

## New Record of the Intertidal Hermit Crab, *Calcinus guamensis* Wooster, 1982 from Japan, with Comments on Japanese *Calcinus*

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**Abstract** *Calcinus guamensis* Wooster is newly recorded from Japan (Chichijima Island, Bonin Islands), illustrated and redescribed. Taxonomic discussion is made in comparison with other species of *Calcinus* from Japan.

**Key words** : *Calcinus*, Ogasawaras, rocky shore, ocular acicle.

A female specimen of *Calcinus guamensis* Wooster, 1982 was collected from Chichijima, Ogasawara (Bonin) Islands, during the course of a study on the taxonomy and ecology of *Calcinus*, in which I examined 1390 specimens of *Calcinus* species from Japanese waters.

### *Calcinus guamensis* Wooster, 1982

*Calcinus guamensis* Wooster, Micronesica 18: 141.

Specimen examined. CBM-ZC-856, 23 May 1990. 2.86 mm in shield length, 1 female (non ovigerous) from lower intertidal zone of the rocky shore of Tsuru-hama on Anijima-seto along the northern coast of Chichijima Island.

### Redescription

Shield longer than broad; anterior margin between rostrum and lateral projection shallowly concave; dorsal surface smooth with distinct Y-shaped groove on half posterior portion; lateral margin with few fine setae. Rostrum acute, obtusely triangular. Ocular acicles short, with 3 small spines on each distal margin. Antennal flagella rather short, never reaching as far as distal end of carpi of the second pereopods.

Left cheliped larger than right one. Dactyl approximately as long as fixed finger and slightly shorter than palm; cutting edge with 2 calcareous teeth proximally and with tufts of long setae; upper face with row of spines and tufts of setae; outer face weakly granulate. Fixed finger with cutting edge with 3 large calcareous teeth proximally; outer lower surface with tuft of setae.

Palm long, approximately 1.5 times the length of carpus; outer surface weakly granulate; upper face with row of spines and tufts of short setae; lower faces finely granulate and with tufts of setae. Carpus broad, subtriangular; outer surface granulate with prominent tubercle on the central part; outer, upper and lower distal margins with rows of granules; upper face with row of granules, most distal one developed into spine and with row of tufts of setae. Merus compressed, outer surface flat; distal outer lower margin with small spine; distal upper and outer upper margins unarmed.

Right cheliped reaching proximal end of dactyl of left cheliped. Dactyl approximately as long as fixed finger and slightly shorter than palm; cutting edge with 2 calcareous teeth proximally and with tufts of long setae; upper face with row of strong spines and tufts of long setae; outer surface with row of spines and tufts of setae. Fixed finger with cutting edge with 2 calcareous teeth proximally; outer surface with tufts of setae distally. Palm long, approximately 1.6 times the length of carpus; outer surface weakly granulate and with row of spines on its upper part; upper face produced into crest with row of strong spines and tufts of long setae; lower face nearly smooth and with tufts of setae. Carpus broad, compressed; outer surface granulate with tubercle placed on the central part; outer and lower distal margins granulate; upper face granulate with strong spine on distal margin and with small spine on the central part. Merus compressed, outer surface flat; outer lower margin with small spine distally; distal upper and outer margins unarmed.

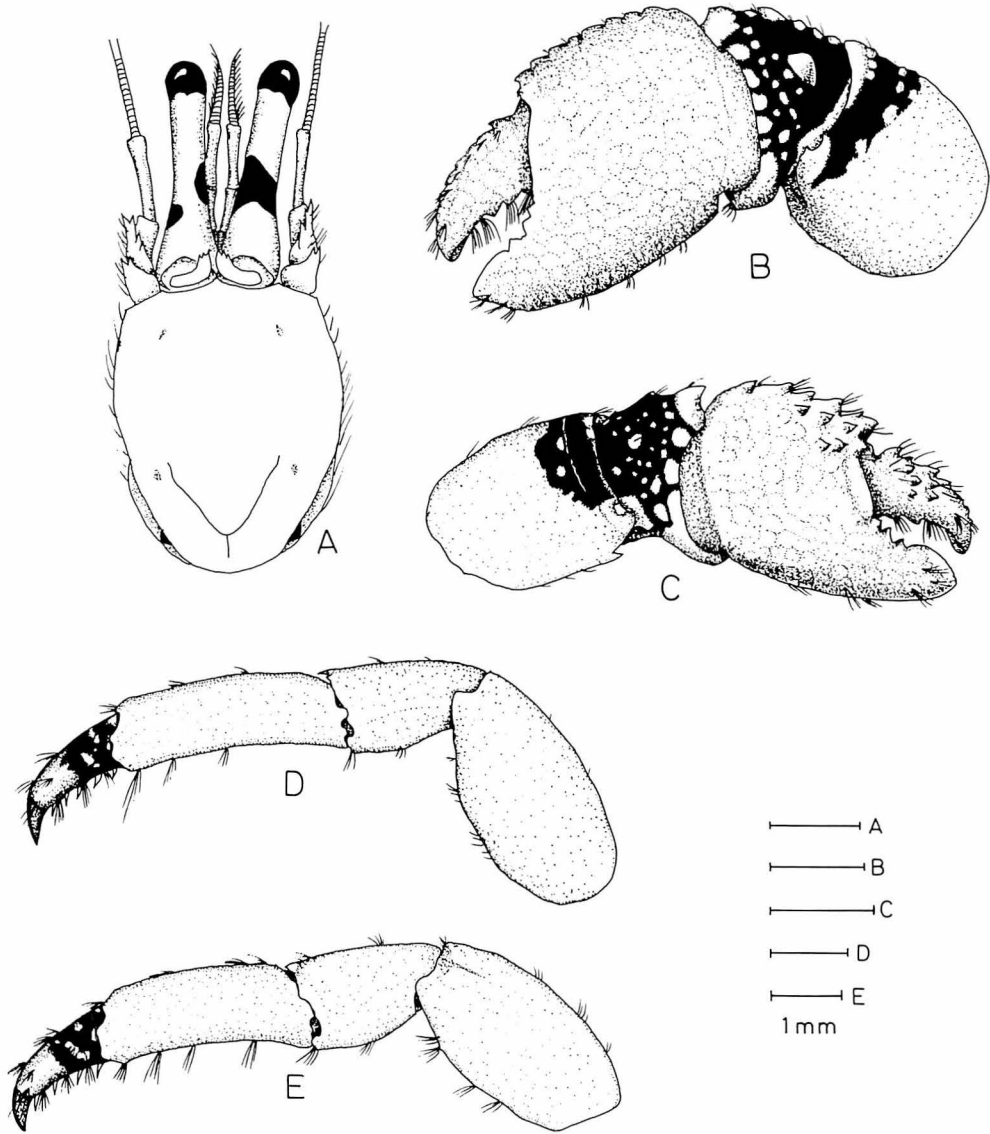


Fig. 1. *Calcinus guamensis* Wooster, 1982 (CBM-ZC-856). A. shield and cephalic appendages; B. left cheliped; C. right cheliped; D. left second pereopod; E. left third pereopod.

Second pereopods long, exceeding length of left cheliped. Dactyl shorter than propodus, moderately stout, terminating in strong corneous claw; ventral margin with row of 5 short corneous spines and with widely spaced sparse tufts of long setae. Propodus with ventral margin with widely spaced few tufts of long setae. Carpus with dorso-distal margin with 2 small spines laterally and large spine centrally.

Third pereopods long, slightly shorter than

second pereopods; similar to second pereopod in armature and proportion, except for shorter propodus, row of 4 short corneous spines on ventral margin of dactyl, and small spine at dorso-distal margin of carpus.

Colour in alcohol (after 6 months): Shield white with two distinct black spots along cervical groove. Ocular acicles white, basal and distal quarters of ocular peduncles white, but center halves and corneas black. The distal halves of the

meri and most of the carpi of both chelipeds black, but several large tubercles on meri and carpi white. Proximal halves of the dactyls of second and third pereopods black. Remaining areas of both chelipeds and second and third pereopods whitish-yellow.

#### Discussion

*Calcinus guamensis* has been hitherto known from Guam in the southern Marianas, Asuncion, Guguan and Pagan in the northern Marianas (Wooster, 1982), and Hawaii (Haig and McLaughlin, 1983). Thus, the distribution of this species is extended further northward by its discovery at Chichijima.

To date, 5 species of *Calcinus* have been recorded from the Ogasawaras; *C. laevimanus*, *C. elegans*, *C. latens*, *C. gaimardii*, *C. sp.* (Stimpson, 1907; Balss, 1913; Terao, 1913; Melin, 1939; Ooishi, 1970). Besides these, 4 other *Calcinus* species have been recorded from Japan; *C. minutus*, *C. vachoni*, *C. pulcher*, *C. seurati* (Miyake, 1956, 1982; Nakasone, 1975). *C. guamensis* is, however, greatly different from all of these species in its coloration, with black areas on the dactyls of the second and third pereopods, meri and carpi of chelipeds, and ocular peduncles. Although *C. latens* also has the dark band on the dactyls of the second and third pereopods, its ocular acicle has a single spine on the distal margin (Wooster, 1982; Haig and McLaughlin, 1983), in contrast to three spines on the distal margin of each ocular acicle in *C. guamensis* in Wooster (1982). I examined 520 specimens of *C. latens* from several localities in Japan; Chichijima and Hahajima in the Ogasawaras, Kuroshima in the Yaeyama group, Zamami and Okinawa-jima in the Ryukyus, Kagoshima, and Boso, and 820 from Guam, Micronesia (depo. in CBM), and found that all of them constantly have a single spine on each ocular acicle. As has already pointed out by Haig and McLaughlin (1983), Miyake's (1956) figure 20a of *C. latens* with multispinose ocular acicles, drawn from specimens from the Tokara Islands, Kagoshima, is probably referable to *C. guamensis*.

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日本産初記録のグアムサンゴヤドカリ（新称）

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日本産サンゴヤドカリ属のヤドカリ1390個体の小笠原産、沖縄産、鹿児島産、房総産の標本を調査した結果、1個体のグアムサンゴヤドカリ *Calcinus guamensis* Wooster, 1982を小笠原諸島父島の岩礁潮間帯より発見することができたので、本編で記録した。本種はこれまでグアムと北マリアナ諸島のア

サンシオン、ググアン、パガン、ならびにハワイでの採集記録があるが、日本では、はじめての記録である。日本からはこれまで9種類のサンゴヤドカリが記録されているが、本種はそれらと色彩パターンが大きく異なり、鉗脚の腕節と長節、第2、3脚の指節、眼柄に非常に明瞭な黒い環帯があることにより、容易に区別される。またツマジロサンゴヤドカリも第2、3脚の指節に暗緑褐色部をもつが、鉗脚と眼柄には黒色部は無く、またグアムサンゴヤドカリの眼棘の先端には3棘があるのに対しツマジロサンゴヤドカリでは1棘であることにより、区別される。