Two Scyllarus species (Crustacea, Decapoda, Scyllaridae) Collected from the East China Sea

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Abstract

SEKIGUCHI, HIDEO (Faculty of Fisheries, Mie University) and MASARU TAGAWA (Seikai Regional Fisheries Research Laboratory). 1987. Two Scyllarus species (Crustacea, Decapoda, Scyllaridae) collected from the East China Sea. Benthos Research (Bull. Jap. Assoc. Benthology), 31: 10-17.

In the course of examining the decapod specimens deposited in the Seikai Regional Fisheries Research Laboratory, which were collected from the whole area of the East China Sea by the R/V Yoko-Maru of the Laboratory, three specimens of Scyllarus bertholdii and five ones of Scyllarus brevicornis were found. Their collection records and description of morphological characters are given.
Different from Panulirus lobsters which are of very high economic value in Japan, we know little ecologically and taxonomically about small-sized Scyllarus lobsters generally lacking economic value. It is probably difficult for taxonomists to collect a number of the Scyllarus specimens for reviewing the genus for the present. Taxonomical studies on the genus hitherto carried out are based on very few specimens for each species. The authors are expecting more species of Scyllarus in Japanese waters than those known to date. To make revision of the genus, accumulation of more materials is necessary, and the authors will be grateful to any collaboration on this matter.

Japan is probably one of the most intensively known region concerning the Scyllarus lobsters in the Far-East. Eight Scyllarus species have been known in Japan (Harada, 1962; Holthuis, 1981): S. aurora Holthuis, S. bicuspidatus (De Man), S. brevicornis Holthuis, S. cultrifer, S. kitanoviriosus Harada, S. longidactylus Harada, S. martensii Pfeffer, and S. rugosus H. Milne Edwards. They believe that among the Scyllarus species S. cultrifer is the most popular one in Japan (Miyake, 1982), while S. kitanoviriosus may be the most popular one in the Japan Sea coast of western and central Japan and in the Korean waters (Kim, 1976; Wada et al., 1985). However, very little is know about the three species of S. brevicornis, S. martensii and S. rugosus in the Far-East including Japan. In particular S. martensii has not been recorded in Japan since Ortmann (1891) and Balss (1914), and S. rugosus has also not been reported since Doflein (1900), though phyllosoma 

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Based on a specimen collected in Bungo Strait, Japan, Yokoya (1933) described this specimen as new species Arctus rugosus which was later changed to Scyllarus brevicornis from a nomenclature's rule by Holthuis (1946). Since then only three specimens of this species, obtained at depths of more than 60 m, have been recorded from Bungo Strait, Tosa Bay (Japan) and the East China Sea west of the Tokara Islands by Baba et al. (1986), who took a beautiful colored-photo of dorsal view of the species and gave a taxonomical description. Scyllarus bertholdii Paulson has not been obtained yet in the Japanese waters, but reported from the Chinese and Indonesian waters (Holthuis, 1946; Don and Wany, 1984).

Apart from the three species of S. bertholdii, S. brevicornis and S. longidactylus, phyllosoma larvae of the above-stated six Scyllarus species have been described (see Sekiguchi, 1986a). Then two types of the Scyllarus phyllosoma larvae not yet referred to any species have been obtained in the Japanese waters and the East China Sea (Sekiguchi, 1986a; Sekiguchi, unpublished data).

The Seikai Regional Fisheries Research Laboratory of the Japan Fisheries Agency have undertaken several times extensive investigations on benthic animals by means of trawling gears on broad the R/V Yoko-Maru in the almost whole area of the East China Sea. These results have been published in series (e.g. Yamashita, 1979). In the course of examining the decapod specimens deposited in the Laboratory, we found the Scyllarus (S. bertholdii Paulson and S. brevicornis Holthuis) specimens collected in the S
occurrence of these two *Scyllarus* species in the East China Sea seems sufficiently unusual to warrant a paper.

**Description**

Three specimens of *S. bertholdii* (females) and five ones of *S. brevicornis* (three females, two males) were found. One of the *S. brevicornis* specimens (23.3 mm cl.) was berried. The data pertinent to sampling the specimens of the two species are indicated in Table 1. All specimens were obtained at depths of more than 70 m on the continental shelf of the East China Sea, where bottoms are covered with silty sediments (Yamashita, 1979). Baba et al. (1986) also recorded a specimen of *S. brevicornis* at a position of 29° 30.6' N; 126° 56.5' E in the Sea*. This suggests that *S. brevicornis* may be not

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### Table 1 Data for sampling the *Scyllarus* specimens in the East China Sea

<table>
<thead>
<tr>
<th>Sampling date</th>
<th>Sampling location</th>
<th>Remarks</th>
</tr>
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<tbody>
<tr>
<td>5 Nov. 1973</td>
<td>30° 03.0' N</td>
<td>20.1 mm cl, female, 70 m depth</td>
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<tr>
<td></td>
<td>123° 35.0' E</td>
<td></td>
</tr>
<tr>
<td>10 Nov. 1973</td>
<td>27° 14.4' N</td>
<td>19.3 mm cl, female, 98 m depth</td>
</tr>
<tr>
<td></td>
<td>122° 23.7' E</td>
<td></td>
</tr>
<tr>
<td>13 Nov. 1980</td>
<td>29° 26.5' N</td>
<td>23.3 mm cl, female, 102 m depth</td>
</tr>
<tr>
<td></td>
<td>126° 32.6' E</td>
<td></td>
</tr>
<tr>
<td>14 Jun. 1980</td>
<td>29° 02.3' N</td>
<td>10.1 mm cl, male, 113 m depth</td>
</tr>
<tr>
<td></td>
<td>125° 47.7' E</td>
<td></td>
</tr>
<tr>
<td>22 Oct. 1984</td>
<td>29° 19.0' N</td>
<td>9.0 mm cl, male, 110 m depth</td>
</tr>
<tr>
<td></td>
<td>126° 44.7' E</td>
<td></td>
</tr>
<tr>
<td><em>Scyllarus bertholdii</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19 Oct. 1981</td>
<td>28° 16.8' N</td>
<td>23.3, 17.0 mm cl, females, 77 m depth</td>
</tr>
<tr>
<td></td>
<td>122° 57.0' E</td>
<td></td>
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<tr>
<td>?</td>
<td>?</td>
<td>18.3 mm cl, female</td>
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</table>

cl: carapace length

* : The positions where the *S. brevicornis* specimens were collected are not referred in Baba et al. (1986). These positions are due to personal communications with Dr. K. Baba.
Plate 1  *Scyllarus bertholdii* (female, 23.2 mm cl)
Plate 2  Scyllaros brevicornis (female, 19.3 mm cl)

A: dorsal view, B: ventral View, C: lateral view
so rare species in this Sea as was previously believed. Based on the literature to date, four *Scyllarus* species (*S. bertholdii* Paulson, *S. brevicornis* Holthuis, *S. kitanoviriosus* Harada, and *S. martensii* Pfeffer) have been reported from the Sea (Holthuis, 1946; Yamashita, 1979; Don and Wany, 1984; Baba et al., 1986), though exact sampling positions of *S. bertholdii* and *S. martensii* are not referred (Don and Wany, 1984).

Morphological features of *S. bertholdii* Paulson accorded well with those described in detail as *Scyllarus haanii* Berthold by de Man (1916), so not illustrated and described herein except a photo (Plate 1).

Diagnosis features of *S. brevicornis* Holthuis are described briefly as follows: median ridge of the carapace with four tuberculate elevations, cardiac one prominent; deep depressions outside of the gastric region; the branchial region with longitudinal rows of small tubercles; the anterolateral margin with deep incision behind the orbit (Plate 2-A, C). The first abdominal somite nearly smooth, purply blue on the anterior half, posteriorly with small tubercles on each side; the 2nd to 5th somites with median carina, those on the 2nd to 4th somites with a feeble median groove; the 2nd to 5th pleura with granulate ridges; the 6th somite and anterior half of the telson tuberculated (Plate 2-A, C). The 6th antennal segment with one inner-margin tooth and 6-7 anterior marginal cusps, all acute; the 4th antennal segment dorsally carinate, with 3-4 inner-marginal teeth and outer-marginal ones, distal one of the latter as large as the terminal process (Plate 2-A, B). Anterior margin of the thoracic sternum concave with U-shaped incision (Plate

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Fig. 1 *Scyllarus brevicornis* (female, 19.3 mm cl)

P2-P5: left 2nd to 5th pereiopods, setae omitted
2-B). None of the pereiopods subchelate except the 5th ones forming a small subchela. Dactylus longer than propodus in the 2nd pereiopod; the 3rd and 4th pereiopods fringed with minute setae on dorsal and ventral margins of the dactylus and propodus, and with a distinct spine at disto-ventral margin of the carpus (Fig. 1). These features above-stated accorded well with those of *S. brevicornis* given by Yokoya (1933) and Baba et al. (1986). These specimens of *S. brevicornis* and *S. kitanoviriosus* referred herein will be deposited in the National Science Museum in Tokyo after accomplishing our studies.

Acknowledgements

The authors wish to express their hearty thanks to Dr. U. Yamada, Seikai Regional Fisheries Research Laboratory, and the captain and crew of the R/V Yoko-Maru for their help in sampling as well as for operating various equipment on the vessel. Thanks are due to Dr. K. Baba, Kumamoto University, and to Dr. H. Yamashita, Seikai Regional Fisheries Research Laboratory, for using their personal communications and obtaining available information.

References


Ortmann, A., 1891. Die Abtheilungen der Reptantia Boas: Homaridea, Loricate und Thalassinidea. Die DecapodenKrebse des Strassburger Mu-


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Addendum in proff

When preparing this paper I was unaware of the description of seven Scyllarus species from Taiwan by Chan and Yu (1986); S. batei, S. bertholdii, S. brevicornis, S. kitanoviriosus, S. longidactylus, S. martensii and S. rugosus.