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A New Species of the Genus *Trachypenaeus* from Japan (Crustacea, Decapoda, Penaeidae)*

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In the penaeid genus *Trachypenaeus*, a single species, *T. curvirostris* (Stimpson), has been thought to be distributed in Japan, after Kubo (1949) had published the excellent monograph on the Japanese Penaeidae. In Kochi Prefecture, Shikoku, however, local fishermen have been divided *Trachypenaeus* prawns collected from Tosa Bay into three groups with their colour pattern in life. After the direct examination of them reveals that these groupings are taxonomically valid, and they are morphologically and ecologically separated from one another. One is the well-known *T. curvirostris*, the second is the rare *T. longipes* (Paulson), which species is a new record from the Japanese waters, and the third is proved to be the undescribed species of this genus. The present paper deals with the description of this new species. In addition to the morphological comparison between the new species and two other Japanese species, the fisheries biology of them including the new species is discussed by Toriyama (1980).

Trachypenaeus albicomus sp. nov.

(Fig. 1 and 2a)

Material examined: Tosa Bay, Kochi Prefecture, Shikoku, June 15, 1977, M. Toriyama leg.—1 ♀ (holotype), 5 ♂♂, 5 ♀♀ (paratypes).

The holotype will be deposited at the National Science Museum, Tokyo and the paratypes are preserved at the Museum of the Shimonoseki University of Fisheries.

Description: Rostrum short, not reaching to end of antennular peduncle, slightly curved upward, with 8 or 9 dorsal teeth. Postrostral crest low, reaching only to half of carapace. Small supraorbital, well developed antennal, blunt pterygostomial and acute hepatic spine present. Longitudinal suture present just dorsal side of antennal spine and reaching posteriorly to line between epigastric spine and hepatic spine. Short transverse suture also present near posteroventral corner of carapace. Central part of second abdominal somite slightly crested middorsally. Third to sixth abdominal somites with low crest, which is more prominent on sixth somite than on the preceding three somites. Posterior end of third to fifth somites not deeply cleft as in *T. curvirostris* nor pointed as blunt process in *T. longipes*. Crest on sixth somite ending in an apparent spine. Telson pointed at apex, armed usually with a pair of small, but distinct, marginal spines, near apex, sometimes a few additional pair of smaller spines scattered on distal half of margins.

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Eye large, cornea wide, flattened dorsally. Eyestalk with a small spine on dorsal side of basal segment. Antennular peduncle long, basal segment with short stylocerite, which does not reach to end of carpocerite of antennal peduncle. Prosartema long, reaching to end of cornea. Distolateral spine of basal segment small but acute and anterior margin of basal segment flattened and erected, covered dense plumose setae. Antennal scale broad, about 2.5 times as long as wide, outer spine acute extending as far as end of lamella.

Third maxilliped reaching end of eye. First pereiopod chelate, reaching only to orbital margin of carapace, coxa with a strong spine; posterior margin of basis ending in obscure process just behind distal articulation. Second pereiopod chelate, reaching

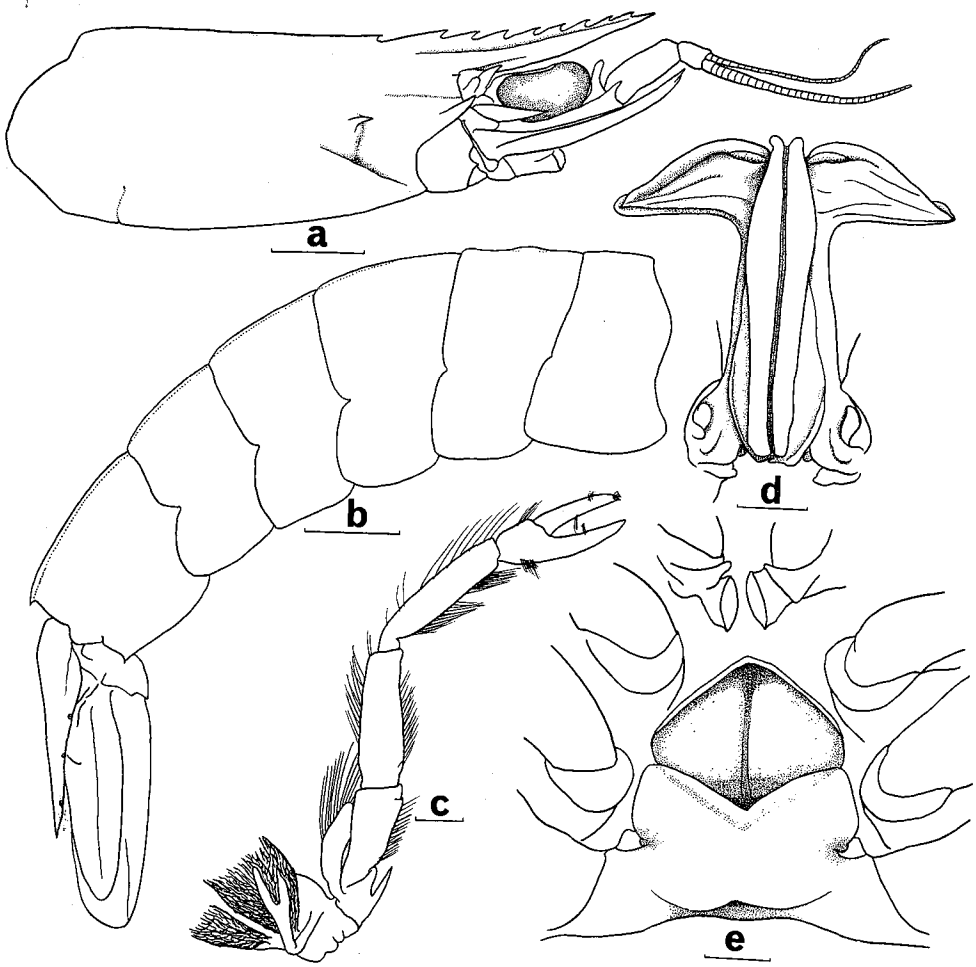

Fig. 1. *Trachypenaeus albicomus* sp. nov.; a, b, holotype (♀), c, paratype (♂), 15.7 mm in carapace length, d, paratype (♂), 17.5 mm in carapace length, e, paratype (♀), 19.1mm in carapace length; a, anterior part of body, b, abdominal somites, c, first pereiopod, d, petasma, e, thelycum. Scales represent 1.0 mm.

to middle of eye, coxa with a strong spine but basis without spine. Third pereiopod chelate, reaching to distal articulation of basal antennular segment, without spine on any segment. Fourth pereiopod not chelate, falling slightly short of tip of second pereiopod. Fifth pereiopod longest, reaching to tip of third pereiopod. Exopod present on all pereiopods and epipod on first three pereiopods.

Petasma typical T-shape. Anterior plate of thelycum triangular with blunt angles, and curled margin, and divided into two equal parts by deep central groove. Posterior plate deeply notched at middle but bottom of notch without special pocket at all.

Colour in life: Body pale red, uropod brown with margin rather pale. Antennal flagellum bright white. Hence it is vanacularly named as "Shiraga-saruebi" (white-haired *Trachypenaeus* prawn) and the same as *albicomus* scientifically.

Size: Males 53-61 mm in body length, 14-17 mm in carapace length and 7-9 mm in rostrum length. Females 64.5-80 mm in body length, 18.5-22 mm in carapace length and 10-11.5 mm in rostrum length. All females examined attach spermatophore on thelycum.

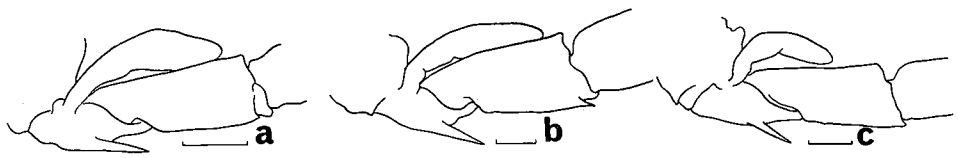

Fig. 2. Basis and coxa of first pereiopod of three Japanese *Trachypenaeus* species collected from Tosa Bay. Shikoku, Japan; a, *T. albicomus* sp. nov. (male, 15.7 mm in carapace length), b, *T. curvirostris* (Stimpson) (female, 27.5 mm in carapace length), c, *T. longipes* (Paulson) (male, 18.6 mm in carapace length). Scales represent 1.0 mm.

Remarks: Species belonging to the genus *Trachypenaeus* are divided into two groups by the number of the pereiopodal epipods. According to Starobogatov (1972), the following five species bear an epipod on the first to third pereiopods: *T. asper* (Alcock), *T. curvirostris* (Stimpson), *T. gonospinifer* Racek and Dall, *T. longipes* (Paulson) and *T. sedili* (Hall). Of these two species from the southern hemisphere, *T. gonospinifer* and *T. sedili*, are ready distinguished from the new species by the general shape of the genital apparatus. Both southern species have the developed lateral plates of the thelycum (Racek and Dall, 1965 and Hall, 1957), which is entirely absent in the new species. In *T. gonospinifer*, furthermore, the petasma is not T-shape, the distolateral projections being very broad with the forwardly curved lateral tips. In *T. sedili* the petasma is Y-shape rather than T-shape.

With regard to the genital apparatus, the remaining three species are very closely related to the present new species. However they may be distinguished by the characters shown in the Table 1.

Table 1. The characters separating *Trachypenaeus albicomus* sp. nov. from *T. asper*, *T. curvirostris* and *T. longipes*

Species / Characters	*T. albicomus* sp. nov.	*T. asper* (Alcock)*	*T. curvirostris* (Stimpson)**	*T. longipes* (Paulson)**
Rostrum	curved upward, with 7-8 teeth	straight, or curved upward in females, with 9-10 teeth	curved upward, with 6-8 teeth	straight, with 8-10 teeth
Postrostral crest	low, extending only to half of carapace	low, rather wide, extending to posterior end of carapace	low, extending to posterior end of carapace	high, extending to posterior end of carapace
Abdominal crest second somite	middorsal crest on central part	middorsal crest on central part	middorsal crest on central part	middorsal crest on central and posterior part
third to fifth somites	low, not ending in a spine	low, not ending in a spine	low, not ending in a spine	high, ending in a spine
Pereiopod first	with a spine on basis and a small spiniform process on coxa	with a spine on basis and coxa	with a spine on basis and coxa	with a spine on basis but without spine on coxa
fifth	short, reaching only to end of eye	long, exceeding tip of antennal scale by dactylus	short, reaching only to end of rostrum	long, extending slightly beyond antennal scale
Thelycum	posterior plate deeply crested at middle without pocket	posterior plate not deeply crested at middle	posterior plate deeply crested at middle with	posterior plate deeply crested without pocket
Type locality	Shikoku, Japan	India	Japan	Red Sea

* The features are based upon the Alcock's (1905 and 1906) description of *Trachypeneus asper*.

** The features are based upon the material collected from Tosa Bay, Shikoku, Japan, as well as the references of Kubo (1949), Liu (1955), Burkenroad (1959) and Kim (1977) in *T. curvirostris* and of Paulson (1961), Ramadan (1938) and Burkenroad (1959) in *T. longipes*.

Burkenroad (1959) described *T. curvirostris palaestinensis* from Gulf of Suez. The new species somewhat resembles this subspecies in having the ascendant rostrum with numerous teeth, but the shape of the posterodorsal end of fourth and fifth abdominal somites, and the length of the stylocerite and of the longitudinal suture on the carapace differ apparently from each other.

The specimens from Formosa (Taiwan) reported by Lee and Yu (1977) under the name of *T. curvirostris* also have the ascendant rostrum with usually nine teeth dorsally. The figure of their thelycum is very similar to that of the present species. As far as these characters concerned, the Formosa specimens apparently differ from the typical *T. curvirostris* and are probably referred to *T. albicomus* or *T. asper*.

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日本産サルエビ属（クルマエビ科）の１新種

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日本産サルエビ属（*Trachypenaeus*）はこれまで，いわゆるサルエビ，*T. curvirostris* (Stimpson)，のみが知られていたが，土佐湾で漁獲されるこの属のエビは形態や色彩により３形に分けられていた。これらを詳細に調べたところ，３形はそれぞれ独立の種であり，サルエビ以外の２種はいずれもめずらしい種類であった。このうちの１種は紅海が基産地で，日本新記録種の *T. longipes* (Paulson) —オキサルエビ（新称）—であり，残る１種は新種と考えられ，*T. albicomus* sp. nov. —シラガサルエビ（新称）—としてここに記載した。これらに *T. asper* (Alcock) を加えた４種は第３歩脚まで副肢があり，典型的なT字形の雄性突起をもつので，同属の種類から容易に識別される。これら４種の区別点は表１に示した。

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