

A New Species of the Genus *Paracanthomysis* (Crustacea, Mysidacea) from Northeastern Japan

By

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Abstract A new species of the genus *Paracanthomysis*, *P. spadix* sp. nov., is described. This species is distinguishable from the related species in the following characters: 1) Body is not hispid with dense minute spinules; 2) rostrum is long and extends far beyond the base of the antennular peduncle; 3) each carpo-propodus of endopods of the third to eighth thoracopods is divided into 5 subjoints.

The genus *Paracanthomysis* has been recorded only from the waters of north-western Pacific coast, and comprises three species to date: *P. hispida* II, 1936, *P. kurilensis* II, 1936, and *P. shikhotaniensis* PETRJASHOV, 1983. The new species described here is the fourth member of the genus.

This species was collected by Mr. T. MARUYAMA, of the Tokyo University of Fisheries, on 29 August 1984, during a diving investigation of swarming mysids in Otsuchi Bay, Iwate Prefecture, in northeastern Japan, and was observed in aggregations of 4–50 individuals at a depth of 0.5–3 m, 30–50 cm above the bottom, where was sandy scattered with patches of Laminariales and rocks.

The type specimens are lodged in the National Science Museum, Tokyo.

Paracanthomysis spadix sp. nov.

(Figs. 1–3)

Material. 3 adult males and 1 adult female. Holotype (NSMT-Cr 9093): adult male, 12.7 mm. Allotype (NSMT-Cr 9094): adult female, 21.3 mm, breeding 19 stage II larvae (dissected). Paratypes (NSMT-Cr 9095): adult male, 13.0 mm (dissected); adult male, 13.2 mm.

Description. Body smooth, not hispid with minute spinules. Frontal margin of carapace produced into rostrum extending almost to anterior margin of first segment of antennular peduncle in male, to middle of second segment in female. Rostrum triangular, ridged ventrally, with concave lateral margins and acutely pointed apex, about as long as broad; antero-lateral corner acutely pointed; posterior margin emarginate, leaving last thoracic somite exposed dorsally. Eye about 4/3 times as long as broad in dorsal view; cornea hemisphere, as broad as stalk, occupying about half of eye in dorsal view; stalk somewhat flattened, without any process on dorsal

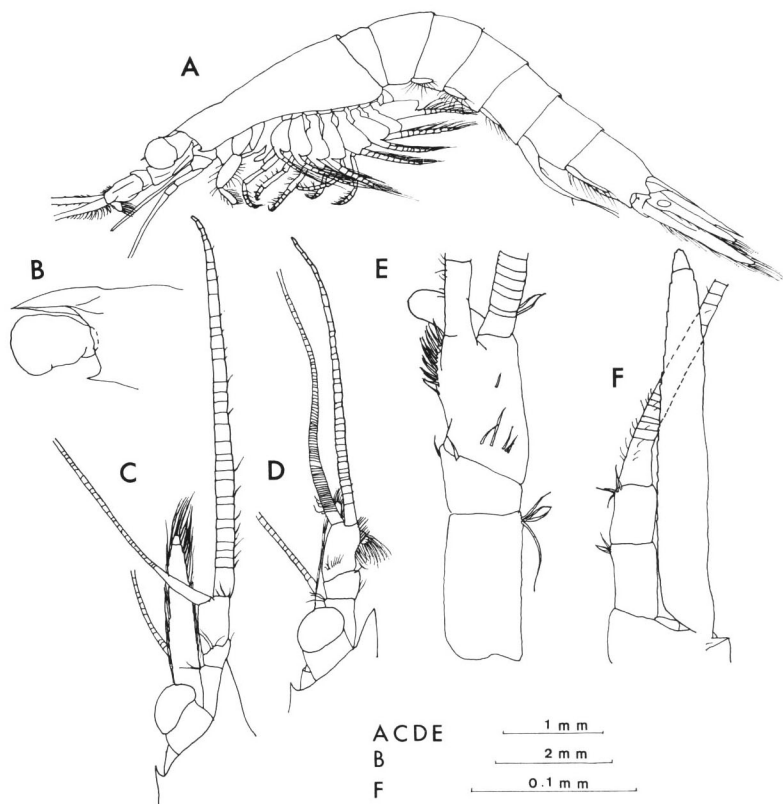


Fig. 1. *Paracanthomysis spadix* sp. nov.; A, adult male in lateral view; B, anterior end of carapace; C, anterior end of adult female in dorsal view; D, anterior end of adult male in dorsal view; E, antennular peduncle of adult male; F, antenna of adult male.

surface. In male, inner flagellum of antennule flattened, 24 times as long as broad, about twice as long as antennular peduncle, as broad as outer flagellum at base, outer flagellum curved like a cattle horn in proximal part; in female, inner flagellum flattened, curved outward near tip, 17 times as long as broad, $8/3$ times as long as peduncle, as broad as outer flagellum at base, outer flagellum normal; peduncle of male with process masculinus produced antero-ventrally, first segment as long as third segment with more than 20 stout setae on distal half of inner margin; peduncle of female more slender than in male, third segment as long as first segment. Antennal scale lanceolate with narrowly rounded tip, setose all round, in male, 6 times as long as broad, with a suture dividing length of scale at distal $1/13$, extending slightly beyond distal margin of antennular peduncle in dorsal view, and in female, 7 times as long as broad, with a suture dividing length of scale at distal $1/17$, extending beyond antennular peduncle for almost $1/3$ of its length in dorsal view; antennal peduncle reaching to about $1/3$ of scale length in male, to about $1/4$ in female. Mouth parts, first and second thora-

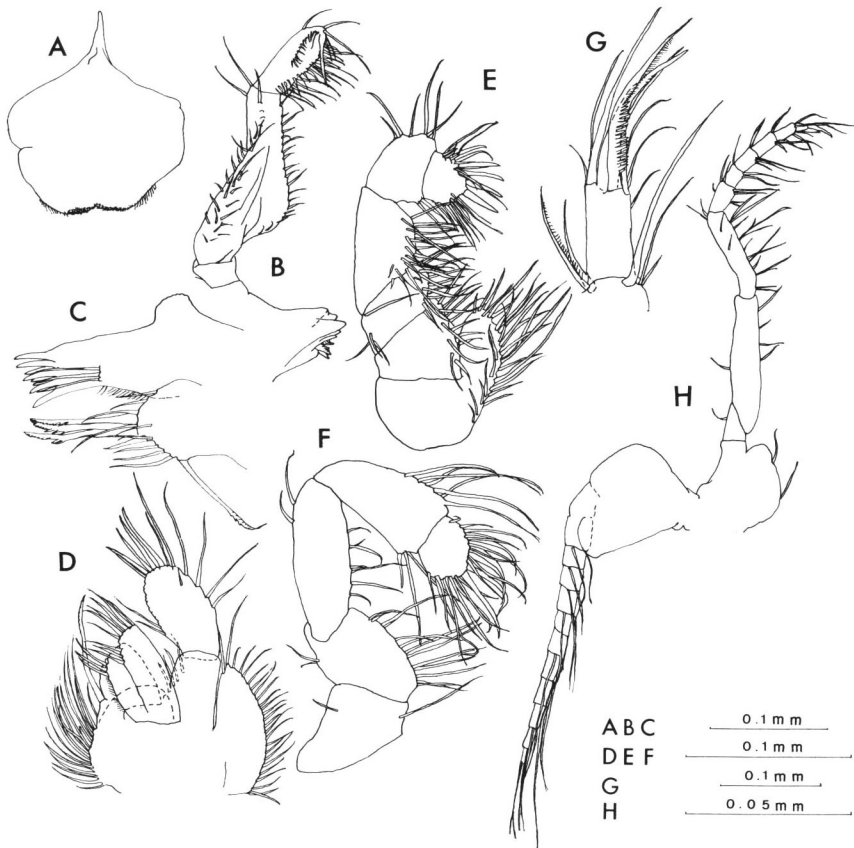


Fig. 2. *Paracanthomysis spadix* sp. nov.; A, labrum; B, mandible; C, maxillule; D, maxilla; E, first thoracic endopod; F, second thoracic endopod; G, distal part of eighth thoracic endopod; H, eighth thoracic limb.

copods not showing marked differences compared with those of *P. hispida*. Third to eighth thoracic endopods with carpo-propodus five-segmented. Abdominal somites smooth without folds. Pleopods of female uniramous, unjointed, first to fourth pairs subequal in length, and fifth pair slightly longer than anterior four. First to third and fifth pleopods of male as in female. Fourth pleopod of male biramous; exopod unjointed and elongate, reaching almost to middle of sixth abdominal somite, about $11\frac{1}{2}$ times as long as endopod, terminating into 2 strong spinose setae of same length, armed with one plumose seta at about $\frac{3}{4}$ from base on inner margin; endopod unjointed, short, about $\frac{1}{7}$ of exopod including terminal setae in length. Telson long linguiform, abruptly narrowed near base, $\frac{5}{2}$ times as long as broad, $\frac{5}{3}$ times as long as sixth abdominal somite; lateral margins armed with about 130 spines composed of rather large spines on proximal half, 6–7 grouped spines with one large spine followed by 1–7 smaller spines on middle $\frac{1}{3}$, rather small spines of subequal size on distal

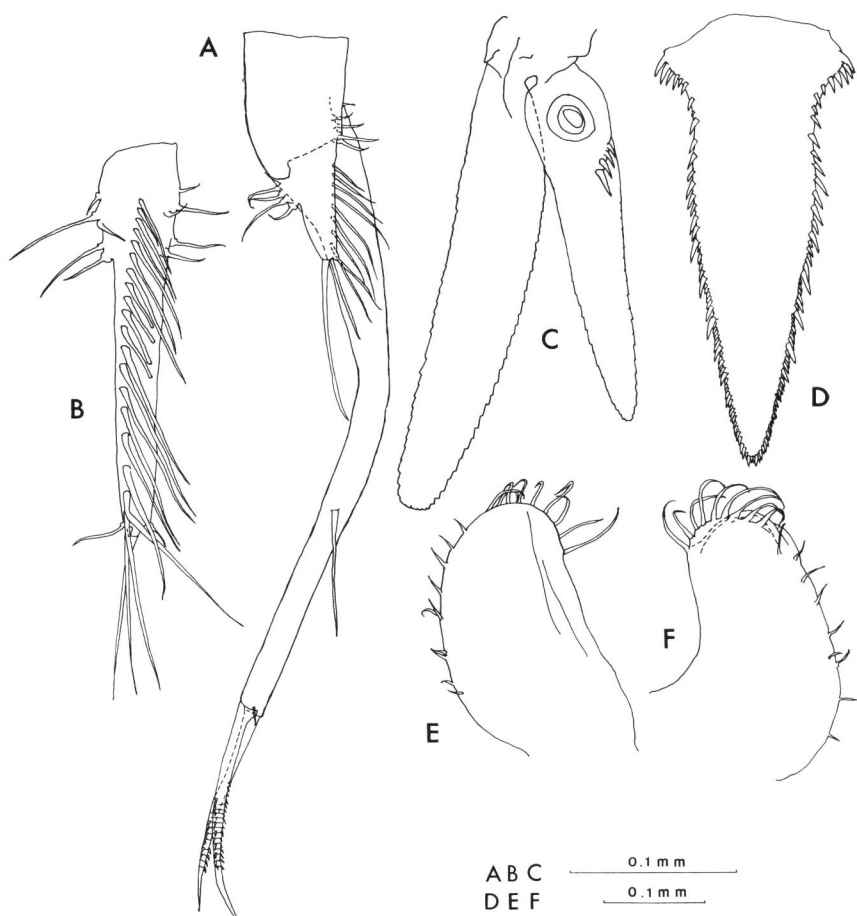


Fig. 3. *Paracanthomysis spadix* sp. nov.; A, fourth pleopod of male; B, fifth pleopod of male; C, uropod; D, telson; E, F, penis.

1/6, and apical pair of spinee shorter than distal spinee of lateral margins. Endopod of uropod slightly shorter than telson, with four spinee increasing length distally on ventral inner margin near statocyst; exopod of uropod longer than telson, 4/3 times as long as endopod. Marsupium composed of two pairs of ordinary oostegites.

Remarks. This species is closely allied to *P. hispida* II, 1936 in general form. The most marked difference between the two species is found in the integumental structure. In the new species the body surface is not hispid, while in *P. hispida* the carapace, last thoracic somite and all abdominal somites are hispid with dense minute spinules, though in some specimens at hand, mostly immature ones, the integument is not hispid or hispid partially. In addition to this character, both species are easily distinguishable by the following features: 1) The rostrum extends to the distal end of the first segment of the antennular peduncle, while it extends only to the base of an-

tennular peduncle in *P. hispida*; 2) the telson is armed with rather closely spaced spines on the proximal third of the lateral margin, while it is naked for a short distance on the concave part near the base of the lateral margin in *P. hispida*; 3) the process masculinus on the antennular peduncle is subconical and produced rather ventrally, while it has a round tip and a constricted inner margin like a gourd in dorsal view and is produced anteriorly in *P. hispida*.

It is also easy to distinguish this species from *P. hispida* by coloration in the water. Living adult individuals of this species were brown, while yellow in *P. hispida*. II (1936) stated that the living individuals of *P. hispida* were bright vermillion, but such a coloration was not observed in this investigation.

The differences between this new species and *P. kurilensis* II, 1936 are as follows: 1) The rostrum extends far beyond the base of the antennular peduncle, while it extends only to the base of the antennular peduncle in *P. kurilensis*; 2) the antero-lateral corner of the carapace is acutely pointed, while it is rounded in *P. kurilensis*; 3) the carpo-propodus of the third to eighth thoracic endopods are divided into 5 subjoints, while they are divided into 8 subjoints in the third and fourth pairs and 7 in the fifth to eighth pairs in *P. kurilensis*; 4) all the abdominal somites are smooth without folds, while each abdominal somite has 3 folds in *P. kurilensis*.

The new species is also allied to *P. shikhotaniensis* PETRJASHOV, 1983 in the smooth body surface, but the two species are distinguishable from each other by the following points: 1) The carpo-propodus of the third to eighth thoracic endopods are divided into 5 subjoints, while they are divided into 6 or 7 in *P. shikhotaniensis*; 2) the endopod of the fourth pleopod of the male is 1/7 of the exopod including the terminal setae in length, while it is 1/3 in *P. shikhotaniensis*.

Etymology. The name *spadix* is derived from the body coloration, brown like a chestnut when observed in the water.

Key to the Species of the Genus *Paracanthomysis*

1. Abdominal somites smooth, not hispid or furrowed 2
- Abdominal somites hispid or furrowed 3
2. Carpo-propodus of third to eighth thoracic endopods divided into 6–7 subjoints. Endopod of fourth pleopod of male 1/3 of exopod, including terminal setae, in length *P. shikhotaniensis* PETRJASHOV
- Carpo-propodus of third to eighth thoracic endopods divided into 5 subjoints. Endopod of fourth pleopod of male 1/7 of exopod, including terminal setae, in length *P. spadix* sp. nov.
3. Abdominal somites hispid with dense minute spinules *P. hispida* II
- Abdominal somites furrowed *P. kurilensis* II

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