Cirolana lignicola, a new cirolanid isopod from the East China Sea

Bulletin of the Toyama Science Museum No.6 pp.45-49 ; (1984)

Cirolana lignicola, a New Cirolanid Isopod from the East China Sea*

Noboru NUNOMURA
Toyama Science Museum

東シナ海から発見されるスナホリムシ(甲殻類, 等脚目)の1新種

布村　昇
富山市科学文化センター

1983年8月, 東シナ海の水深70mの海底から引き揚げられた木材片に穿孔していたスナホリムシの1種を *Cirolana lignicola* として記載した。本種は北米西岸から知られている *Cirolana concharum*(STIMPSON) と最も類似するが, (1)腹尾節後端に広いくぼみのあること, (2)胸肢の剛毛の少ないこと, (3) frontal lamina が短いこと, (4)第6及び第7胸節基板が後方に伸長しないこと等によって区別された。

また, 日本海富山湾の埋没林から採集された *Cirolana toyamaensis* NUNOMURA とは, (1)腹尾節の形態, (2)雄第二腹肢の形態, (3)第二触角が短かく, 鞭数が少ないこと等によって区別される。なお, 本種の完模式標本は富山市科学文化センター (TOYA－Cr－2304) で保管される。

In August 1983, a survey on the benthos of the East China Sea was carried out by scientists of the Mie University. Among the collections obtained during this survey, some peculiar isopod crustaceans were found, and these speciens were places at my disposal for identification through the courtesy of Dr. Hideo Sekiguchi. At closer examinations, they proved to represent a new species of the genus *Cirolana*. The specimens, fixed and preserved in formalin and then transferred to alcohol, were dissected and examined in glycerol. All the figures were drawn by using camera lucida.

Before going further, I wish to express my thanks to Professor Saburo Nishimura of the Kyoto University for his kindness in reading the manuscript, and to Dr. Hideo Sekiguchi of the Mie University for his generosity in giving me a chance to study these interesting specimens.

Cirolana lignicola, n. sp.

Figs. 1 and 2

Material examined : 1 ♂ (holotype, 5.6 mm in body length) and 3 ♀♀ (1 ♀ allotype, 6.6 mm in body length and 2 ♀♀ paratypes, 3.9～7.0 mm in body length), from a timber of 15 cm × 15 cm × 15 cm demersed on the sea floor, 70 m in depth, lat. 31° 13. N, long. 126° 50. E., coll. Hideo Sekiguchi. Type series is deposited as follows : holotype male (TOYA-Cr-2304) and allotype (TOYA-Cr-2305) at the Toyama Science Museum, 1 paratype (OMNH-Ar-2929) at the

*Contributions from the Toyama Science Museum No.33

Osaka Museum of Natural History, and 1 paratype (NSMT-Cr-8981) at the National Science Museum, Tokyo.

Description: Body long, 3.3 times as long as wide. Body colour creamy white with irregular pale-brown patterns on dorsal surface in formalin. Epimera of the fourth to seventh peraeonal somites progressively more produced and acute, visible dorsally. First peraeonal somite longer than the second and with anterolateral part protruded. Sixth to seventh peraeonal somites shorter than the fifth. Pleotelson rather long with a shallow baymouth at the medial part of posterior end. Eyes rather large but number of ocelli not discerned.

First antenna (Fig. 1 B) short. Peduncle 3-segmented ; first segment short and with a seta at distal margin, second segment square with 3 setae at outer distal margin, third segment long with a seta at distal outer margin. Flagellum 9-segmented ; first segment relatively long, terminal segment small and bears several aesthetascs at the tip.

Second antenna (Fig. 1 C) reaching the posterior part of second peraeonal somite. Peduncle composed of 5 segments ; first segment short, second segment short, third and fourth segments almost square, fifth segment rectangular. Flagellum composed of 25～26 segments ; basal 8 segments relatively short and terminal segment small.

Frontal lamina (Fig. 1 G) round.

Right mandible (Fig. 2 B) stout. Pars incisiva composed of 3 heads; lacinia mobilis not chitinized and 3-headed ; a penicil between lacinia mobilis and processus molaris ; processus molaris semi-circular with 23 teeth ; palp 3-segmented and terminal segment with 10 setae.

Left mandible (Fig. 2 A) shout. Pars incisiva composed of 3 low heads; lacinia mobilis small and 2-headed; a serrated setae between lacinia mobilis and processus molaris; processus molaris semicircular with 23 teeth. Palp 3-segmented and terminal segment with 14 setae.

First maxilla (Fig. 1 D) slender. Outer lobe with 10 teeth at the tip ; inner lobe with 3 haired bristles and a small seta at the tip.

Second maxilla (Fig. 1 E) normal. Outer lobe long and slender, with 2 and 7 fringed setae respectively ; inner lobe short but wide, with 12 setae at the tip.

Maxilliped (Fig. 1 F) long ; endite narrow, with 2 coupling hooks on inner margin. Palp 5-segmented ; first segment quardrate, second segment triangular with a seta, third segment broad and with 7 setae on inner margin and 2 setae on outer margin, fourth segment trapeozoid in shape with 7 setae on inner margin and 3 setae on outer margin, fifth segment narrow with 4 setae on outer margin and 7 setae at distal corner.

Peraeopod I (Fig. 2 C). Basis rectangular with 3 setae on distal margin ; ischium rectangular ; merus square with a protuberence and 3 setae on outer margin ; carpus triangular and short ; propodus robust with 4 setae on inner margin.

Peraeopods II-III (Fig. 2 D). Basis oblong ; ischium rectangular with 1～2 small protuberences on inner margin ; merus square with 5 protuberences on inner margin and 5 setae on distal margin ; carpus square ; propodus rectangular with 5～6 setae on inner margin.

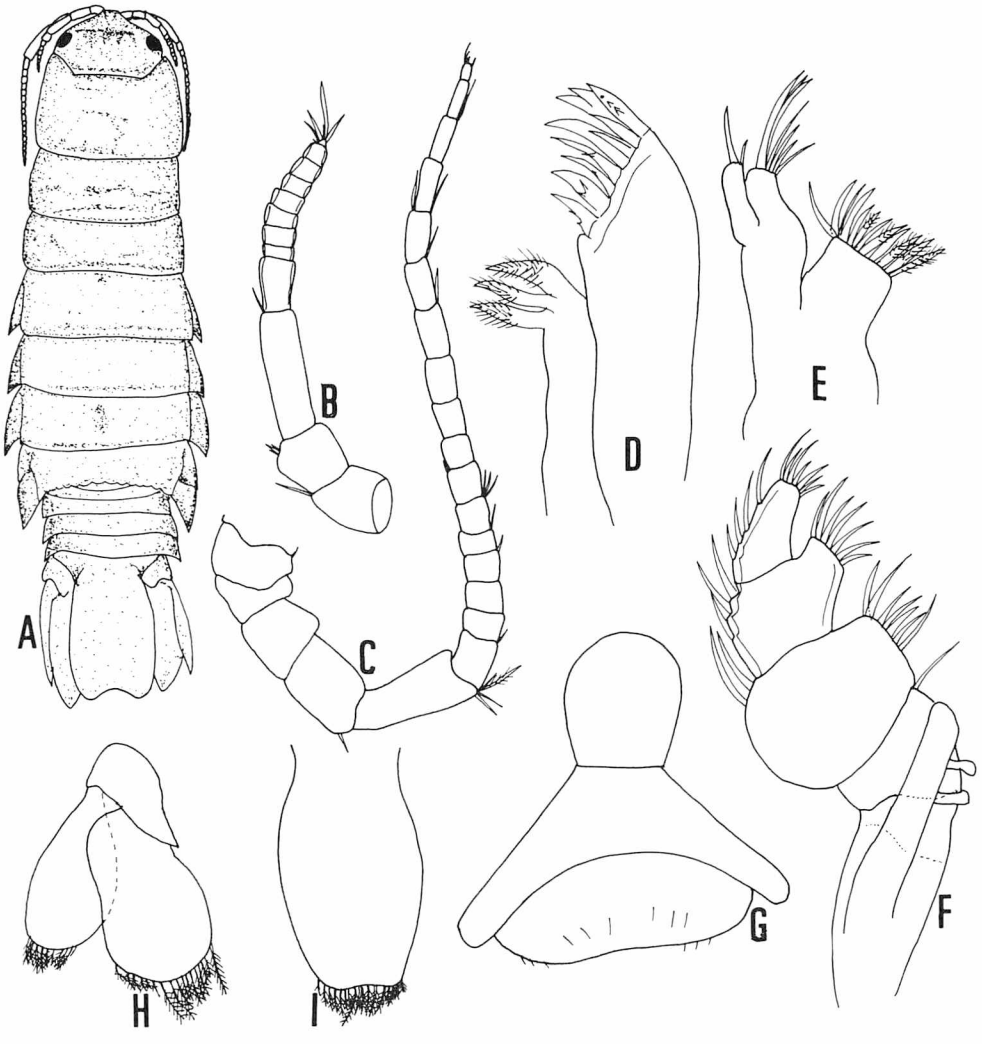

Fig. 1. *Cirolana lignicola*, n. sp.
A. Dorsal view ; B. First antenna : C. Second antenna D. First maxilla : E. Second maxilla ; F. Maxilliped ; G. Frontal lamina and clypeus ; H. Uropod ; I. Pleotelson. (A-E, H-I : Holotype male, F-G : Paratype female)

Peraeopods IV-VI (Fig. 2 E-F) similar in shape. Basis oblong with a seta on inner distal corner ; ischium elongated triangular ; merus square with 3 setae on inner margin and 7~10 setae on distal margin ; carpus almost square with 5~7 setae on distal margin ; propodus rectangular.

Peraeopod VII (Fig. 2 G) almost similar to the peraeopod VI. Basis stout with a seta on anterolateral corner, ischium triangular with more than 13 smaller setae on inner margin and

4 larger setae at outer distal corner ; merus almost square with 13 setae on anterior border ; carpus almost square with 13 setae on anterior border and 2 setae on inner margin ; propodus somewhat longer than that of the peraeopod VI.

Male second pleopod (Fig. 2 G) : Stlylus relatively long, exceeding slightly beyond both lami.

Uropod (Fig. 1 I). Basis triangular ; both lami round.

Remarks : The present new species is most closely allied to *Cirolana concharum* from the Atlantic coast of North America, but the former is separated from the latter in the following features : (1) wider baymouth of posterior margin of pleotelson, (2) less numerous setae on peraeopods, (3) shorter frontal lamina, (4) short epimera of sixth and seventh peraeopods and so on.

The present new species is also related to *Cirolana toyamaensis* recorded from a stump in submerged forest relics on the shallow bottom in the Toyama Bay, Japan Sea. But the former

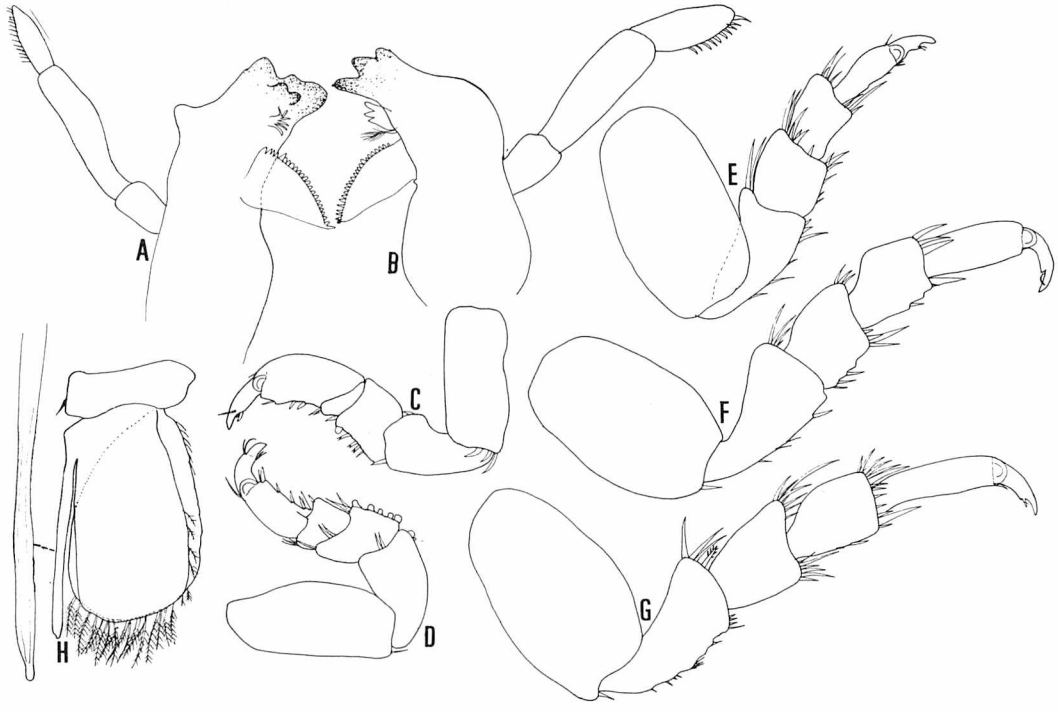

Fig. 2. *Cirolana lignicola*, n. sp.

A. Left mandible ; B. Right mandible ; C. First paraeopod ; D. Third paraeopod ; E. Fifth paraeopod ; F. Sixth paraeopod ; G. Seventh paraeopod ; H : Male second pleopod.

(A-B : Paratype female, C-H : Holotype male).

is separated from the latter in the following features: (1) shape of pleotelson, (2) shape of stylus on male second pleopod, (3) less numerous segmentation of second antenna and so on.

References

BRUCE, N. L. 1980., The Cirolanidae (Crustacea : Isopoda) of Australia. Heron Island and the Capricon Group. Bull. Mar. Sci. 30 (1) : 108-130.

BRUCE, N. L. and D. A. JONES, 1981. The systematics and ecology of some Cirolanid isopods from southern Japan. J. Nat. Hist. 15 : 67-85.

HOLDICH, D. M. and N. L. BRUCE, 1981. Cirolanid isopod Crustaceans from Townsiville region of Queensland, Australia, with description of six new species. J. Nat, Iist, 15 (4) : 555-605.

KUSSAKIN, O. G., 1979. Marine and brackish water Isopod Crustacea, suborder Flabellifera, Nauka, Leningrad, 1-472 (in Russian).

NUNOMURA, N., 1981. Isopod Crustaceans from Sado Island in the Sea of Japan. Ann. Rep. Sado Mar. Biol. Sta., Niigata Univ. 11 : 43-62.

——, 1982 *Cirolana toyamaensis*, a New Cirolanid Isopod from Toyama Bay, Central Japan. Bull. Toyama Sci. Mus., 4 : 23-30.

RICHARDSON, H., 1905. A Monograph on the Isopod of North America. Bull. U. S. natn. Mus., 54 : 1-727.

THIELEMANN, M., 1910. Beitäge zur Kenntniss der Isopodenfauna Ostasiens. Abhandl. Bayerisch. Akad. Wiss. Suppl. Bd. 3, 1-110.