

A New Species of the Genus Amakusanthura  
(Crustacea: Isopoda: Anthuridae) Collected from  
Yuya Bay, on the Sea of Japan Side of Yamaguchi  
Prefecture, Western Japan

メタデータ	言語: eng 出版者: 公開日: 2017-10-05 キーワード (Ja): キーワード (En): 作成者: メールアドレス: 所属:
URL	<a href="http://hdl.handle.net/2297/44951">http://hdl.handle.net/2297/44951</a>

# A New Species of the Genus *Amakusanthura* (Crustacea: Isopoda: Anthuridae) Collected from Yuya Bay, on the Sea of Japan Side of Yamaguchi Prefecture, Western Japan

Noboru NUNOMURA<sup>1\*</sup>

Received 24 September 2015

Accepted 5 November 2015

## Abstract

A new species of the genus *Amakusanthura azumai* (Crustacea: Isopoda: Anthuridae) is described based on a number of specimens collected from Yuya Bay, on the Sea of Japan side of Yamaguchi Prefecture in western Honshu. The present new species is most closely allied to *Amakusanthura longiantennata* Nunomura, 1977. The former is differentiated from the latter by the following characteristics: in the rounded medial process and the antero-lateral process of cephalon, the rounded tip of the masculina of the second male pleopod, less numerous teeth on the maxillula, shorter maxillipeds, a wider propodus on the pereopd1, a lack of dorsal pits on the dorsal surface of the pereonal somites, and less numerous setae on the pereopods.

**Key Words:** *Amakusanthura azumai*, Anthuridae, Isopoda, new species, taxonomy

Hitherto, forty-four species of the genus *Amakusanthura* from all over the world (Schotte, *et al.* 1995 onward.) including three species in Japan (Nunomura, 1977, 1992, 2004; Nunomura and Shimomura 2012a, 2012b) have been known as valid. Recently I examined a small collection of isopod crustaceans which Dr. Mikio Azuma (Professor Emeritus of Nagasaki University at that time) and his colleagues had collected from Yuya Bay (Fig. 1), the Sea of Japan side of Yamaguchi Prefecture, Western Japan in 1986. As the results of research of mine, I described a new species, *Amakusanthura azumai*.

## Oder Isopoda

### Suborder Cymothoida

### Family Anthuridae

### *Amakusanthura azumai* n.sp.

(Japanese name: Chôshû-higenaga-uminanafushi, new)

(Figs. 2-4)

*Material examined:* 2♂♂ (1♂ holotype, 8.2mm in body length and 1♂ paratype 8.7 mm in body length) from medium sand, 3 m in depth, off Sugata, Yuya-Bay (Yuya-wan), Nagato-shi, the Japan Sea Side of Yamaguchi Prefecture, 9, June 1986, coll. Mikio Azuma, and 1♀ (allotype, 10.1 mm in body length), from 5 m in depth Kaigawa located at Nagato-shi, 9 June 1986, coll. Mikio Azuma. These specimens were collected by using NUS (Nagasaki University Sledge) - II net, with the cooperation of Seikai National Fisheries Research Institute, Shimonoseki Branch. Holotype (TOYA Cr-23646), allotype (TOYA Cr-23647) and a paratype (TOYA Cr-23648) will be deposited at Toyama Science Museum. Size of specimens is indicated by the body length (BL) measured from the midpoint of the anterior margin of the head to the midpoint of the posterior margin of the pleotelson.

<sup>1</sup>Noto Marine Laboratory, Division of Marine Environmental Studies, Institute of Nature and Environmental Technology, Kanazawa University, Ogi, Noto-cho, Ishikawa 927-0553, Japan

\*Author for correspondence

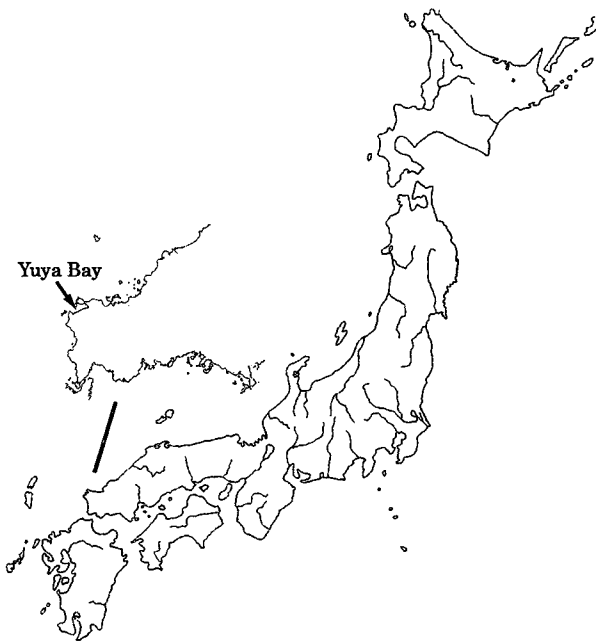


Fig. 1 Map showing Yuya-Bay.

*Description of male:* Body (Fig. 2A) 13.5 times as long as wide. Color not pigmented, almost white in alcohol. Cephalon almost as long as wide; anterior margin with a round median process. Mutual length of pereonal somites 1-6 almost same, seventh pereonal somite half the length of sixth. Dorsal pit not observed. Pleon 1.8 times as long as wide. Pleonal somites 1-5 fused in medial area and suture lines are seen only lateral sides; sixth segment perfectly demarcated. Pleotelson (Fig. 2N) ovate, 2.6 times as long as wide, with a pair of big statocysts, 2-3 relatively short setae at the midpoint of posterior end.

Antennule (Fig. 2B) with 3 peduncular segments and 24-25 flagellar segments, reaching middle part of the fifth pereonal somite, bearing much seta. Antenna (Fig. 2C) long, composed of 5 peduncular segments and 2 flagellar segments.

Mandible (Fig. 2D): palp three-segments; first segment 1.9 times as long as wide; second segment 1.5 times longer than the first, with bearing a long seta; terminal segment 0.45 times as long as the second, with a relatively short seta; incisor and lacinia small. Maxillula (Fig. 2E) slender, with 4 spine-like teeth. Maxilliped (Fig. 2F): palp three-segmented, first segment two-thirds as long as basis, with a seta; second segment a little shorter than basis, with 3 setae, terminal segment round and

one-third as long as the second, with 6 setae; epipodite round.

Pereopod 1 (Fig. 3A) stout: basis fan-shaped; ischium rectangular; merus rectangular, with 3 setae on basal part of outer margin; carpus narrow and triangular, with 4 setae on inner margin; propodus 2.7 times as long as wide, palm not stepped, with 10-11 setae on inner margin; dactylus with 4-6 setae.

Pereopod 2 (Fig. 3B): basis 3.8 times as long as wide; ischium a little shorter than basis; merus half-length of ischium, with 3 setae on distal half of both margin; carpus triangular, with 3 setae on inner margin; propodus 2.5 times as long as wide, a little smaller than that of pereopod 1, with 7-8 setae including stout one on inner area; dactylus as long as wide.

Pereopod 3 (Fig. 3C): basis 3.6 times as long as wide, with a short seta at inner distal part; ischium a little shorter than basis; merus half-length of ischium, with a seta on inner margin; carpus triangular, with 2 setae on inner area and 2 setae on distal area; propodus somewhat long, 2.5 times as long as wide, slenderer than that of pereopod 1, with 8-9 setae on inner area; dactylus as long as wide.

Pereopod 4 (Fig. 3D): basis 2.7 times as long as wide; ischium as long as basis; merus rectangular, with 3 setae including a long one; carpus pentagonal, with 2-3 setae on inner distal area; propodus 1.7 times as long as carpus, with 3 setae on inner distal area and 4 short setae on outer distal area; dactylus 0.7 times as long as propodus.

Pereopod 5 (Fig. 3E): basis 3.0 times as long as wide; ischium as long as basis; merus 0.55 times as long as ischium, with a seta on outer margin; carpus trapezoidal, 0.8 times as long as merus, with 2 setae on outer margin; propodus 1.6 times as long as carpus; dactylus a little shorter than propodus.

Pereopod 6 (Fig. 3F): basis 3 times as long as wide; ischium almost as long as basis; merus 0.6 times as long as ischium, with 3 relatively long setae on distal area; carpus trapezoidal, 0.8 times as long as merus, with a seta on inner distal area; propodus 1.3 times as long as carpus, with 2 short setae at inner distal area; dactylus a little shorter than propodus.

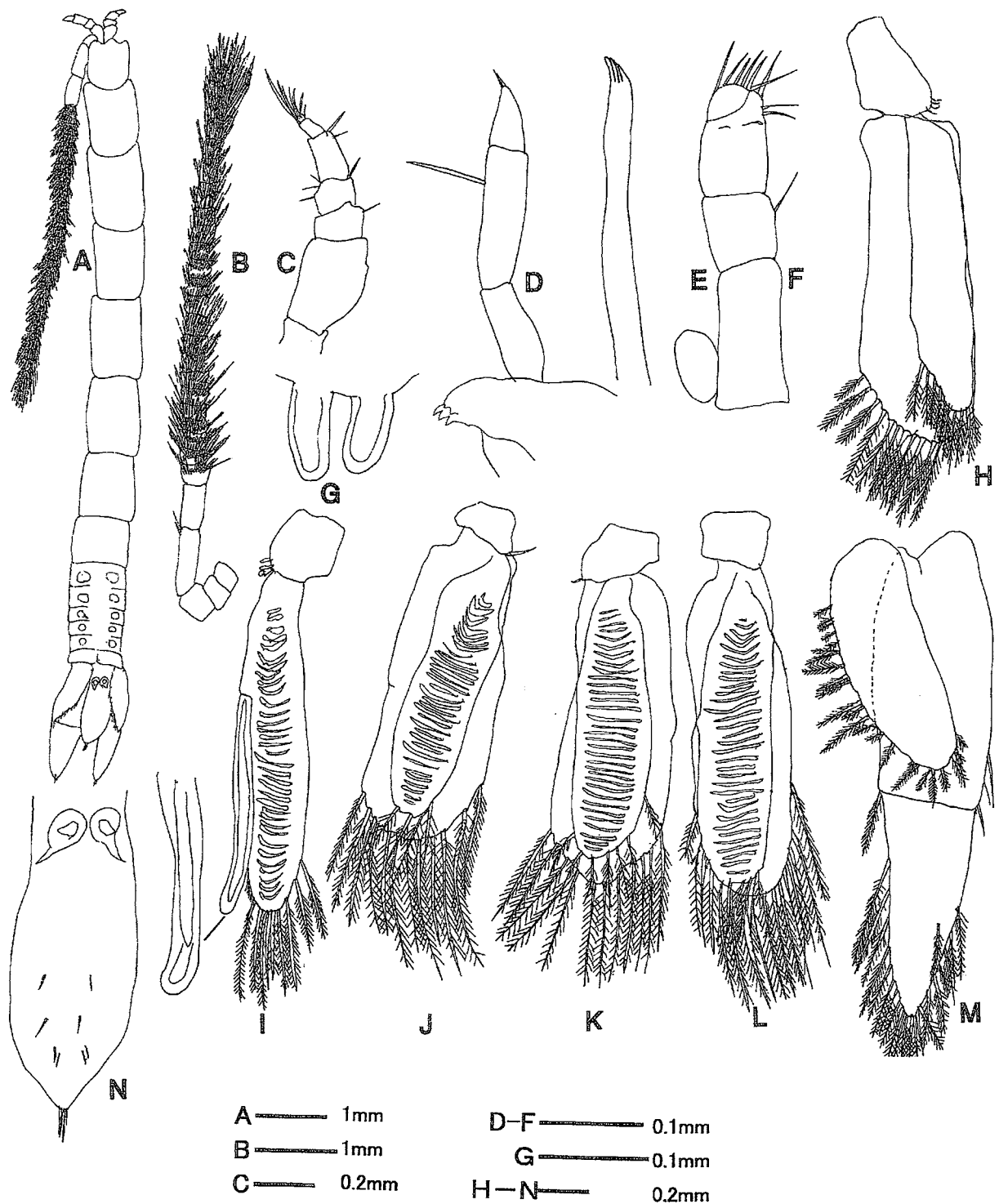


Fig. 2 *Amakusanthura azumai* n.sp. Male.

A, Dorsal view; B, Antennule; C, Antenna; D, Mandible; E, Maxillula; F, Maxilliped; G, Penes, H, Pleopod 1; I, Pleopod 2; J, Pleopod 3; K, Pleopod 4; L, Pleopod 5, M, Uropod; N, Pleotelson (All: Holotype male).

Pereopod 7 (Fig. 3G) slightly longer than the pereopod 6: basis 2.7 times as long as wide; ischium long with 2 setae at inner distal angle; merus long, two-thirds as long as ischium, with 3 relatively long setae on distal area; carpus trapezoidal, with 3 setae, on

inner side, and 2 setae on outer margin; propodus 1.3 times as long as carpus, with 5 setae on distal area; dactylus almost as long as propodus.

Penes (Fig. 2G) paired and separated, each penis 3 times as long as wide.

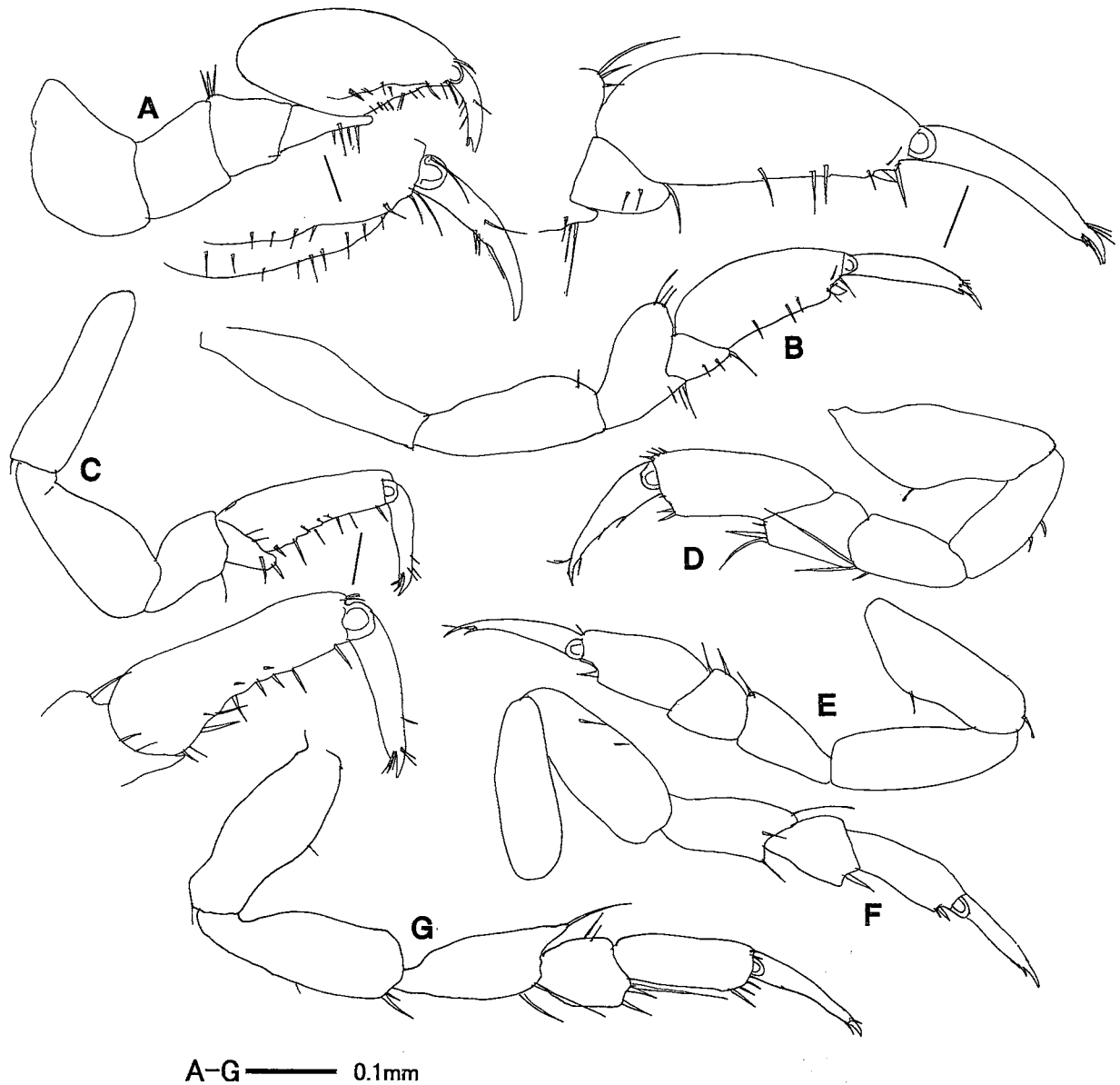


Fig. 3 *Amakusanthura azumai* n.sp. Male.  
A-G, Pereopods 1-7 (All: Holotype male).

Pleopod 1 (Fig. 2H): peduncle rectangular, with 4 short coupling hooks; endopod narrow, with 10 setae ; exopod operculum-shaped, exceeds beyond the tip of endopod, with 11 plumose setae.

Pleopod 2 (Fig. 2I): peduncle square with 3 coupling hooks; endopod with an appendix masculina bearing a round tip; exopod slightly longer than endopod, with 12 plumose setae in paratype (unfortunately broken in holotype).

Pleopods 3-5 similar (Figs. 2J-L): peduncle rectangular; endopod 4 times as long as wide, with 4-7

setae on distal margin; exopod slightly longer and wider than endopod, with 11-15 plumose setae around the margin.

Uropod (Fig. 2M): peduncle rectangular, 2.3 times as long as wide; endopod 0.9 times as long as peduncle; exopod not notched and 2.5 times as long as wide, with lateral margin slightly sinuate, with 21-22 setae on inner margin.

*Description of female:* Body (Fig. 4A) as in male. Antennule (Fig. 4B) composed of 3 peduncular and

segments and 2 flagellar segments. Antenna (Fig. 4C), as long as antennule, composed of 5 peduncular and 2 flagellar segments. Mouth part as in male.

Pereopod 1 (Fig. 4D) stout: basis fan-shaped, almost as long as wide; ischium rectangular, with a short seta at inner distal angle; merus relatively slender, with 2

setae on inner side; carpus narrow and triangular, with 2 setae on inner side; propodus stout, with 8-9 setae on inner margin; dactylus 0.4 times as long as propodus.

Pereopod 2 (Fig. 4E): basis twice as long as wide; ischium as long as basis, with 6 setae on inner side; merus stout, two-thirds as long as ischium, with 6 setae

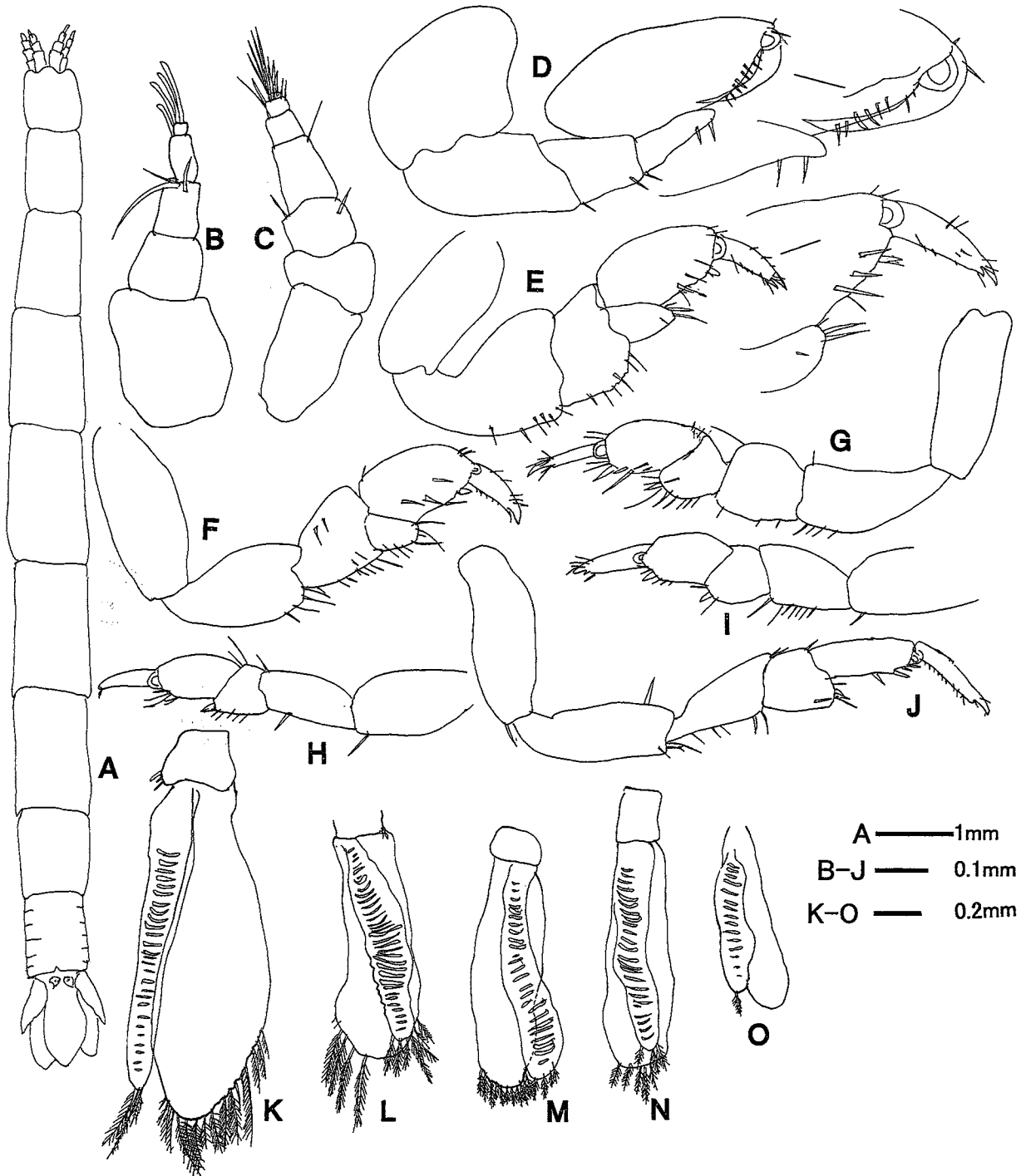


Fig. 4 *Amakusanthura azumai* n.sp. Female.  
A, Dorsal view; B, Antennule; C, Antenna; D-J, Pereopods 1-7; K-O, Pleopods 1-5 (All: Allotype female).

on inner side; carpus as long as merus, with 4 setae on inner distal area; propodus slenderer than that of male, 0.7 times as long as carpus, with 7 setae including a stout one inner margin; dactylus short, two-thirds as long as propodus.

Pereopod 3 (Fig. 4F): basis 2.3 times as long as wide; ischium as long as basis, with 4 setae on distal half of inner margin; merus slender, as long as ischium, with 7-8 setae on inner side; carpus 0.55 times as long as merus, with 7 setae including 2 stout ones on inner margin; propodus slenderer than those of male; dactylus 0.6 times as long as propodus.

Pereopods 4-6 (Figs. 3G-I) approximately similar: basis 2.5 times as long as wide; ischium a little shorter than basis, with 1-7 setae on inner margin and a seta at outer distal margin; merus as long as wide, with 1-6 setae on inner margin and a seta at outer distal margin; carpus as long as merus, with 6-10 setae on inner margin; propodus somewhat swollen, with 5-8 setae including a stout one inner margin; dactylus 0.7 times as long as propodus.

Pereopod 7 (Fig. 4J) a little longer than the preceding one: basis 3 times as long as wide, with a seta at inner distal area; ischium a little shorter than basis, with 4 setae at inner distal area and a seta on outer margin; merus slender, with 5 setae on inner margin; carpus almost square, with 5-6 setae on inner distal area; propodus 1.5 times as long as carpus, with 4 setae on inner margin; dactylus a little bit shorter than as propodus.

Pleopod 1 (Fig. 4K): peduncle pentagonal, with 3 coupling hooks; endopod slender, 8 times as long as wide, with 2 plumose setae at the tip; exopod lanceolate, 3 times as long as wide, with 15-16 setae around the margin.

Pleopod 2 (Fig. 4L): peduncle with 2 coupling hooks; endopod 4.5 times as long as wide, with 6 plumose setae on apical margin; exopod 2.8 times as long as wide, with at least 4 plumose setae on apical margin.

Pleopod 3 (Fig. 4M): peduncle without hooks; endopod 5 times as long as wide, with 5 plumose setae on apical margin; exopod 3.3 times as long as wide, with

12 plumose setae on apical margin.

Pleopod 4 (Fig. 4N): peduncle without hooks; endopod 6 times as long as wide, with 3 plumose setae near the tip; exopod 3.3 times as long as wide, with 5 plumose setae near the tip.

Pleopods 5 (Fig. 4O): endopod a little shorter than exopod, 5 times as long as wide, with a plumose seta near the tip; exopod 6 times as long as endopod, without setae. Uropod as in male.

Pleotelson 2.4 times longer than wide, with a pair of relatively big statocysts.

Environments: These specimens were collected from the medium sand bottom, 3-5m in depth. They were collected together with other species of Anthuroidea: *Paranthura japonica* and *Cyathura* sp.

Etymology: The species name is dedicated to Dr. Azuma, collector of the specimens.

Remarks: The present new species is allied to *Amakusanthura longiantennata* Nunomura 1977, but the former differs from the latter in the following features: (1) stouter antero-medial process and antero-lateral process of cephalon, (2) round tip of masculina of male second pleopod, (3) stouter pereopod 1, (4) lack of dorsal pits of pereonal somites (5) shorter maxilliped, (6) less numerous teeth of maxillula and (7) less numerous setae on pereopods.

Acknowledgements: I would like to express my sincere gratitude to Dr. Mikio Azuma Professor Emeritus of Nagasaki University for his kindness in giving me a chance interesting specimens and giving me the accompanying information.

## References

- Nunomura, N., 1977 : Marine Isopoda from Amakusa, Kyushu (1). *Publication of Amakusa Marine Biological Laboratory*, 4, 71-90.
- Nunomura, N., 1992 : A new species of the genus *Amakusanthura* (Crustacea, Isopoda) from Shinminato, Toyama Prefecture, middle Japan. *Bulletin of Toyama Science Museum*, 15, 25-29.
- Nunomura, N., 2004 : Marine isopod crustaceans collected

- from Izu Peninsula, Middle Japan. *Bulletin of Toyama Science Museum*, **27**, 1-14.
- Nunomura, N. and Shimomura. M., 2012a: Isopoda from Japan (15). Suborder Cymothoida-Superfamily Anthuroidea ③ Family Anthuridae (1) *Aquabiology*, 200 (Vol.34, no.3): 258-262, Seibutsu-Kenkyusha. Tokyo (in Japanese).
- Nunomura, N. and Shimomura. M., 2012b: *Amakusanthura longiantennata*. in The Japanese Association of Benthology, eds., *Threatened Animals of Japanese Tidal Flats: Red Data of Sea Shore Benthos*. Tokai University Press, Tokyo, 178p (in Japanese).
- Schotte, M., Kensley, B. F. and Shilling S., 1995 onwards: *World list of Marine, Freshwater and Terrestrial Crustacea Isopoda*. National Museum of Natural History Smithsonian Institution: Washington D.C., USA.
- <http://invertebrates.si.edu/isopod/>(Accessed 29 August 2015)



# 山口県日本海側の油谷湾から発見されたヒゲナガウミナナフシ属 (甲殻類、等脚目、ウミナナフシ科) の1新種

布村 昇<sup>1\*</sup>

2015年9月24日受付

2015年11月5日受理

## 要 旨

山口県の日本海側の油谷湾の浅海の砂底から発見されたウミナナフシを新種 *Amakusanthura azumai* として記載した。本種は天草のアマモ帯で採集された本属の基準種であるヒゲナガウミナナフシ *Amakusanthura longiantennata* Nunomura, 1977 と最も類似するが、頭部前縁中央ならびに側方の突起が丸みを帯びていること、オスの第2腹肢内肢の交尾針先端が丸いこと、第1胸脚前節が幅広いこと、第1小顎先端の歯状構造の数が少ないこと、胸部背面に中央部に小孔が観察されないこと、胸脚の剛毛数が少ないこと、顎脚が短く、歯の数が少ないことなどで区別される。

キーワード：チョウシュウヒゲナガウミナナフシ、ウミナナフシ科、等脚目、新種、分類学

---

<sup>1</sup>金沢大学環日本海域環境研究センター 海洋環境領域 臨海実験施設 〒927-0553 石川県鳳珠郡能登町小木  
<sup>\*</sup>連絡著者