

Description of *Nishimuraia paradoxa* gen. et sp. nov., and the first record of the genus *Paracerceis* in Japan (Isopoda, Sphaeromatidae)

journal or publication title	Bulletin of the Toyama Science Museum
number	12
page range	1-7
year	1988-10-31
URL	http://repo.tsm.toyama.toyama.jp/?action=repository_uri&item_id=560

**Description of *Nishimuraia paradoxa* gen. et sp. nov., and the
First record of the Genus *Paracerceis* in Japan (Isopoda, Sphaeromatidae)***

Noboru Nunomura
Toyama Science Museum

コツブムシ科の1新属新種と日本近海で初めて発見された
ツノオウミセミ属の1新種

布村 昇
富山市科学文化センター

四国宇和島から採集された等脚目甲殻類標本にもとずき、コツブムシ科に属する1新属と従来日本近海から未記録であった *Paracerceis* 属の1新種を報告する。

まず、新属 *Nishimuraia* (和名：コツブムシダマン属) は外形が *Gnorimosphaeroma* (コツブムシ属) に酷似しているが、*Eubranchiate* に属し、尾肢の外肢を欠き、腹部側方の縫合線が各2本しか顕著でないこと等から新属と判断された。模式種は新種 *Nishimuraia paradoxa* である。

Paracerceis 属 (和名：ツノオウミセミ属) の1種を新種 *Paracerceis japonica* (和名：ツノオウミセミ) として記載した。本種は日本近海で初めて発見されたツノオウミセミ属であり、北米西岸、カリフォルニアから知られている *Paracerceis sculpta* (Holmes) と最も類似するが、(1) オス腹尾節後端の湾入がさらに複雑であること、(2) オスの尾肢先端が切形になっていること、(3) オス胸部背板に剛毛を有すること、(4) オス腹尾節前半の彫刻の形態の相違、そして(5) メス腹尾節後端の湾入が深いこと等で区別される。

In this paper, a proposal is made to establish a new genus *Nishimuraia*, together with the description of a new species belonging to the genus *Paracerceis* which has hitherto been unknown to the Japanese waters. The specimens representing both new species were collected and handed me over for identification by the good offices of Mr. Michio Ohtani of Nara shi.

Before going further, I wish to express my sincere gratitude to Prof. Saburo Nishimura of the Kyoto University, by dedicating the new genus herein described, for his courtesy extended to me for a long time, and to Mr. Michio Ohtani for his kindness in giving me such precious and interesting specimens.

Genus *Nishimuraia* gen. nov.
(Kotsubumushi-damashi-zoku, new)

Type species — *Nishimuraia paradoxa* sp. nov.

Generic diagnosis: Eubranchiate. Body rather flattened. With slight ability of cong-

*Contributions from the Toyama Science Museum, No. 71

lobation. Maxilliped with 5-segmented palp and a coupling hook. Pereopods ambulatory, unmodified. Exopod of pleopod 4 two-segmented. Uropod without exopod. Pleon with 2 pairs of distinct suture lines.

***Nishimuraia paradoxa* sp. nov.**

(Jap. name : Kotsubumushi-damashi, new)

Figs. 1-2

Material examined : 8 ♂♂ (1 ♂ holotype, 5.0mm in body length and 7 ♂♂ paratypes, 3.2~4.2mm in body length) and 1 ♀ (allotype, 4.5mm in body length), Uwajima shi, Ehime ken, coll. Michio Ohtani, Aug. 1986.

Type series is deposited as follows : Holotype (TOYA-Cr 7740), allotype (TOYA-Cr 7741) and 4 paratypes (TOYA-Cr 7742~7745) at the Toyama Science Museum, 2 paratypes

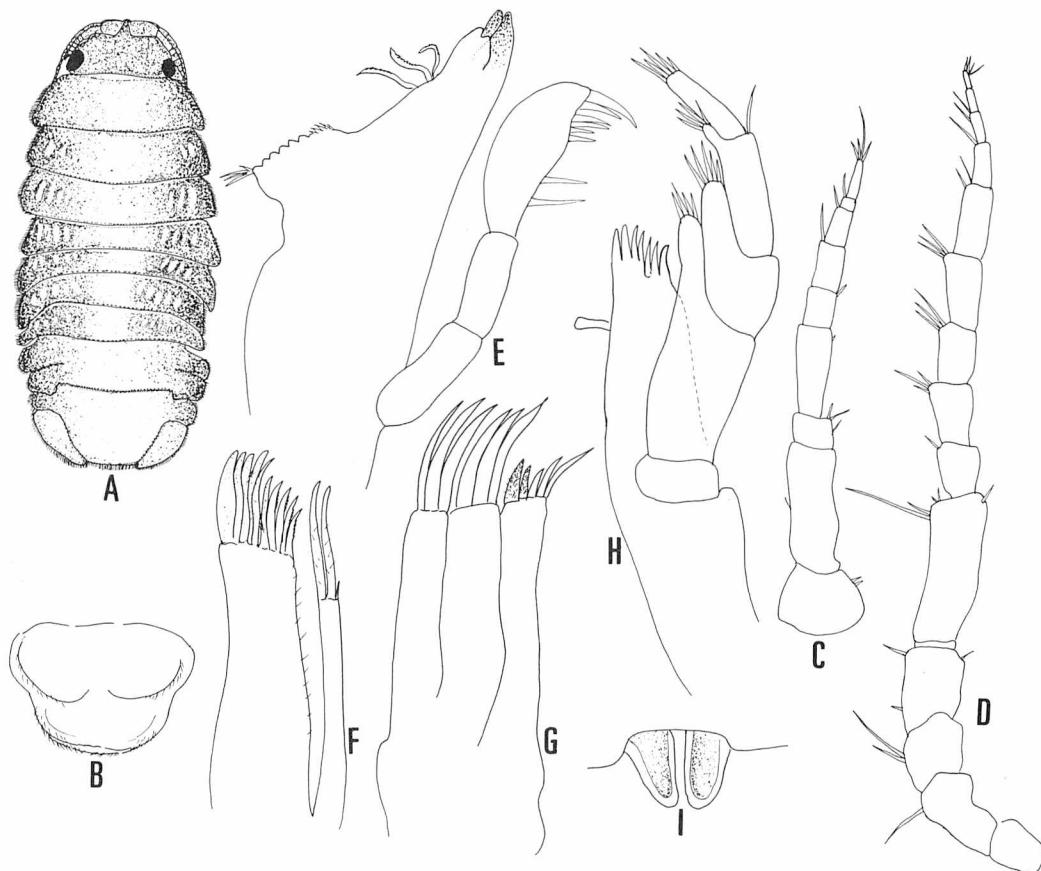


Fig. 1 *Nishimuraia paradoxa* gen. et sp. nov.

A. Dorsal view ; B. Upper lip ; C. Antennule ; D. Antenna ; E. Mandible ; F. Maxillule ; G. Maxilla ; H. Maxilliped ; I. Penes (All : holotype male).

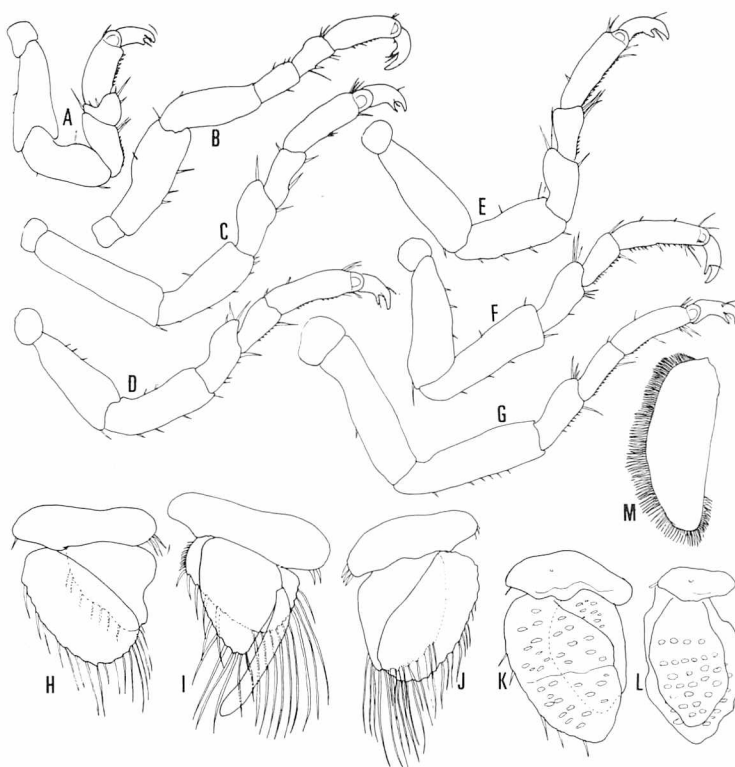


Fig. 2. *Nishimuraia paradoxa* gen. et sp. nov.

A-G. Pereopods 1-7; H-L. Pleopods 1-5; M. Uropod (All : holotype male).

(OMNH-Ar 3250~3251) at the Osaka Museum of Natural History and 2 paratypes (NSMT-Cr 9389) at the National Science Museum, Tokyo.

Description : Body elliptical, 1.7 times as long as wide. Color brown. Epimera not distinctly separated from pereonites in dorsal view. Cephalon semicircular without any particular projections. Coxal plates only slightly remarkable. Dorsal surface smooth. Eyes mediocre in size and each eye composed of about 100 ommatidia.

Lower lip (Fig. 1 B) round.

Antennule (Fig. 1 C) composed of 3 peduncular segments and 7 flagellar segments, 2nd peduncular segment longest.

Antenna (Fig. 1 D), reaching the middle part of 1st pereonal segment, composed of 5 peduncular segments and 9 flagellar segments.

Mandible (Fig. 1 E) ; pars incisiva 2-headed ; lacinia mobilis not chitinized and 2-headed ; 3 penicils between lacinia mobilis and processus molaris ; processus molaris is normal. Palp 3-segmented ; terminal segment stout bearing 8 setae.

Maxillule (Fig. 1 F) with 6 simple teeth and 4 serrated teeth on the distal margin of outer lobe and 2 relatively long pectinated spines at the tip of inner lobe.

Maxilla (Fig. 1 G); both rami of outer lobe with 3 long setae respectively; inner lobe as long as outer lobe with 2 plumose and 3 simple setae at the tip.

Maxilliped (Fig. 1 H); endite narrow with a coupling hook and with 7 spines at the tip. Palp 5-segmented; segment 1 short; segment 2 long, and with a pronounced setigerous lobe; segment 3 short and likewise with a pronounced setigerous lobe; segment 4 narrow and with a relatively small setigeous lobe; terminal segment narrow.

Pereopod 1 (Fig. 2 A); basis and ischium rectangular; merus shorter than ischium; carpus short and triangular; propodus rectangular with a series of small spines on inner margin.

Pereopods 2~7 (Fig. 2 B-G); basis and ischium long; merus rectangular; carpus rectangular with many setae on inner margin; propodus oblong with a stouter seta in the middle part of inner margin; dactylus stout and bifid.

Penes (Fig. 1 I) short, separate to base; each twice as long as wide, with a rounded tip.

Pleopod 1 (Fig. 2 H); endopod triangular with a shallow concavity on inner margin and bearing about 8 setae on the margin; exopod lanceolate-oblong, and bearing about 16 setae.

Pleopod 2 in male (Fig. 2 I); stylus on endopod extends for one-third of its own length beyond the apex.

Pleopod 3 (Fig. 2 J); endopod round bearing about 12 setae; exopod elliptical bearing about 16 setae.

Pleopod 4 (Fig. 2 K); endopod relatively small and ovate-lanceolate in shape; exopod lanceolate and 2-segmented, bearing 5 setae.

Pleopod 5 (Fig. 2 L) both rami small without seta.

Uropods (Fig. Fig. 2 M); endopod semicircular and normal in size, exopod lacking.

Genus *Paracerceis* Hansen, 1905

(Jap. name: Tsuno-o-umisemi-zoku, new)

As far as I know, 9 species have been described in the world, but none has been reported around Japan. This is the first record in Japan.

***Paracerceis japonica* sp. nov.**

(Jap. name: Tsuno-o-umisemi, new)

(Figs. 3-4)

Material examined: 3 ♂♂ (1 ♂ holotype, 8.8mm in body length and 2 ♂♂ paratypes, 7.3~8.5mm in body length) and 1 ♀ (allotype, 7.8mm in body length), Uwajima shi, Ehime ken., coll. Michio Ohtani, Mar. 1986. 3 ♂♂ (paratypes, 6.8~8.3mm in body length) and 3 ♀♀ (5.5~6.3mm in body length), Uwajima shi, Ehime ken., coll. Michio Ohtani, Aug. 1986; 3 ♂♂ (paratypes, 6.1-7.5mm in body length) and 1 ♀ (paratype, 4.9mm in body length), Uwajima shi, Ehime ken., coll. Michio Ohtani, Oct. 1986. Type series is deposited as follows: Holotype (TOYA-Cr 7635), allotype (TOYA-Cr 7636) and 4 paratypes (TOYA-Cr 7637~7640) at the Toyama Science Museum, 2 paratypes (OMNH-Ar 3252~3253) at the Osaka Museum of

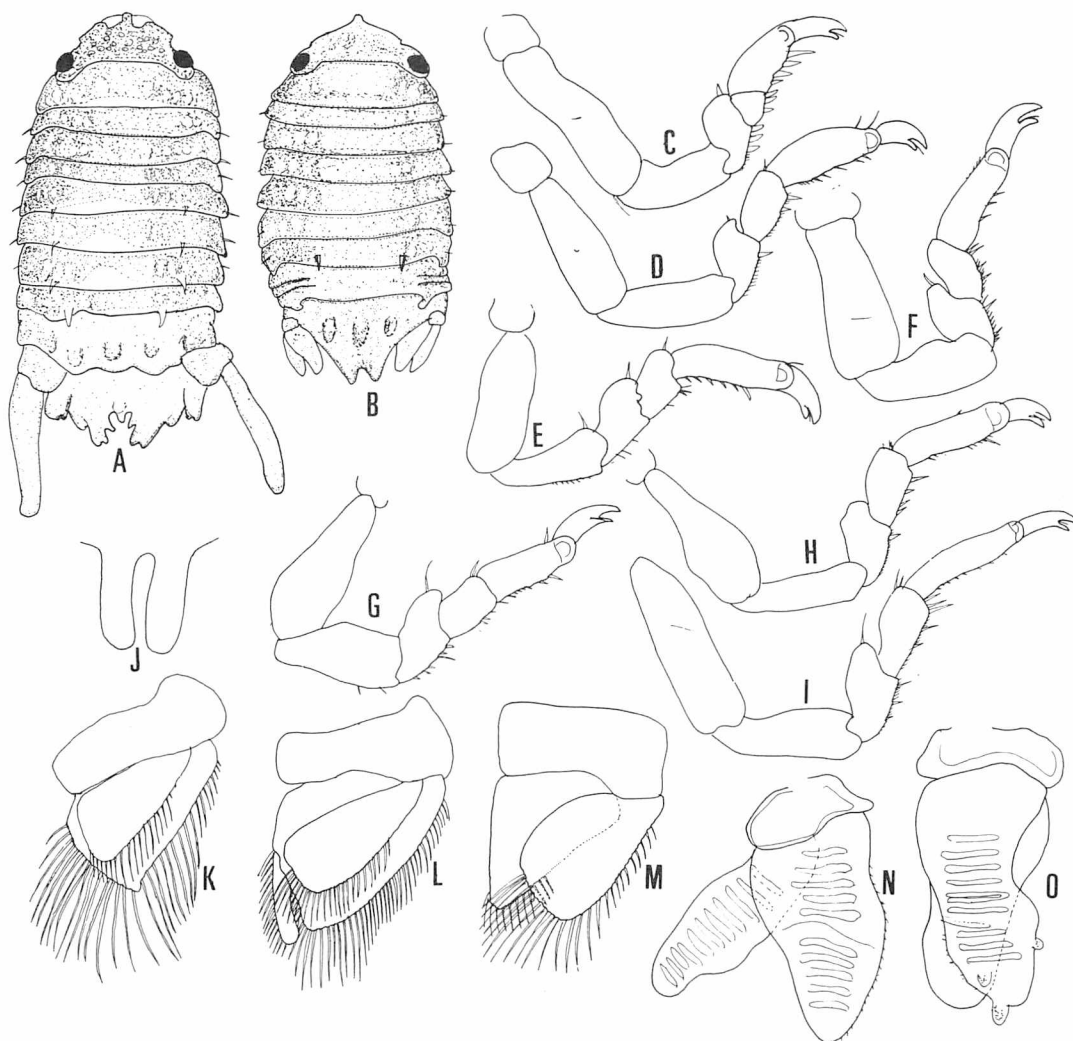


Fig. 3 *Paracerceis japonica* sp. nov.

A. Dorsal view of male; B. Dorsal view of female; C-I. Pereopods 1-7; J. Penes;
K-O. Pleopods 1-5. (All : holotype male).

Natural History and 2 paratypes (NSMT-Cr 9390) at the National Science Museum, Tokyo.

Description : Body ovate, dorsally convex, 4 to 7 pereonal segments and pleonal segment, each with a pair of lateral process and a pair of dorsal setae. Color brown. Epimera not distinctly from pereonites and almost vertical. Cephalon moderate, with a rostral process and a pair of anterior low but wide processes. Eyes mediocre in size, each eye composed of about 80 ommatidia. Posterior margin of pleotelson with a deep and complicated concavity in male (Fig. 4 I), but with a shallow concavity in female.

Antennule (Fig. 4 A) ; flagellum with 12 segments.

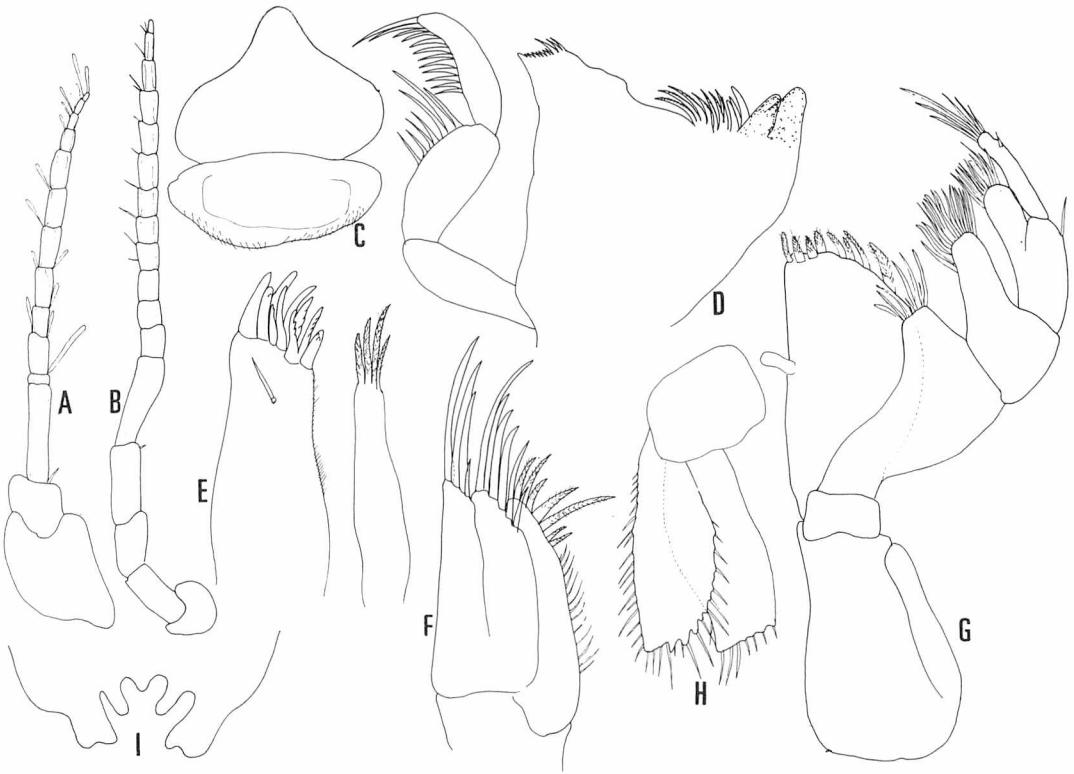


Fig. 4 *Paracerceis japonica* sp. nov.

A. Antennule ; B. Antenna ; C. Clypeus ; D. Mandible ; E. Maxillule ; F. Maxilla ; G. Maxilliped ; H. Uropod of female ; I. Posterior part of pleotelson in male. (A-G, I: holotype male. H: allotype female).

Antenna (Fig. 4 B) reaching 1st pereonal segment ; flagellum with 12 segmentms.

Clypeus (Fig. 4 C) round and triangular. Upper lip elliptical and round.

Mandible (Fig. 4 D) ; pars incisiva 2-headed ; lacinia mobilis 3-headed ; 7~8 penicils behind lacinia mobilis. Processus molaris normal.

Maxillule (Fig. 4 E) ; inner lobe with 4 plumose setae ; outer lobe with 10 teeth at the tip.

Maxilla (Fig. 4 F) with 4 long simple spines and 6 short simple spines on respectively outer and inner rami of outer lobe, and with 7 pectinated setae on inner lobe.

Maxilliped (Fig. 4 G) ; endite with 8 stout spines at the apex and a coupling hook at the inner lateral margin ; palp 5-segmented, 1st segment short, 2nd segment big with a lobe, 3rd segment with a big lobe, 4th segment narrow but a relatively big lobe, terminal segment narrow and without any lobation.

Pereopod 1 (Fig. 3 C) ; basis and ischium oblong ; merus rectangular with 3 spines on inner margin ; carpus small and triangular, with 3 stout spines on inner margin ; propodus relatively robust with 4 spines on inner margin ; dactylus bifid.

Pereopod 2 (Fig. 3 D); basis and ischium oblong; merus less than half the length of ischium; carpus rectangular and as long as merus; propodus longer than that of pleopod 1, and with 5~6 setae on inner margin.

Pereopods 3~7 (Fig. 3 E-I); basis and ischium oblong; merus and carpus about half the length of ischium; propodus slender; dactylus bifid.

Penes (Fig. 3 J) separate to base.

Pleopod 1 (Fig. 3 K); endopod rectangular, bearing about 30 setae; exopod smaller than endopod and bearing about 18 setae.

Pleopod 2 (Fig. 3 L); endopod rectangular bearing about 50 setae; stylus only slightly beyond the tip of endopod; exopod narrow bearing about 23 setae.

Pleopod 3 (Fig. 3 M); endopod triangular bearing a dozen setae; exopod rectangular bearing about 30 setae.

Pleopod 4 (Fig. 3 N); endopod narrow; exopod 2-segmented with 5~6 setae.

Pleopod 5 (Fig. 3 O); endopod narrow; exopod with 3 squamiferous bosses.

Uropods large and elongated.

Remarks : Among 9 species hitherto described in the genus *Paracerceis*, the present new species is most closely allied to *Paracerceis sculpta* (Holmes) recorded from San Clemente Island and San Diego, North America. The former is, however, separated from the latter in the following features : (1) more complicated baymouth of the posterior end of pleotelson in male, (2) truncated tip of uropod, (3) presence of setae on dorsal surface of posterior pereonites, (4) shape of anterior part of pleotelson and (5) deeper concavity on the posterior end of pleotelson in female.

References

- Hale, H.M., 1929. The crustaceans of South Australia. Handbook of Flora & Fauna, part. 2, 201-380.
- Hansen, H.J., 1905. On the propagation, structure and classification of the family Sphaeromidae. Quart. Jour. Microsc. Sci., 49 (1) : 69-135, Pl.7.
- Harrison, K. & D.M. Holdich, 1982. New Eubranhiate Sphaeromatid Isopods from Queensland waters. Mem. Qd. Mus., 20 (3) : 421-446.
- Holmes, S.J., 1904. On some new or imperfectly known species of West American Crustacea. Proc. California Acad. Sci. ser. Zool. 1901-04. San Francisco (not seen by me).
- Kensley, B., 1978. Guide to the Marine isopods of southern Africa. South African Museum, 1-173.
- Menzies, R.J., 1962. The marine isopod fauna of Bahia de San Quintin, Baja California, Pacific Naturalist. 3 (11) : 337-348.
- Richardson, H. 1905. A monograph on the isopods of North America. Bull. U.S. Nat. Mus., 54 : 1-727.