

CORAL-INHABITING CRABS OF THE FAMILY
HAPALOCARCINIDAE FROM JAPAN

VII. GENUS *FAVICOLA*

By

Masatsune TAKEDA and Yōichi TAMURA

日本産サンゴヤドリガニ類

VII. キクメイシヤドリガニ属 (新称)

武田正倫・田村洋一

Reprinted from
Researches on Crustacea, No. 11
Carcinological Society of Japan

甲殻類の研究 第11号 別刷
December, 1981

with that of *F. rugosa*, except for palm, upper border of which is as long as height of palm.

Material examined. Four ovigerous females (NSMT-Cr 7421, 3.3×5.3 mm; 7420-1, 3.2×4.9 mm; 7419, 3.0×4.5 mm; 7420-2, 2.9×4.5 mm) and one young female (NSMT-Cr 7420-3, 2.0×3.0 mm) were collected at Kuro-shima Island in the southern Ryukyu Islands. The specimen registered as NSMT-Cr 7419 was collected on September 20, 1975 by Mr. T. FUKUDA, and the others on April 12-19, 1976 by the senior author. The specimens with same stem number are those obtained from one coral block.

Host coral. The host coral recorded by the original authors are *Favia speciosa* (DANA) [Jap. name: Kikumeishi], *F. pallida* (DANA) [Hime-kikumeishi] and *F. valenciennesi* (M. EDWARDS et HAIME), *Favites abdita* (ELLIS et SOLANDER) [Kamenokou-kikumeishi], *F. pentagona* (ESPER) [Gokaku-kikumeishi], *F. flexiosa* (DANA) [Futoune-kamenokou-kikumeishi] and *Montastrea cacua* CROSSLAND. They belong to the family Faviidae, and the specimens from the Ryukyu Islands were also obtained from an unidentified species of *Goniastrea* of the same family.

The nature of the pit is also nearly identical with the case of *F. rugosa*. In the largest case among the present specimens the depth of the pit is 2.5 times the carapace length of the dweller.

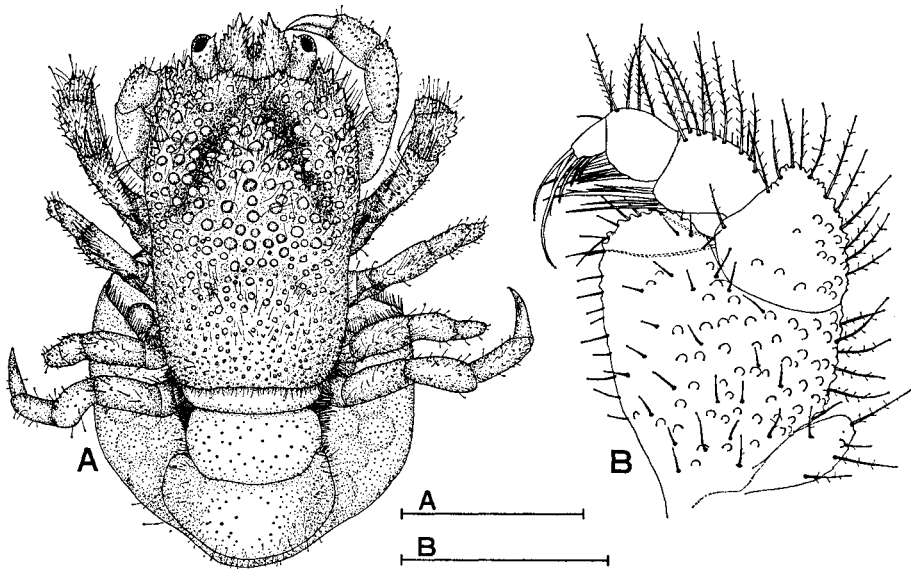
Distribution. Hitherto known from Nhatrang, Viet-Nam (FIZE and SERÈNE, 1957), Washington Island (SERÈNE, 1962) and Sumatra, Indonesia (SERÈNE, 1966).

Favicola japonica sp. nov.

(Text-fig. 3; Pl. 2, figs. C, D)

Description of holotype. Carapace much longer than broad and subquadrangular, its anterior part being moderately declivous obliquely downward; dorsum moderately convex as a whole and covered with setae and granules of various size which are small on its posterior part. Gastric region convex dorsally, being restricted anterolaterally by an oblique furrow at each side; furrows of both sides combined to be Λ at anterior median part of gastric region behind the front; posterior ends of furrows reach to nearly half of carapace length. Cardio-intestinal region restricted anterolaterally only by a shallow furrow.

Front moderately concave and armed with spinules; internal orbital angle obtuse and not protruded beyond external orbital angle. Front-orbital border narrower than posterior border of carapace and about $\frac{3}{5}$ the greatest breadth of carapace. Supraorbital border deeply concave or rather notched and armed with spinules, eyestalk being visible from above. Basal segment of antennule well developed and exceeded beyond external orbital angle and eyestalk, being armed with several spinules along margins and on upper surface. Anterior part of lateral border of carapace armed with some



Text-fig. 3. *Favicola japonica* sp. nov., ovig. ♀, holotype, NSMT-Cr 7422. A, entire animal; B, left third maxilliped. Scale for A=2 mm, for B=0.5 mm.

large spines. Third maxilliped as figured.

Both chelipeds equal in size and shape, not stout; merus along its upper border shorter than twice its height, and its upper and lower surfaces covered with setae and minute granules; upper border of palm a little shorter than its height and movable finger; fingers entire on cutting edges and tips scarcely crossing each other.

First ambulatory leg longer and stouter than cheliped; both borders of merus and upper borders of carpus and propodus covered with dense longish setae and granules. Second leg shorter than the first and generally resemble the first. Third leg the shortest. Fourth leg a little shorter than the first, being almost cylindrical with sparse short setae.

Material examined. Two ovigerous females (holotype, NSMT-Cr 7422, 2.4×3.6 mm; paratype, 7423, 2.1×3.2 mm) were collected from one coral block at Kuro-shima Island in the southern Ryukyu Islands on September 20, 1975 by Mr. T. FUKUDA. Ten ovigerous females (paratypes, NSMT-Cr 7424-7433, 2.0×2.9~2.5×3.9 mm) were collected at Miyahohama, Chichi-jima Island in the Ogasawara Islands on July 1, 1976 by the senior author.

Host coral. The specimens from the Ryukyu Islands were collected from the unidentified species of *Goniastrea* of the family Faviidae.

Remarks. The new species is closely related to *F. minuta* (EDMONDSON)¹⁾ which

1) TAKEDA and TAMURA (1980) wrongly synonymized *Cryptochirus coralliodytes parvulus* FIZE et SERÈNE, 1957, with this species. True systematic status of this subspecies is not sure, but it is without doubt referred to *Cryptochirus*.

was recorded from Oahu Island by the original author and from Nhatrang, Viet-Nam by FIZE and SERÈNE (1957), but distinguished from it by the different nature of sculpture of the carapace. The holotype and paratypes were directly compared with two ovigerous females from Oahu Island which agree well with the original and subsequent descriptions.

In the new species the internal orbital angle does not extend beyond the external orbital angle and the anterior part of the carapace is marked by a Λ -shaped furrow delimited the gastric region. On the contrary, in *F. minuta* the internal orbital angle extends beyond the external orbital angle and the anterior part of the carapace is marked with two oval, longitudinal depressions behind each supraorbital border. Otherwise, in *F. minuta* the anterior part of the carapace around the depressions is covered with spinules, and the lateral surface of the carapace is rather distinctly constricted at the place between the hepatic and branchial regions.

Acknowledgements

Mr. Teruo FUKUDA, the researcher in the Marine Park Research Center, and Mr. Akio KOJIMA, the amateur collector in Tokyo, kindly sent us some interesting specimens for study. The junior author's cordial thanks are due to Dr. Ryôsuke ISHIKAWA of the Tokyo Metropolitan University for giving him the opportunity for study.

References

- EDMONDSON, C. H., 1933. *Cryptochirus* of the Central Pacific. *Occ. Pap. Bernice P. Bishop Mus.*, 10(5): 1-23.
- FIZE, A. and R. SERÈNE, 1957. Les hapalocarcinidés du Viet-Nam. *Mém. Inst. Ocean. Nhatrang*, 10: 1-202, figs. 1-43, pls. 1-18.
- MCCAIN, J. C. and S. L. COLES, 1979. A new species of crab (Brachyura, Hapalocarcinidae) inhabiting pocillopolid corals in Hawaii. *Crustaceana*, 36: 81-89.
- SERÈNE, R., 1962. Species of *Cryptochirus* of EDMONDSON 1933 (Hapalocarcinidae). *Pacif. Sci.*, 16: 30-41.
- , 1966. Note sur la taxonomie et la distribution géographique des Hapalocarcinidae (Decapoda-Brachyura). *Proc. Symp. Crust. Ernakulam*, 1: 395-398.
- TAKEDA, M. and Y. TAMURA, 1980. Coral-inhabiting crabs of the family Hapalocarcinidae from Japan. V. Genus *Cryptochirus*. *Res. Crust.*, 10: 45-56, pls. 2-4.

Explanation of Plates

Plate 1

Figs. A-D. *Favicola rugosa* (EDMONDSON). A, B, ovig. ♀ (NSMT-Cr 7415-2). Breadth 3.7 mm, length 5.1 mm. C, D, ♂ (NSMT-Cr 7418-2). Breadth 2.7 mm, length 4.5 mm.

Plate 2

Figs. A, B. *Favicola helleri* (FIZE et SERÈNE). Ovig. ♀ (NSMT-Cr 7420-1). Breadth 3.2 mm, length 4.9 mm.

Figs. C, D. *Favicola japonica* sp. nov. C, ovig. ♀, holotype (NSMT-Cr 7422). Breadth 2.4 mm, length 3.6 mm. D, ovig. ♀, paratype (NSMT-Cr 7423). Breadth 2.1 mm, length 3.2 mm.

Plate 3

Figs. A, B. Entrance (A) and vertical section (B) of a pit bored in the unidentified faviid coral. The inhabitant is a female (NSMT-Cr 7417) of *Favicola rugosa* (EDMONDSON).

Figs. C, D. Ovig. ♀ (NSMT-Cr 7420-2) of *Favicola helleri* (FIZE et SERÈNE) staying in the pit of *Goniastrea* sp.

摘 要

Favicola (キクメイシヤドリガニ属, 新称) は FIZE and SERÈNE (1957) により *Troglocarcinus* 属の亜属として設けられ, 5種が知られている。形態, 生態とも *Cryptochirus* (ケブカサンゴヤドリガニ属) に酷似し, 外形だけでは区別することができない。ほとんど唯一ともいえる区別点は, *Favicola* の雌では3対の腹肢のうち第1腹肢に外枝があるのに対し, *Cryptochirus* では3対の腹肢すべてに外枝を欠いていることである。McCain and COLES (1979) が, ハワイ産の *Hapalocarcinus marsupialis* STIMPSON (サンゴヤドリガニ) と *Pseudohapalocarcinus ransonii* FIZE et SERÈNE (ヒメサンゴヤドリガニ) において二叉型腹肢の数が必ずしも一定していないことを報告しており, *Favicola* と *Cryptochirus* を雌の腹肢の状態によってのみ区別することは問題があるかもしれないが, 本報告で扱った標本では雌の腹肢は安定しており, 属名は *Favicola* を生かした。問題となった種はいずれも瘤を作る種であり, 穿孔性の種よりも形態の上でも特殊化が進んでいることが推察される。

本報告では *F. rugosa* (EDMONDSON) (キクメイシヤドリガニ, 新称), *F. helleri* (FIZE et SERÈNE) (ヤエヤマキクメイシヤドリガニ, 新称) の2既知種と *F. japonica* sp. nov. (ヤマトキクメイシヤドリガニ, 新種新称) を記録し, 新種を含めた全6種に対する検索表を作成した。

