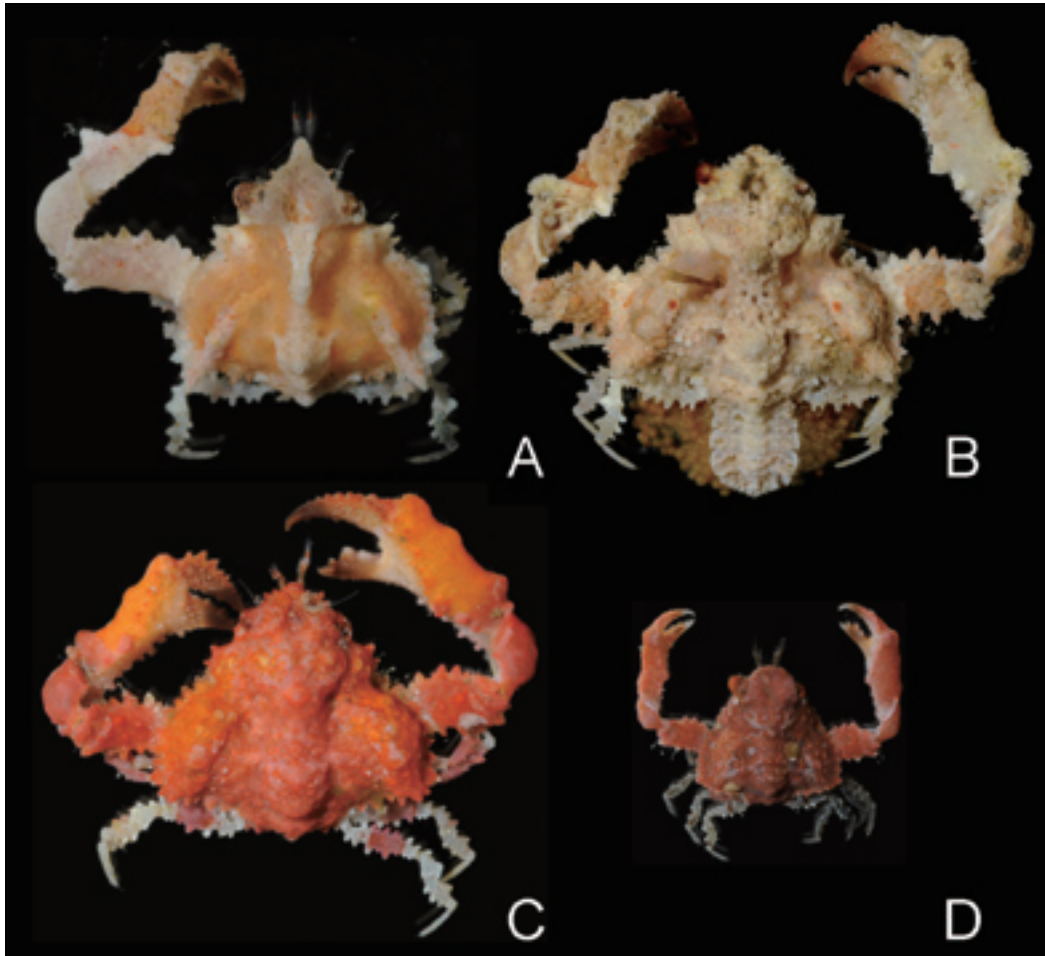


Fig. 20. *Pseudolambrus beaumonti* (Alcock, 1896). A, male ( $7.1 \times 7.1$ ), NSMT-Cr S 1100; B, ovig. female ( $10.6 \times 12.2$ ), NSMT-Cr S 1102; C, female ( $9.1 \times 10.6$ ), NSMT-Cr S 1103; D, juvenile ( $4.2 \times 4.5$ ), NSMT-Cr S 1099.

(Michel, 1964; Sakai, 1976; this study).

Superfamily **Portunoidea** Rafinesque, 1815

Family **Portunidae** Rafinesque, 1815

***Cavoportunus dubius*** (Laurie, 1906) [Jn: Yoron-hime-gazami] (Fig. 19C)

*Cavoportunus dubius*: Nguyen and Ng, 2010: 41, figs. 1–4.

Materials examined. KY-08-15, 1 young female ( $10.2 \times 13.0$ ), NSMT-Cr S 1107; KY-08-18, 1 young male ( $6.5 \times 8.2$ ), NSMT-Cr S 1108; KY-08-26, 1 young male ( $6.7 \times 8.4$ ), NSMT-Cr S 1109; KY-09-27, 1 young male ( $6.8 \times 8.9$ ), NSMT-Cr S 1110; KY-10-02, 1 male ( $17.2 \times 21.3$ ), NSMT-Cr S 1111; KY-10-31, 1 young male ( $5.2 \times 6.2$ ), NSMT-Cr S 1112; SY-09-18, 1 male ( $9.8 \times 12.3$ ), 2 young males ( $7.8 \times 9.8$ ,  $9.0 \times 11.2$ ), NSMT-Cr S 1113.

Remarks. Recently, Nguyen and Ng (2010) established a new genus, *Cavoportunus*, for this species and synonymized *Portunus* (*Cycloacheilus*) *yoronensis* Sakai, 1974, with this species. The present specimens agree well with the subsequent description and illustration by Nguyen and Ng (2010).

Distribution. Reunion, India, Sri Lanka, Indonesia, Philippines, Japan, French Polynesia, occurring at coral reefs and the depths of 20–210 m (Crosnier, 2002; Nguyen and Ng, 2010).

***Lupocyclus quinquedentatus*** Rathbun, 1906 [Jn: Mutsuha-hosoude-gazami] (Fig. 19D)

Material examined. KY-09-29, 1 young male ( $7.3 \times 8.4$ ), NSMT-Cr S 1114.

Distribution. Widely distributed in the Indo-West Pacific Ocean from Seychelles eastward to French Polynesia, occurring at the depths of 60–110 m (K. Sakai, 2004; this study). This is the first record from the Ogasawara Islands.

***Portunus (Monomia) gradiator*** Fabricius, 1798 [Jn: Ibo-gazami] (Fig. 19F)

*Portunus (Monomia) haani*: Takeda, 1977: 128.

Materials examined. KY-09-27, 1 male ( $35.6 \times 63.8$ ), 2 young males ( $12.9 \times 23.7$ ,  $13.2 \times 25.2$ ),

NSMT-Cr S 1115.

Distribution. Widely distributed in the Indo-West Pacific Oceans from South Africa eastward to New Caledonia, occurring at the depths of 10–345 m (K. Sakai, 2004).

***Portunus (Xiphonectes) macrophthalmus*** Rathbun, 1906 [Jn: Ohme-tenaga-hime-gazami] (Figs. 19E, 22A, B)

*Portunus (Xiphonectes) macrophthalmus*: Takeda, 1977: 128, pl. 4(C, D)

Materials examined. KY-10-26, 1 male ( $7.7 \times 15.8$ , cw excluding lateral spines 9.5), 1 young female ( $6.8 \times 8.9$ ), 3 juvs., NSMT-Cr S 1116.

Distribution. Mauritius, Banda Sea, Philippines, Japan, Hawaii; occurring at the depths of 2–100 m (Takeda, 1977).

***Portunus (Xiphonectes) tenuipes*** (de Haan, 1835) [Jn: Kebuka-ibo-gazami] (Fig. 21A)

*Portunus (Monomia) tenuipes*: Takeda, 1977: 129.

Materials examined. KY-10-25, 3 males ( $13.5 \times 19.0$ – $15.5 \times 22.4$ ), 3 young males ( $6.7 \times 9.3$ – $9.9 \times 13.7$ ), 3 young females ( $8.9 \times 12.3$ – $12.6 \times 17.8$ ), NSMT-Cr S 1117; KY-10-26, 1 young male ( $6.8 \times 8.9$ ), 3 juvs., NSMT-Cr S 1118.

Distribution. Andaman Sea, Philippines, Japan, Australia, occurring at coral reef and deep to 45 m (Takeda, 1977).

***Thalamita auauensis*** Rathbun, 1906 [New Jn: Auau-benitsuke-gani] (Figs. 21D, 22G–I)

Materials examined. KY-08-15, 1 young male, 1 young female, 2 juvs., NSMT-Cr S 1119; KY-08-20, 1 young female, NSMT-Cr S 1120; KY-09-08, 1 juv., NSMT-Cr S 1121; KY-09-28, 1 young male, NSMT-Cr S 1122; KY-09-29, 1 young male, NSMT-Cr S 1123; KY-09-30, 2 young males ( $3.9 \times 6.1$ ,  $5.0 \times 7.5$ ), NSMT-Cr S 1124; KY-10-27, 1 male ( $6.8 \times 11.3$ ), 1 young female, NSMT-Cr S 1125.

Remarks. The present specimens agree well with the original and subsequent descriptions and illustrations (Rathbun, 1906; Edmondson, 1954; Stephenson and Rees, 1967; Crosnier, 2002).

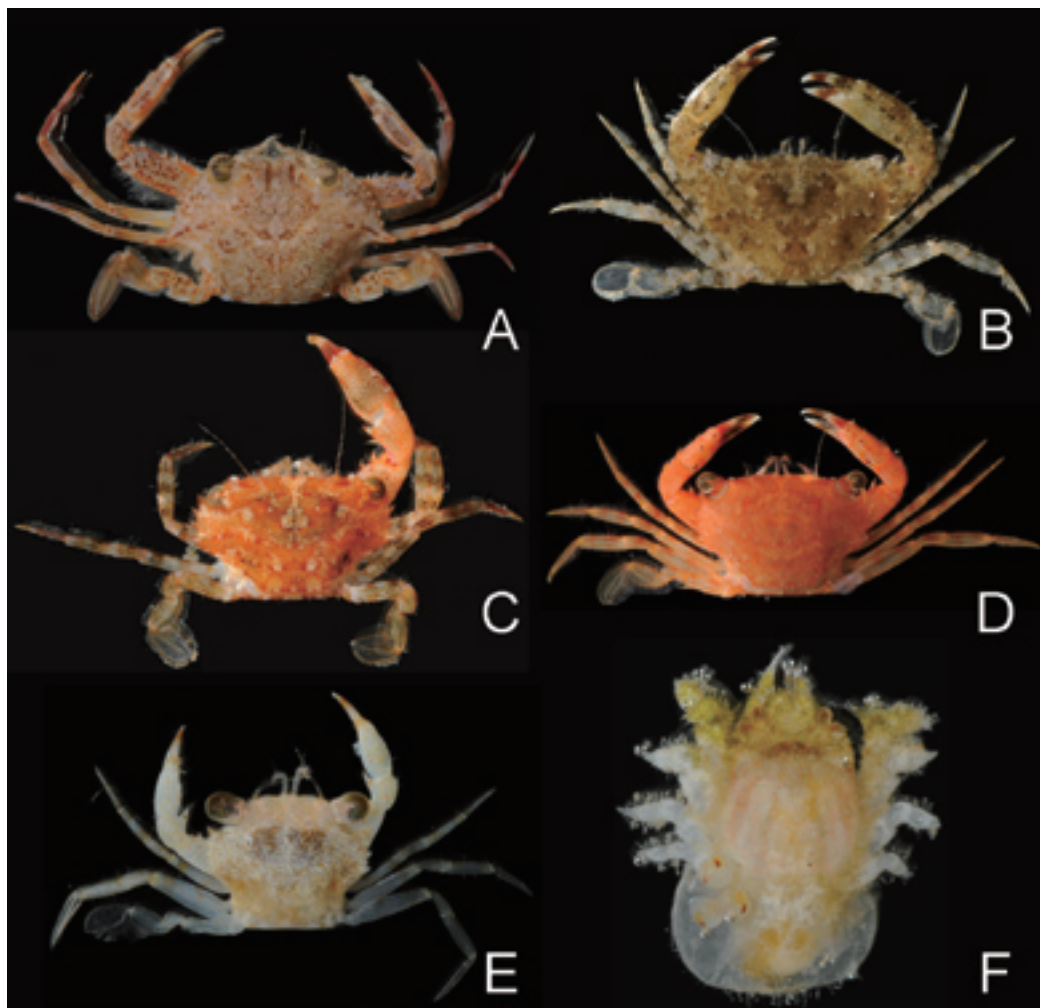


Fig. 21. A, *Portunus (Xiphonectes) tenuipes* (de Haan, 1835), male ( $14.4 \times 20.6$ ), NSMT-Cr S 1117; B, *Thalamita integra integra* Dana, 1852, males ( $7.8 \times 12.5$ ), NSMT-Cr S 1132; C, *Thalamita gatavakensis* Nobili, 1906, male ( $6.8 \times 11.3$ ), NSMT-Cr S 1126; D, *Thalamita auauensis* Rathbun, 1906, male ( $6.8 \times 11.3$ ), NSMT-Cr S 1125; E, *Thalamita sexlobata* Miers, 1886, young male ( $3.7 \times 4.7$ ), NSMT-Cr S 1137; F, *Opecarcinus crescentus* (Edmondson, 1925), female ( $2.7 \times 2.1$ ), NSMT-Cr S 1140.

Distribution. Philippines, Mariana, China, Japan, Hawaii Is., Samoa; occurring at the depths of 24–335 m (Rathbun, 1906; Edmondson, 1954; Stephenson and Rees, 1967; Crosnier, 2002; this study). This is the first record from Japan and the Ogasawara Islands.

*Thalamita gatavakensis* Nobili, 1906 [Jn: Gata-vak-benitsuke-gani] (Figs. 21C, 22C–F)

Materials examined. KY-08-11, 1 male ( $6.8 \times$

$11.3$ ), NSMT-Cr S 1126; KY-08-18, 1 juv., NSMT-Cr S 1127; KY-09-21, 1 young male, NSMT-Cr S 1128; KY-09-30, 1 female ( $6.8 \times 11.1$ ), 1 young female ( $4.6 \times 6.7$ ), NSMT-Cr S 1129; KY-10-27, 1 young female, NSMT-Cr S 1130.

Remarks. The present specimens agree well with the subsequent descriptions and illustrations including male gonopods by Forest and Guinot (1961) and Crosnier (1962).

Sakai (1976) recorded *Thalamita admete*

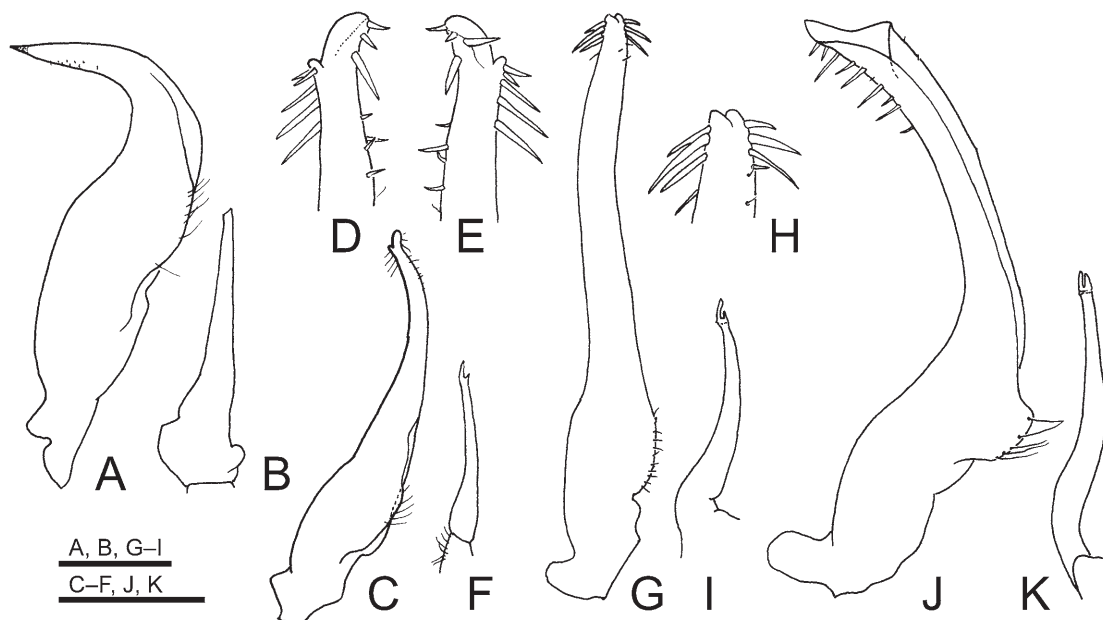


Fig. 22. Right gonopods. A, B, *Portunus (Xiphonectes) macrophthalmus* Rathbun, 1906, male ( $7.7 \times 15.8$ ), NSMT-Cr S 1116, A, G1, abdominal; B, G2, abdominal. C–F, *Thalamita gatavakensis* Nobili, 1906, male ( $6.8 \times 11.3$ ), NSMT-Cr S 1126. G–I, *Thalamita auauensis* Rathbun, 1906, male ( $6.8 \times 11.3$ ), NSMT-Cr S 1125, G, G1, abdominal; H, tip of same; I, G2, abdominal. J, K, *Thalamita spinifera* Borradaile, 1902, male ( $6.6 \times 8.7$ ), NSMT-Cr S 1139, J, G1, abdominal; K, G2, abdominal.

(Herbst, 1803), from the Bonin (Ogasawara) Islands, however, it is possible that his specimens actually belong to *Th. auauensis* or *Th. gatavakensis* because they are very similar to each other and *Th. admete* was never collected by this survey. Takeda and Kurata (1977a) also recorded *Th. cf. admete* from the gut contents of lethriniid fish, *Lethrinus variegatus*, from the new volcanic island, Nishino-shima-shinto Island, on the basis of several broken carapaces and chelae. Their specimens also may belong to *Th. auauensis* or *Th. gatavakensis* by same reason.

**Distribution.** Madagascar, Seychelles, Indonesia, Philippines, Saipan, Japan, Australia, French Polynesia, occurring at sublittoral water and deep to 135.8 m (Stephenson, 1972; Davie, 2002; Marumura and Kosaka, 2003; this study). This is the first record from the Ogasawara Islands and extends the bathymetrical range deep to 135.8 m.

*Thalamita integra integra* Dana, 1852 [Jn: Himefutaha-benitsuke-gani] (Fig. 21B)

*Thalamita integra integra*: Stimpson, 1858: 39; 1907: 83; Ooishi, 1970: 92, pl. 13 fig. 9.

**Materials examined.** Futami Port, Chichi-jima I., coll. H. Komatsu, 17 Nov. 2009, 1 young male ( $3.7 \times 5.6$ ), 1 female ( $9.9 \times 16.3$ ), 1 young female ( $6.7 \times 10.7$ ), NSMT-Cr S 1131; Oki Port, Haha-jima I., coll. H. Komatsu, 14 Jul. 2009, 2 males ( $6.0 \times 9.5$ ,  $7.8 \times 12.5$ ), 2 ovig. females ( $6.2 \times 11.6$ ,  $7.8 \times 12.2$ ), 1 female ( $6.6 \times 10.8$ ), NSMT-Cr S 1132; Ohmura Beach, Chichi-jima I., coll. T. Komai, 17 Jul. 2009, 1 young male ( $2.9 \times 4.1$ ), NSMT-Cr S 1133.

**Remarks.** This species did not occur in the collections made by dredging, but is listed herein as reference. This species is abundant in coastal area.

**Distribution.** Widely distributed in the Indo-West Pacific Oceans, occurring at shallow water (K. Sakai, 2004).

*Thalamita oculatea* Alcock, 1899 [Jn: Oculea-benitsuke-gani] (Fig. 5F)

Materials examined. KY-09-28, 1 young male ( $4.7 \times 6.7$ ), NSMT-Cr S 1134; KY-09-29, 1 young female ( $6.3 \times 9.0$ ), NSMT-Cr S 1135; KY-09-30, 3 young male ( $4.4 \times 6.4$ – $5.1 \times 7.1$ ), 3 juvs., NSMT-Cr S 1136.

Remarks. The anterolateral teeth of the carapace of the present specimens are narrower than that of the material from Madagascar photographed by Crosnier (1962). In young specimens, transverse sculpture on the sternum and the abdomen is not developed.

Distribution. Madagascar, Seychelles, Saya de Malha Bank, India, Maldives, Sri Lanka, Andamann Sea, Japan, occurring at the depths of 15–60.7 m (K. Sakai, 2004; this study). This is the first record from the Ogasawara Islands.

***Thalamita sexlobata*** Miers, 1886 [Jn: Mutsuhabenitsuke-gani] (Fig. 21E)

Material examined. SY-09-03, 1 young male ( $3.7 \times 4.7$ ), NSMT-Cr S 1137.

Distribution. Widely distributed in the Indo-West Pacific Oceans from Madagascar eastward to Tonga, occurring at the depths of 5–146 m (K. Sakai, 2004; this study). This is the first record from the Ogasawara Islands and extends the ba-

thymetrical range deep to 146 m.

***Thalamita spinifera*** Borradaile, 1902 [Jn: Indo-benitsuke-gani] (Figs. 5G, 22J, K)

Materials examined. KY-10-24, 1 young female ( $7.6 \times 10.4$ ), NSMT-Cr S 1138; KY-10-31, 1 male ( $6.6 \times 8.7$ ), NSMT-Cr S 1139.

Remarks. The shape of the male gonopod of the present specimen agrees well with the illustrations by Sakai (1935, as *Thalamita exetastica* Alcock, 1899), Stephenson and Rees (1967) and Wee and Ng (1995).

Although Takeda and Kurata (1976a) recorded the close congener, *Th. aff. exetastica* from the Ogasawara Islands, *Th. spinifera* can be easily distinguished from *Th. aff. exetastica* by the presence of spines on the posterior border of P5 propodi and the arrangement of bristles on the distal part of the first male gonopod.

A key to the species of the genus *Thalamita* known from the Ogasawara Islands is provided.

Distribution. Madagascar, Laccadives, Maldives, Thailand, Malaysia, Indonesia, Philippines, Japan, Hawaii (Stephenson, 1972; Sakai, 1976; Wee and Ng, 1995). This is the first record from the Ogasawara Islands.

#### Key to the species of the genus *Thalamita* known from the Ogasawara Islands

1. Front 6-lobed ..... 2  
     Front 4-lobed ..... *T. sexlobata*  
     Front 2-lobed ..... 3
2. Posterior border of P5 propodi with a variable number of spines; distal part of G1 flared, with several bristles on lateral margin ..... *T. spinifera*  
     Posterior border of P5 propodi without spines; distal part of G1 flared, with several bristles on both margins ..... *T. aff. exetastica*
3. Basal antennal segment with smooth crest ..... 4  
     Basal antennal segment granular or tubercular ..... 5
4. Outer border of upper surface of chelipedal hand with obsolete spine ..... *T. oculate*  
     Outer border of upper surface of chelipedal hand with spine ..... *T. sima*
5. Frontal region with soft setae ..... *T. integra integra*  
     Frontal region without setae ..... 6
6. Inner supraorbital lobe rather arcuate; ambulatory legs without brown band; tip of G1 bilobed, with 4 bristles on each border ..... *T. auauensis*  
     Inner supraorbital lobe almost straight; ambulatory legs with brown band; tip of G1 recurved with several bristles asymmetrically ..... *T. gatavakensis*

Subsection **Thoracotremata** Guinot, 1977  
 Superfamily **Cryptochiroidea** Paul'son, 1875  
 Family **Cryptochiridae** Paul'son, 1875

***Opecarcinus crescentus*** (Edmondson, 1925) [Jn: Mikazuki-ashibiro-sango-yadori-gani] (Fig. 21F)

Materials examined. KY-09-14, 1 male ( $2.0 \times 1.6$ ), 1 ovig. female ( $2.7 \times 2.1$ ), NSMT-Cr S 1140.

Host. The present specimens are collected from *Leptoseris hawaiiensis* [Jn: Hawaii-senbei-sango] for the first time. This species was previously known from *Pavona* spp. [Shikoro-sango-zoku] and *Coscinaraea columna* [Yasuri-sango].

Distribution. Known from the West Pacific (Japan, Taiwan, Vietnam, Indonesia, Christmas Is., Johnston I., Hawaii) and also from the eastern Pacific (Clippertib I. and Baja California) (Takeda and Tamura, 1981; Wei *et al.*, 2006). This is the first record from the Ogasawara Islands.

## Discussion

### Summary of result

A total of 73 species belonging to 16 families excluding pilumnoid and xanthoid crabs were obtained from the sea around the Ogasawara Islands at the depths of 36–499 m by this survey. Of these three new species are described and illustrated: *Cryptodromia maculata* sp. nov. (Dromiidae), *Ebalia koyo* sp. nov. (Leucosiidae), and *Pugettia ogasawaraensis* sp. nov. (Epialtidae).

42 species (62% of the total 73 species) are newly added to the carcinological fauna of the Ogasawara Islands: *Epigodromia rotunda*, *Homalodromia coppingeri*, *Lauridromia intermedia* (Dromiidae), *Dynomene pilumnoides* (Dynomeneidae), *Notopus dorsipes*, *Notosceles serratifrons*, *Ranina ranina*, *Umalia misakiensis*, *U. orientalis* (Raninidae), *Sakaila imperialis* (Aethridae), *Ethusa quadrata* (Ethusidae), *Goneplacoides marivenae*, *Singhaplax styrax* (Goneplacidae), *Ebalia sakaii*, *E. tuberculosa*, *Heteronucia perlata*, *H. toyoshioae*, *Oreotlos angulatus*, *O. lagarodes*, *Praebebalia dondonae*, *Toru granuloides* (Leucosiidae), *Huenia pacifica*, *Hyaste-*

*nus ambonensis*, *H. kyusyuensis*, *Naxioides taurus*, *Phalangipus hystrix*, *Xenocarcinus conicus* (Epialtidae), *Chalaroachaeus curvipes*, *Grypachaeus hyalinus*, *Pleistacantha simplex*, *Prosphorachaeus suluensis* (Inachidae), *Entomonyx spinosus*, *Prismatopus occidentalis*, *Schizophroidea hilensis* (Majidae), *Cavoportunus dubius*, *Lupocyclus quinquedentatus*, *Thalamita auauensis*, *Th. gatavakensis*, *Th. oculatea*, *Th. sexlobata*, *Th. spinifera* (Portunidae), and *Opecarcinus crescentus* (Cryptochiridae).

Of these 5 species are also newly added to the carcinological fauna of Japan: *Epigodromia rotunda* (Dromiidae), *Praebebalia dondonae* (Leucosiidae), *Hyastenus ambonensis* (Epialtidae), *Prismatopus occidentalis* (Majidae), and *Thalamita auauensis* (Portunidae).

The sampling sites which are rich in benthic crabs are the channel between Ani-jima Island and Nishi-jima Island (KY-09-28, KY-09-29 and KY-09-30), the submarine bank situated west of Futami Bay (KY-08-15 and KY-08-26) and the submarine bank situated northwest of Ototo-jima Island (KY-09-21) (Fig. 1). On the contrary, the bottoms deeper than 150 m are very poor in benthic crabs.

An annotated checklist of crabs from the Ogasawara Islands modified from Takeda and Miyake (1976) is provided (Appendix). A total of 250 species belonging to 41 families hitherto has been recorded from the islands, including unidentified or possibly misidentified species.

### Comparison with Takeda (1977)

Takeda (1977) recorded 21 species of crabs from the west side of Chichi-jima Island at the depths of 36–110 m, excluding pilumnoid and xanthoid crabs. Of these 7 species did not occur in this study: *Osachila expansa* (Aethridae), *Philyra syndactyla* (Leucosiidae), *Ocinopus neptunus* (Inachidae), *Aulacolambrus diacanthus* (Parthenopidae), *Libystes lepidus* (Portunidae), *Macrophthalmus (Macrophthalmus) telescopicus* (Macrophthalmidae), *Tetrias fischeri* (Pinnotheridae). These species habit on sandy bottom of shallow water except *O. neptunus*, but the present

survey focused on harder and deeper bottoms. Therefore these species did not occur in this study and in hence 59 species occurred in addition to Takeda (1977).

### Biogeography

The brachyuran crabs occurring at the sea around the Ogasawara Islands by the present study can be classified into three groups based on general distributional pattern: (1) species widely distributed in the West Pacific or Indo-West Pacific; (2) species endemic to East Asia; and (3) species known only from the Ogasawara Islands.

(1) West Pacific or Indo-West Pacific elements include 61 species (84% of the total 73 species). Most of the species occurred in this study were classified into this elements.

(2) East Asian endemic elements contain 8 species (11%): *Umalia orientalis* (Raninidae), *Henicoplax nitida* (Euryplacidae), *Ebalia hayamaensis*, *E. koyo* sp. nov., *E. sakaii*, *Heteronucia toyoshioae* (Leucosiidae), *Hyastenus kyusyuensis* (Epialtidae), *Leptomithrax bifidus* (Majidae). These species are thought to be drifted from the mainland of Japan by the Kuroshio counter current (Fig. 1).

(3) Species known only from the Ogasawara Islands include 4 species (5%): *Cryptodromia maculata* sp. nov. (Dromiidae), *Praebebalia tae-niata* (Leucosiidae), *Pugettia ogasawaraensis* sp. nov. (Epialtidae), *Achaeus boninensis* (Inachidae). To confirm that these species are really endemic to the Ogasawara Islands, faunal surveys of the neighbor area including the Ryukyu and the Mariana Islands are needed.

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## 小笠原諸島近海からドレッジにより採集されたカニ類

小松浩典

小笠原諸島近海からドレッジにより採集されたカニ類を報告する。採集されたカニ類は16科73種に分類された(ただしケブカガニ類およびオウギガニ類を除く)。コモンカイカムリ(新称) *Cryptodromia maculata* sp. nov. (カイカムリ科), コウヨウエバリア(新称) *Ebalia koyo* sp. nov. (コブシガニ科) およびオガサワラモガニ(新称) *Pugettia ogasawaraensis* sp. nov. (ツノガニ科) の3種を新種記載した。また, 42種のカニ類を新たに小笠原の甲殻類相に加え, そのうちの5種は日本新記録となる。記録された種について生物地理的な考察を加えた。

## Appendix. Check list of species of brachyuran crabs from the Ogasawara Islands.

## Section Podotremata Guinot, 1977

## Superfamily Dromioidea de Haan, 1838

## Family Dromiidae de Haan, 1838

*Cryptodromia coronata* Stimpson, 1858

Stimpson (1858, 1907)

*Cryptodromia maculata* sp. nov

this study

*Cryptodromia tumida* Stimpson, 1858

Ooishi (1970)

*Dromidiopsis lethrinusae* (Takeda and Kurata 1976)

Takeda and Kurata (1976a)

*Epigodromia rotunda* McLay, 1993

this study

*Homalodromia coppingeri* Miers, 1884

this study

*Lauridromia intermedia* (Laurie, 1906)

this study

*Takedromia yoshidai* (Takeda and Kurata, 1976)

Takeda and Kurata (1976b); this study

## Family Dynomenidae Ortmann, 1892

*Dynomene pilumnoides* Alcock, 1900

this study

*Dynomene praedator* A. Milne-Edwards, 1879

Sakai (1976)

## Superfamily Homoloidea de Haan, 1839

## Family Latreilliidae Stimpson, 1858

*Eplumula phalangium* (de Haan, 1839)

Takeda and Kurata (1984, megalopa)

## Superfamily Raninoidea de Haan, 1839

## Family Raninidae de Haan, 1839

*Notopoides latus* Henderson, 1888

Takeda and Kurata (1984); this study

*Notopus dorsipes* (Linnaeus, 1758)

this study

*Notosceles serratifrons* (Henderson, 1893)

this study

*Ranina ranina* (Linnaeus, 1758)

this study

*Umalia misakiensis* (Sakai, 1937)

this study

*Umalia orientalis* (Sakai, 1963)

Takeda (1977); this study

## Section Eubrachyura Saint Laurent, 1980

## Subsection Heterotremata Guinot, 1977

## Superfamily Aethroidea Dana, 1851

## Family Aethridae Dana, 1851

*Actaeomorpha erosa* Miers, 1877

Takeda and Kurata (1977b)

*Drachiella angulata* (Ihle, 1918)

Takeda and Tachikawa (1995)

*Drachiella caelata* Takeda and Tachikawa, 1995

Takeda and Tachikawa (1995)

*Osachila expansa* Takeda, 1977

Takeda (1977)

*Sakaila imperialis* (Sakai, 1963)

this study

## Superfamily Calappoidea de Haan, 1833

## Family Calappidae de Haan, 1833

*Calappa hepatica* (Linnaeus, 1758)

Yoshihara (1901); Takeda and Kurata (1977a); Takeda (1977)

## Family Matutidae de Haan, 1835

*Matuta banksii* Leach, 1817

Balss (1922)

*Matuta lunaris* (Forskål, 1775)Matsuura (1894, as *M. victrix*); Yoshihara (1901, as *M. victor*); Terazaki (1902, as *M. victor*)*Matuta planipes* Fabricius, 1798Stimpson (1858, 1907, as *M. lunaris*); Ooishi (1970)

## Superfamily Carpilioidea Ortmann, 1893

## Appendix. (cont.)

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|                                                           |                                                                                               |
|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Family Carpiliidae Ortmann, 1893                          |                                                                                               |
| <i>Carpilius convexus</i> (Forskål, 1775)                 | Shigei (1970)                                                                                 |
| <i>Carpilius maculatus</i> (Linnaeus, 1758)               | Sakai (1939)                                                                                  |
| Superfamily Dairoidea Serène, 1965                        |                                                                                               |
| Family Dairidae Serène, 1965                              |                                                                                               |
| <i>Daira perlata</i> (Herbst, 1790)                       | Yoshihara (1901, as <i>D. variolosa</i> ); Sakai (1939); Imajima (1970); Ooishi (1970)        |
| Superfamily Dorippoidea MacLeay, 1838                     |                                                                                               |
| Family Ethusidae Guinot, 1977                             |                                                                                               |
| <i>Ethusa quadrata</i> Sakai, 1937                        | this study                                                                                    |
| Superfamily Eriphioidea MacLeay, 1838                     |                                                                                               |
| Family Dairoididae Števíć, 2005                           |                                                                                               |
| <i>Dairoides kusei</i> (Sakai, 1938)                      | Takeda and Kurata (1976b); this study                                                         |
| Family Eriphiidae MacLeay, 1838                           |                                                                                               |
| <i>Eriphia scabricula</i> Dana, 1852                      | Ooishi (1970); Shigei (1970)                                                                  |
| <i>Epixanthus corrosus</i> A. Milne-Edwards, 1873         | Asakura <i>et al.</i> (1994b)                                                                 |
| Family Hypothalassiidae Karasawa and Schweitzer, 2006     |                                                                                               |
| <i>Hypothalassia armata</i> (de Haan, 1835)               | Takeda and Kurata (1976b)                                                                     |
| Family Oziidae Dana, 1851                                 |                                                                                               |
| <i>Epixanthus corrosus</i> A. Milne-Edwards, 1873         | Imajima (1970); Ooishi (1970)                                                                 |
| <i>Epixanthus frontalis</i> (H. Milne Edwards, 1834)      | Yoshihara (1901)                                                                              |
| <i>Lydia annulipes</i> (H. Milne Edwards, 1834)           | Ooishi (1970); Takeda and Kurata (1976b)                                                      |
| <i>Ozius rugulosus</i> Stimpson, 1858                     | Stimpson (1858, 1907); Balss (1922); Imajima (1970); Ooishi (1970); Takeda and Kurata (1977a) |
| Superfamily Goneplacoidea MacLeay, 1838                   |                                                                                               |
| Family Euryplacidae Stimpson, 1871                        |                                                                                               |
| <i>Heteroplax nitida</i> Miers, 1879                      | Takeda (1977); this study                                                                     |
| <i>Platyozius laevis</i> (Borrardille, 1902)              | Castro and Ng (2010); this study                                                              |
| Family Goneplacidae MacLeay, 1838                         |                                                                                               |
| <i>Carcinoplax eburnea</i> Stimpson, 1858                 | Stimpson (1858, 1907) (= ? <i>Libystes nitidus</i> , see Serène and Lohavanijaya (1972: 62))  |
| <i>Goneplacoides marivenae</i> (Komatsu and Takeda, 2003) | this study                                                                                    |
| <i>Singhaplax styrax</i> Castro, 2007                     | this study                                                                                    |
| Superfamily Leucosioidea Samouelle, 1819                  |                                                                                               |
| Family Leucosiidae Samouelle, 1819                        |                                                                                               |
| <i>Ebalia hayamaensis</i> Sakai, 1963                     | Takeda (1977); this study                                                                     |
| <i>Ebalia humilis</i> Takeda, 1977                        | Takeda (1977); Takeda and Kurata (1977b, as <i>Praebebalia taeniata</i> ; 1984); this study   |
| <i>Ebalia koyo</i> sp. nov.                               | this study                                                                                    |
| <i>Ebalia sakaii</i> Takeda and Miyake, 1972              | this study                                                                                    |
| <i>Ebalia tuberculosa</i> (A. Milne-Edwards, 1873)        | this study                                                                                    |

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## Appendix. (cont.)

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|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <i>Heteronucia perlata</i> (Sakai, 1963)               | this study                                                                                                        |
| <i>Heteronucia toyoshioae</i> Komatsu and Takeda, 2005 | this study                                                                                                        |
| <i>Leucosia anatum</i> (Herbst, 1783)                  | Takeda and Kurata (1977a); Takeda (1977)                                                                          |
| <i>Leucosia</i> sp.                                    | Takeda and Kurata (1984)                                                                                          |
| <i>Nucia speciosa</i> Dana, 1852                       | Takeda and Kurata (1976b)                                                                                         |
| <i>Oreotlos angulatus</i> (Rathbun, 1906)              | this study                                                                                                        |
| <i>Oreotlos heuretos</i> Tan and Ng, 1995              | Takeda (1977, as <i>Oreophorus</i> ( <i>Oreotlos</i> ) <i>latus</i> ); this study                                 |
| <i>Oreotlos lagarodes</i> Tan and Ng, 1995             | this study                                                                                                        |
| <i>Philyra syndactyla</i> Ortmann, 1892                | Takeda (1977)                                                                                                     |
| <i>Praebebalia dondonae</i> Chen, 1989                 | this study                                                                                                        |
| <i>Praebebalia taeniata</i> Takeda, 1977               | Takeda (1977); Takeda and Kurata (1984); this study                                                               |
| <i>Toru granuloides</i> (Sakai, 1961)                  | this study                                                                                                        |
| <i>Urnalana insularis</i> Takeda and Kurata, 1976      | Takeda and Kurata (1976b)                                                                                         |
|                                                        |                                                                                                                   |
| Superfamily Majoidea Samouelle, 1819                   |                                                                                                                   |
| Family Hymenosomatidae MacLeay, 1838                   |                                                                                                                   |
| <i>Elamena truncata</i> (Stimpson, 1858)               | Terazaki (1902, as <i>Halicarcinus</i> sp.)                                                                       |
|                                                        |                                                                                                                   |
| Family Epialtidae MacLeay, 1838                        |                                                                                                                   |
| <i>Hoplophrys oatesi</i> Henderson, 1893               | Ooishi (1970, as <i>H. ogilbryi</i> MacCulloch, 1908); this study                                                 |
| <i>Huenia heraldica</i> (de Haan, 1837)                | Takeda and Kurata (1976a, as <i>H. proteus</i> )                                                                  |
| <i>Huenia pacifica</i> Miers, 1879                     | this study                                                                                                        |
| <i>Hyastenus ambonensis</i> Griffin and Tranter, 1986  | this study                                                                                                        |
| <i>Hyastenus diacanthus</i> (de Haan, 1839)            | Terazaki (1902)                                                                                                   |
| <i>Hyastenus kysuyuensis</i> (Yokoya, 1933)            | this study                                                                                                        |
| <i>Lahaina ovata</i> Dana, 1951                        | Takeda (1977, as <i>Hyastenus tenuicornis</i> ); Takeda and Kurata (1977b, as <i>H. tenuicornis</i> ); this study |
| <i>Menaethius monoceros</i> (Latreille, 1825)          | Takeda and Kurata (1976a, 1977a, b); Takeda (1977); this study                                                    |
| <i>Micippoides angustifrons</i> A. Milne-Edwards, 1873 | Sakai (1955); Ooishi (1970); Takeda and Kurata (1977a)                                                            |
| <i>Naxioides robillardi</i> (Miers, 1882)              | Takeda and Kurata (1976b, as <i>N. mammillata</i> )                                                               |
| <i>Naxioides taurus</i> (Pocock, 1890)                 | Takeda and Kurata (1976a, as <i>N. mammillata</i> ); this study                                                   |
| <i>Perinia tumida</i> Dana, 1851                       | Imajima (1970, as <i>Perinea tumida</i> )                                                                         |
| <i>Phalangipus hystrix</i> (Miers, 1886)               | this study                                                                                                        |
| <i>Pugettia ogasawaraensis</i> sp. nov.                | this study                                                                                                        |
| <i>Thusaenys cornigerus</i> (Sakai, 1938)              | Takeda and Kurata (1976b)                                                                                         |
| <i>Tylocarcinus styx</i> (Herbst, 1803)                | Ooishi (1970)                                                                                                     |
| <i>Xenocarcinus conicus</i> (A. Milne-Edwards, 1865)   | this study                                                                                                        |
| <i>Xenocarcinus tuberculatus</i> White, 1847           | Takeda (1973); this study                                                                                         |
|                                                        |                                                                                                                   |
| Family Inachidae MacLeay, 1838                         |                                                                                                                   |
| <i>Achaeus boninensis</i> Miyake and Takeda, 1969      | Miyake and Takeda (1969); Takeda and Kurata (1976a); this study                                                   |
| <i>Achaeus</i> cf. <i>brevidactylus</i> Sakai, 1938    | this study                                                                                                        |
| <i>Achaeus brevifalcatus</i> Rathbun, 1911             | Miyake and Takeda (1969); this study                                                                              |
| <i>Achaeus curvirostris</i> (A. Milne-Edwards, 1873)   | Takeda (1977, as <i>A. fissifrons</i> ); this study                                                               |
| <i>Achaeus</i> sp.                                     | Takeda and Kurata (1977b)                                                                                         |
| <i>Camposcia retusa</i> Latreille, 1829                | Yoshihara (1901); Terazaki (1902)                                                                                 |
| <i>Chalaroachaeus curvipes</i> de Man, 1902            | this study                                                                                                        |
| <i>Cyrtomaia lamellata</i> Rathbun, 1906               | Takeda and Kurata (1976b, as <i>C. platypes</i> ); this study                                                     |

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## Appendix. (cont.)

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|                                                           |                                                                     |
|-----------------------------------------------------------|---------------------------------------------------------------------|
| <i>Grypachaeus hyalinus</i> (Alcock and Anderson, 1894)   | this study                                                          |
| <i>Oncinopus angustifrons</i> Takeda and Miyake, 1969     | Takeda and Miyake (1969b); Takeda (1973); Takeda and Kurata (1976a) |
| <i>Oncinopus neptunus</i> Adams and White, 1848           | Takeda (1977)                                                       |
| <i>Paratymolus bituberculatus</i> Haswell, 1880           | Takeda (1977); this study                                           |
| <i>Pleistacantha simplex</i> Rathbun, 1932                | this study                                                          |
| <i>Prosporphachaeus suluensis</i> Rathbun, 1916           | this study                                                          |
| <i>Sunipea indicus</i> (Alcock, 1895)                     | Takeda (1977); this study                                           |
| Family Majidae Samouelle, 1819                            |                                                                     |
| <i>Cyclax suborbicularis</i> (Stimpson, 1858)             | Ooishi (1970)                                                       |
| <i>Entomonyx spinosus</i> Miers, 1884                     | this study                                                          |
| <i>Leptomithrax bifidus</i> (Ortmann, 1893)               | Takeda and Kurata (1976b); this study                               |
| <i>Micippa parca</i> Alcock, 1895                         | Takeda (1977); this study                                           |
| <i>Micippa philyra</i> (Herbst, 1803)                     | Terazaki (1903)                                                     |
| <i>Maja</i> sp.                                           | Takeda and Kurata (1976a)                                           |
| <i>Prismatopus occidentalis</i> (Griffin, 1970)           | this study                                                          |
| <i>Schizophroidea hilensis</i> (Rathbun, 1906)            | this study                                                          |
| <i>Schizophroidea simodaensis</i> Sakai, 1933             | Takeda (1977)                                                       |
| <i>Schizophrys aspera</i> (H. Milne Edwards, 1834)        | Imajima (1970); Takeda and Kurata (1976a)                           |
| <i>Seiitaoides orientalis</i> (Sakai, 1961)               | Takeda (1977); this study                                           |
| <i>Tiarinia spinigera</i> Stimpson, 1857                  | Takeda and Kurata (1977a, b)                                        |
| Superfamily Palicoidea Bouvier, 1898                      |                                                                     |
| Family Palicidae Bouvier, 1898                            |                                                                     |
| <i>Neopalicus jukesii</i> (White, 1847)                   | Castro (2000); this study                                           |
| <i>Pseudopalicus serripes</i> (Alcock and Anderson, 1895) | Takeda and Kurata (1976a, as <i>Ps. aff. serripes</i> ); this study |
| Superfamily Parthenopoidea MacLeay, 1838                  |                                                                     |
| Family Parthenopidae MacLeay, 1838                        |                                                                     |
| <i>Aulacolambrus diacanthus</i> (de Haan, 1839)           | Takeda (1977); Takeda and Kurata (1977b)                            |
| <i>Daldorfia horrida</i> (Linnaeus, 1758)                 | Matsuura (1894); Terazaki (1904)                                    |
| <i>Furtipodia pertosa</i> (Klunzinger, 1906)              | Komatsu and Takeda (2009)                                           |
| <i>Pseudolambrus beaumontii</i> Alcock, 1895              | Takeda and Kurata (1976a, as <i>?Ps. beaumontii</i> ); this study   |
| <i>Pseudolambrus?</i> sp.                                 | Takeda and Kurata (1976a)                                           |
| Superfamily Pilumnoidea Samouelle, 1819                   |                                                                     |
| Family Pilumnidae Samouelle, 1819                         |                                                                     |
| <i>Actumnus forficigerus</i> (Stimpson, 1858)             | Takeda and Miyake (1969a)                                           |
| <i>Actumnus intermedius</i> Balss, 1922                   | Takeda (1977)                                                       |
| <i>Actumnus setosiareolatus</i> Takeda, 1977              | Takeda (1977)                                                       |
| <i>Caecopilumnus crassipes</i> (Tesch, 1918)              | Sakai, 1955                                                         |
| <i>Echinoecus pentagonus</i> (A. Milne-Edwards, 1879)     | Rathbun (1894); Miyake (1939, as <i>E. rathbunae</i> nom. nov.)     |
| <i>Gonatonotus granulosus</i> (MacGilchrist, 1905)        | Ooishi (1970)                                                       |
| <i>Gorgonariana sodalis</i> (Alcock, 1898)                | Odhner (1925)                                                       |
| <i>Lophoplax sextuberculata</i> Takeda and Kurata, 1984   | Takeda and Kurata (1984)                                            |
| <i>Mertonia lanka</i> Laurie, 1906                        | Takeda (1977)                                                       |
| <i>Pilumnus ikedai</i> Takeda and Miyake, 1968            | Takeda and Miyake (1968a)                                           |
| <i>Pilumnus longicornis</i> Hilgendorf, 1878              | Imajima (1970)                                                      |

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## Appendix. (cont.)

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|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <i>Pilumnus minutus</i> de Haan, 1835                                                         | Stimpson (1858, 1907, as <i>P. hirsutus</i> sp. nov.)               |
| <i>Planopilumnus pygmaeus</i> Takeda, 1977                                                    | Takeda (1977)                                                       |
| <i>Pseudolitochira integra</i> (Miers, 1884)                                                  | Sakai (1955)                                                        |
| <i>Zehntneriana novaeinsulicola</i> (Takeda and Kurata, 1977)                                 | Takeda and Kurata (1977a)                                           |
| Superfamily Portunoidea Rafinesque, 1815                                                      |                                                                     |
| Family Portunidae Rafinesque, 1815                                                            |                                                                     |
| <i>Cavoportunus dubius</i> (Laurie, 1906)                                                     | Nguyen and Ng (2010); this study                                    |
| <i>Coelocarcinus foliatus</i> Edmondson, 1930                                                 | Takeda and Kurata (1977b)                                           |
| <i>Libystes lepidus</i> Miyake and Takeda, 1970                                               | Miyake and Takeda (1970)                                            |
| <i>Libystes villosus</i> Rathbun, 1924                                                        | Takeda (1977)                                                       |
| <i>Lissocarcinus orbicularis</i> Dana, 1852                                                   | Imajima (1970); Ooishi (1970)                                       |
| <i>Lupocyclus quinquedentatus</i> Rathbun, 1906                                               | this study                                                          |
| <i>Portunus</i> ( <i>Achelous</i> ) cf. <i>granulatus granulatus</i> (H. Milne Edwards, 1834) | Takeda and Kurata (1977a)                                           |
| <i>Portunus</i> ( <i>Monomia</i> ) <i>gradiator</i> Fabricius, 1798                           | Takeda (1977, as <i>P. (M.) haanii</i> ); this study                |
| <i>Portunus</i> ( <i>Xiphonectes</i> ) <i>gracillimus</i> (Stimpson, 1858)                    | Stimpson (1858, 1907); ?Takeda and Kurata (1976a)                   |
| <i>Portunus</i> ( <i>Xiphonectes</i> ) <i>macrophthalmus</i> Rathbun, 1906                    | Takeda (1977); this study                                           |
| <i>Portunus</i> ( <i>Xiphonectes</i> ) <i>tenuipes</i> (de Haan, 1835)                        | Takeda (1977); this study                                           |
| <i>Portunus</i> sp.                                                                           | Takeda and Kurata (1977a); Takeda (1977)                            |
| <i>Scylla serrata</i> (Forskål, 1775)                                                         | Yoshihara (1901)                                                    |
| <i>Thalamita admete</i> (Herbst, 1803)                                                        | Sakai (1976)                                                        |
| <i>Thalamita</i> aff. <i>admete</i> (Herbst, 1803)                                            | Takeda and Kurata (1977a)                                           |
| <i>Thalamita auauensis</i> Rathbun, 1906                                                      | this study                                                          |
| <i>Thalamita gatavakensis</i> Nobili, 1906                                                    | this study                                                          |
| <i>Thalamita</i> aff. <i>exetastica</i> Alcock, 1899                                          | Takeda and Kurata (1976a)                                           |
| <i>Thalamita integra integra</i> Dana, 1852                                                   | Stimpson (1858, 1907); Ooishi (1970); this study                    |
| <i>Thalamita oculaea</i> Alcock, 1899                                                         | this study                                                          |
| <i>Thalamita sexlobata</i> Miers, 1886                                                        | this study                                                          |
| <i>Thalamita sima</i> H. Milne Edwards, 1834                                                  | Terazaki (1904); Takeda and Kurata (1976a)                          |
| <i>Thalamita spinifera</i> Borradaile, 1902                                                   | this study                                                          |
| <i>Thalamita</i> sp.                                                                          | Takeda and Kurata (1977b)                                           |
| Superfamily Pseudozioidea Alcock, 1898                                                        |                                                                     |
| Family Pseudoziidae Alcock, 1898                                                              |                                                                     |
| <i>Pseudozius caystrus</i> (Adams and White, 1849)                                            | Stimpson (1858, 1907, as <i>P. microphthalmus</i> ); Ooishi (1970)  |
| <i>Pseudozius inornatus</i> Dana, 1852                                                        | Ooishi (1970)                                                       |
| Superfamily Trapezioidea Miers, 1886                                                          |                                                                     |
| Family Domeciidae Ortmann, 1893                                                               |                                                                     |
| <i>Domecia hispida</i> Eydoux and Souleyet, 1842                                              | Ooishi (1970)                                                       |
| Family Tetraliidae Castro, Ng and Ahyong, 2004                                                |                                                                     |
| <i>Tetralia glaberrima</i> (Herbst, 1799)                                                     | Stimpson (1858, 1907); Ooishi (1970)                                |
| <i>Tetraloides heterodactylus</i> (Heller, 1861)                                              | Imajima (1970) [ <i>Tetralia</i> ]                                  |
| Family Trapeziidae Miers, 1886                                                                |                                                                     |
| <i>Trapezia cymodoce</i> (Herbst, 1801)                                                       | Imajima (1970); Ooishi (1970); Shigei (1970, as <i>T. dentata</i> ) |
| <i>Trapezia tigrina</i> Eydoux and Souleyet, 1842                                             | Ooishi (1970, as <i>T. danae</i> )                                  |

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## Appendix. (cont.)

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|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Trapezia digitalis</i> Latreille, 1828                     | Imajima (1970); Ooishi (1970); Shigei (1970)                                                                                                          |
| <i>Trapezia flavopunctata</i> Eydoux and Souleyet, 1842       | Imajima (1970); Ooishi (1970); Shigei (1970); Takeda and Kurata (1977a, b)                                                                            |
| <i>Trapezia rufopunctata</i> (Herbst, 1799)                   | Shigei (1970, as <i>T. maculata</i> )                                                                                                                 |
| <i>Trapezia septata</i> Dana, 1852                            | Ooishi (1970, as <i>T. areolata</i> ); Takeda and Miyake (1976, as <i>T. reticulata</i> )                                                             |
|                                                               |                                                                                                                                                       |
| Superfamily Xanthoidea MacLeay, 1838                          |                                                                                                                                                       |
| Family Xanthidae MacLeay, 1838                                |                                                                                                                                                       |
| <i>Actaea perspinosa</i> Borradaile, 1902                     | Odhner (1925)                                                                                                                                         |
| <i>Actaeodes consobrinus</i> (A. Milne-Edwards, 1873)         | Odhner (1925); Imajima (1970); Ooishi (1970)                                                                                                          |
| <i>Actaeodes hirsutissimus</i> (Rüppell, 1830)                | Odhner (1925); Takeda and Kurata (1976a)                                                                                                              |
| <i>Actiomera boninensis</i> (Odhner, 1925)                    | Odhner (1925)                                                                                                                                         |
| <i>Chlorodiella cytherea</i> (Dana, 1852)                     | Ooishi (1970, as <i>C. laevissima</i> ); Takeda and Kurata (1977a, b)                                                                                 |
| <i>Chlorodiella nigra</i> (Forskål, 1775)                     | Stimpson (1858, 1907); Imajima (1970)                                                                                                                 |
| <i>Cyclodius obscurus</i> (Hombron and Jacquinot, 1846)       | Stimpson (1858, 1907, as <i>Chlorodius monticulosus</i> ); Imajima (1970, as <i>Phymodius monticulosus</i> )                                          |
| <i>Cymo andreossyi</i> (Audouin, 1826)                        | Stimpson (1858, 1907); Ooishi (1970)                                                                                                                  |
| <i>Cymo melanodactylus</i> Dana, 1852                         | Stimpson (1858, 1907); Ooishi (1970)                                                                                                                  |
| <i>Danielea noelensis</i> (Ward, 1934)                        | Takeda (1977)                                                                                                                                         |
| <i>Epiactaea nodulosa</i> (White, 1848)                       | Ooishi (1970); Takeda and Kurata (1976a, b, 1984); Takeda (1977)                                                                                      |
| <i>Etisus electra</i> (Herbst, 1801)                          | Imajima (1970); Takeda and Kurata (1976a, 1977a, 1984)                                                                                                |
| <i>Forestia depressa</i> (White, 1848)                        | Odhner (1925)                                                                                                                                         |
| <i>Gaillardiellus rueppelli</i> (Krauss, 1843)                | Odhner (1925); Imajima (1970)                                                                                                                         |
| <i>Glyptocarcinus lophopus</i> Takeda, 1973                   | Takeda (1973)                                                                                                                                         |
| <i>Hypocolpus haanii</i> (Rathbun, 1909)                      | Takeda and Kurata (1976a, as <i>H. granulatus</i> (de Haan, 1837))                                                                                    |
| <i>Leptodius davaoensis</i> Ward, 1941                        | Imajima (1970, as <i>L. leptodon</i> ); Asakura <i>et al.</i> (1994b)                                                                                 |
| <i>Leptodius exaratus</i> (H. Milne Edwards, 1834)            | Stimpson (1858, 1907, as <i>Chlorodius exaratus</i> var. <i>rugosus</i> and <i>C. cupulifer</i> var. <i>nov.</i> ); Yoshihara (1901); Terazaki (1904) |
| <i>Leptodius gracilis</i> (Dana, 1852)                        | Terazaki (1904, as <i>Xantho exaratus</i> var. <i>lividus</i> ); Ooishi (1970)                                                                        |
| <i>Leptodius sanguineus</i> (H. Milne Edwards, 1834)          | Balss (1922); Shigei (1970); Ooishi (1970)                                                                                                            |
| <i>Liomera bella</i> (Dana, 1852)                             | Stimpson (1858, 1907); Odhner (1925); Imajima (1970); Ooishi (1970)                                                                                   |
| <i>Liomera caelata</i> (Odhner, 1925)                         | Odhner (1925); Takeda (1977)                                                                                                                          |
| <i>Liomera monticulosa</i> (A. Milne-Edwards, 1873)           | Odhner (1925)                                                                                                                                         |
| <i>Liomera rubra</i> (A. Milne-Edwards, 1865)                 | Odhner (1925)                                                                                                                                         |
| <i>Liomera striolata</i> (Odhner, 1925)                       | Odhner (1925)                                                                                                                                         |
| <i>Liomera venosa</i> (H. Milne Edwards, 1834)                | Terazaki (1904, as <i>Xantho obtusus</i> )                                                                                                            |
| <i>Lybia tessellata</i> (Latreille, 1812)                     | Ooishi (1970); Takeda and Kurata (1984)                                                                                                               |
| <i>Macromedaeus distinguendus</i> (de Haan, 1835)             | Matsuura (1894); Terazaki (1904); Ooishi (1970)                                                                                                       |
| <i>Nanocassiope tridentata</i> Davie, 1995                    | Takeda and Kurata (1977b, 1984, as ? <i>N. granulipes</i> )                                                                                           |
| <i>Neoliomera insularis</i> (Adams and White, 1849)           | Odhner (1925)                                                                                                                                         |
| <i>Neoliomera striata</i> Buitendijk, 1941                    | Takeda and Kurata (1984)                                                                                                                              |
| <i>Palapedia integra</i> (de Haan, 1835)                      | Takeda (1977)                                                                                                                                         |
| <i>Paractaeopsis quadriareolata</i> (Takeda and Miyake, 1968) | Takeda and Kurata (1977a, b)                                                                                                                          |
| <i>Paramedaeus simplex</i> (A. Milne-Edwards, 1873)           | Takeda and Kurata (1976a, 1977b, 1984)                                                                                                                |

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## Appendix. (cont.)

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| <i>Paraxanthias notatus</i> (Dana, 1852)              | Imajima (1970); Ooishi (1970)                                                                                                                                                                     |
| <i>Pilodius areolatus</i> (H. Milne Edwards, 1834)    | Ooishi (1970)                                                                                                                                                                                     |
| <i>Pilodius paumotensis</i> Rathbun, 1907             | Imajima (1970)                                                                                                                                                                                    |
| <i>Pilodius</i> sp.                                   | Takeda and Kurata (1977b)                                                                                                                                                                         |
| <i>Platypodia semigranosa</i> (Heller, 1861)          | Ooishi (1970)                                                                                                                                                                                     |
| <i>Platypodia</i> sp.                                 | Takeda and Kurata (1977a)                                                                                                                                                                         |
| <i>Psaumis cavipes</i> (Dana, 1852)                   | Odhner (1925)                                                                                                                                                                                     |
| <i>Pseudoliomera helleri</i> (A. Milne-Edwards, 1865) | Odhner (1925); Ooishi (1970); Takeda and Kurata (1976a, 1977b, 1984)                                                                                                                              |
| <i>Pseudoliomera lata</i> (Borradaile, 1902)          | Odhner (1925); Takeda and Kurata (1977b)                                                                                                                                                          |
| <i>Pseudoliomera paraspeciosa</i> (Ward, 1941)        | Ooishi (1970)                                                                                                                                                                                     |
| <i>Pseudoliomera speciosa</i> (Dana, 1852)            | Yoshihara (1901)                                                                                                                                                                                  |
| <i>Xanthias cherbonnieri</i> Guinot, 1964             | Takeda (1977)                                                                                                                                                                                     |
| <i>Xanthias gilbertensis</i> Balss, 1938              | Takeda and Kurata (1984)                                                                                                                                                                          |
| <i>Xanthias lamarckii</i> (H. Milne Edwards, 1834)    | Sakai (1939); Shigei (1970); Ooishi (1970); Asakura <i>et al.</i> (1994b)                                                                                                                         |
| <i>Zosimus aeneus</i> (Linnaeus, 1758)                | Yoshihara (1901); Balss (1922); Imajima (1970); Shigei (1970)                                                                                                                                     |
| <i>Zozymodes cavipes</i> (Dana, 1852)                 | Stimpson (1858, 1907); Sakai (1939); Ooishi (1970)                                                                                                                                                |
| Subsection Thoracotremata Guinot, 1977                |                                                                                                                                                                                                   |
| Superfamily Cryptochiroidea Paul'son, 1875            |                                                                                                                                                                                                   |
| Family Cryptochiridae Paul'son, 1875                  |                                                                                                                                                                                                   |
| <i>Cryptochirus coralliodytes</i> Heller, 1861        | Takeda and Tamura (1980); Takeda and Tamura (1981, as <i>Favicola rugosa</i> )                                                                                                                    |
| <i>Dacryomaia japonica</i> (Takeda and Tamura, 1981)  | Takeda and Tamura (1981)                                                                                                                                                                          |
| <i>Lithoscaptus tri</i> (Fize and Serène, 1956)       | Takeda and Tamura (1980)                                                                                                                                                                          |
| <i>Opecarcinus crescentus</i> (Edmondson, 1925)       | this study                                                                                                                                                                                        |
| Superfamily Grapsidae MacLeay, 1838                   |                                                                                                                                                                                                   |
| Family Gecarcinidae MacLeay, 1838                     |                                                                                                                                                                                                   |
| <i>Discoplax hirtipes</i> (Dana, 1852)                | Imajima (1970); Türkay (1974)                                                                                                                                                                     |
| <i>Epigrapsus notatus</i> (Heller, 1865)              | Türkay (1974)                                                                                                                                                                                     |
| Family Grapsidae MacLeay, 1838                        |                                                                                                                                                                                                   |
| <i>Geograpsus grayi</i> (H. Milne Edwards, 1853)      | Stimpson (1858, 1907, as <i>G. rubidus</i> sp. nov.); Balss (1922); Shigei (1970)                                                                                                                 |
| <i>Geograpsus stormi</i> de Man, 1895                 | Ooishi (1970)                                                                                                                                                                                     |
| <i>Grapsus longitarsis</i> Dana, 1851                 | Ooishi (1970)                                                                                                                                                                                     |
| <i>Grapsus tenuicrustatus</i> (Herbst, 1783)          | Stimpson (1858, 1907, as <i>G. rudis</i> ); Yoshihara (1901, as <i>G. grapsus</i> ); Balss (1922, as <i>G. grapsus</i> ); Shigei (1970); Imajima (1970); Ooishi (1970); Takeda and Kurata (1977a) |
| <i>Metopograpsus messor</i> (Forskål, 1775)           | Imajima (1970); Ooishi (1970); Asakura <i>et al.</i> (1994b)                                                                                                                                      |
| <i>Metopograpsus thukuhar</i> (Owen, 1839)            | Stimpson (1858, 1907); Sakai (1939)                                                                                                                                                               |
| <i>Pachygrapsus minutus</i> A. Milne-Edwards, 1873    | Ooishi (1970)                                                                                                                                                                                     |
| <i>Pachygrapsus plicatus</i> (H. Milne Edwards, 1837) | Sakai (1939); Imajima (1970); Ooishi (1970)                                                                                                                                                       |
| <i>Planes major</i> (MacLeay, 1838)                   | Takeda (1973, as <i>P. cyaneus</i> )                                                                                                                                                              |
| <i>Planes marinus</i> Rathbun, 1914                   | Takeda and Kurata (1977a)                                                                                                                                                                         |
| Family Percnidae Števcíć, 2005                        |                                                                                                                                                                                                   |
| <i>Percnon abbreviatum</i> (Dana, 1851)               | Imajima (1970); Ooishi (1970)                                                                                                                                                                     |

## Appendix. (cont.)

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| <i>Percnon planissimum</i> (Herbst, 1804)                        | Stimpson (1858, 1907); Ooishi (1970)                                                                                                                             |
| Family Plagusiidae Dana, 1851                                    |                                                                                                                                                                  |
| <i>Plagusia squamosa</i> (Herbst, 1790)                          | Parisi (1918, as <i>P. tuberculata</i> ); Balss (1922, as <i>P. minutus</i> ); Sakai (1939, as <i>P. tuberculata</i> ); Ooishi (1970, as <i>P. tuberculata</i> ) |
| Family Sesarmidae Dana, 1851                                     |                                                                                                                                                                  |
| <i>Chiromantes dehaani</i> (H. Milne Edwards, 1853)              | Yoshihara (1901); Parisi (1918); Imajima (1970); Ooishi (1970); Shigei (1970), Asakura <i>et al.</i> (1994b)                                                     |
| Family Varunidae H. Milne Edwards, 1853                          |                                                                                                                                                                  |
| <i>Cyclograpsus longipes</i> Stimpson, 1858                      | Stimpson (1858, 1907); Takeda and Kurata (1977a)                                                                                                                 |
| <i>Eriocheir ogasawaraensis</i> Komai, 2006                      | Miyake (1970, as <i>E. japonicus</i> ); Kobayashi (2005, as <i>Eriocheir</i> sp.); Komai <i>et al.</i> (2006)                                                    |
| <i>Gaetice depressus</i> (de Haan, 1835)                         | Stimpson (1858, 1907); Balss (1922); Ooishi (1970); Asakura <i>et al.</i> (1994b)                                                                                |
| <i>Pseudohelice subquadrata</i> (Dana, 1851)                     | Parisi (1918, as <i>Helich leachii</i> ); Sakai (1939, as <i>H. leachii</i> )                                                                                    |
| <i>Ptychognathus glaber</i> Stimpson, 1858                       | Stimpson (1858, 1907); Sakai (1939); Ooishi (1970)                                                                                                               |
| Family Xenograpsidae Ng, Davie and Ng, 2007                      |                                                                                                                                                                  |
| <i>Xenograpsus novaesularis</i> Takeda and Kurata, 1977          | Takeda and Kurata (1977a)                                                                                                                                        |
| Superfamily Ocypodoidea Rafinesque, 1815                         |                                                                                                                                                                  |
| Family Macrophthalmidae Dana, 1851                               |                                                                                                                                                                  |
| <i>Macrophthalmus (Macrophthalmus) telescopicus</i> (Owen, 1839) | Takeda (1977)                                                                                                                                                    |
| Family Ocypodidae Rafinesque, 1815                               |                                                                                                                                                                  |
| <i>Ocypode ceratophthalmus</i> (Pallas, 1772)                    | Stimpson (1858, 1907); Matsuura (1894); Balss (1922); Parisi (1918)                                                                                              |
| <i>Ocypode cordimanus</i> Latreille, 1818                        | Yoshihara (1901); Balss (1922); Sakai (1939); Ooishi (1970); Shigei (1970)                                                                                       |
| <i>Ocypode stimpsoni</i> Ortmann, 1897                           | Shigei (1970)                                                                                                                                                    |
| <i>Uca (Paraleptuca) annulipes</i> (H. Milne Edwards, 1837)      | Balss (1922)                                                                                                                                                     |
| <i>Uca (Paraleptuca) crassipes</i> (White, 1847)                 | Parisi (1918, as <i>U. pulchella</i> ); Sakai (1939); Imajima (1970); Shigei (1970); Ooishi (1970) (as <i>U. gaimardi</i> )                                      |
| <i>Uca (Paraleptuca) lactea</i> (de Haan, 1835)                  | Yoshihara (1901); Parisi (1918)                                                                                                                                  |
| Superfamily Pinnotheroidea de Haan, 1833                         |                                                                                                                                                                  |
| Family Pinnotheridae de Haan, 1833                               |                                                                                                                                                                  |
| <i>Pinnotheres boninensis</i> Stimpson, 1858                     | Stimpson (1858, 1907); Suzuki (1972)                                                                                                                             |
| <i>Tetrias fischeri</i> (A. Milne-Edwards, 1867)                 | Takeda (1977)                                                                                                                                                    |

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