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collected from Tanabe Bay, Kii Peninsula, Middle Japan\***

Noboru Nunomura  
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紀伊半島田辺湾産穿孔性コツブムシ科等脚目（甲殻類）の一新種

布村 昇  
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紀伊半島田辺湾の岩石中に穿孔している等脚目を研究し、新種であることが判明し、*Sphaeroma wadai* (和名：イワホリコツブムシ) として記載した。本種は *Sphaeroma retololaevis* Richardson と最も類似するが、(1) 尾節板後縁が短く尖っていること、(2) 第1小顎外葉の剛毛の数が少ないこと、(3) 第1触角の鞭の数が少ないこと、(4) 顎脚の形態等で区別される。

また、北米フロリダから知られている *Sphaeroma quadridentatum* と最も類似するが(1) 背板に突起のあること (2) 第1～3胸脚と第4～7胸脚の形態が違うこと、等によって区別される。

なお、完模式標本は (TOYA Cr 12326) 富山市科学文化センターに保管される。

During the survey at Tanabe Bay, Dr. Keiji Wada, of the Nara Women's University happened to find queer-looking rock-boring sphaeromatid isopods. He handed them to me for identification. At the result of closer examination of mine, it proved to represent a new species belonging to the genus *Sphaeroma*.

Before going further, I wish to express my sincere gratitude to Dr. Keiji Wada for his kindness in giving me a chance to examine such interesting specimens.

*Sphaeroma wadai* n. sp.

(Jap. name: Iwahori-kotsubumushi, new)

Figs.1-2

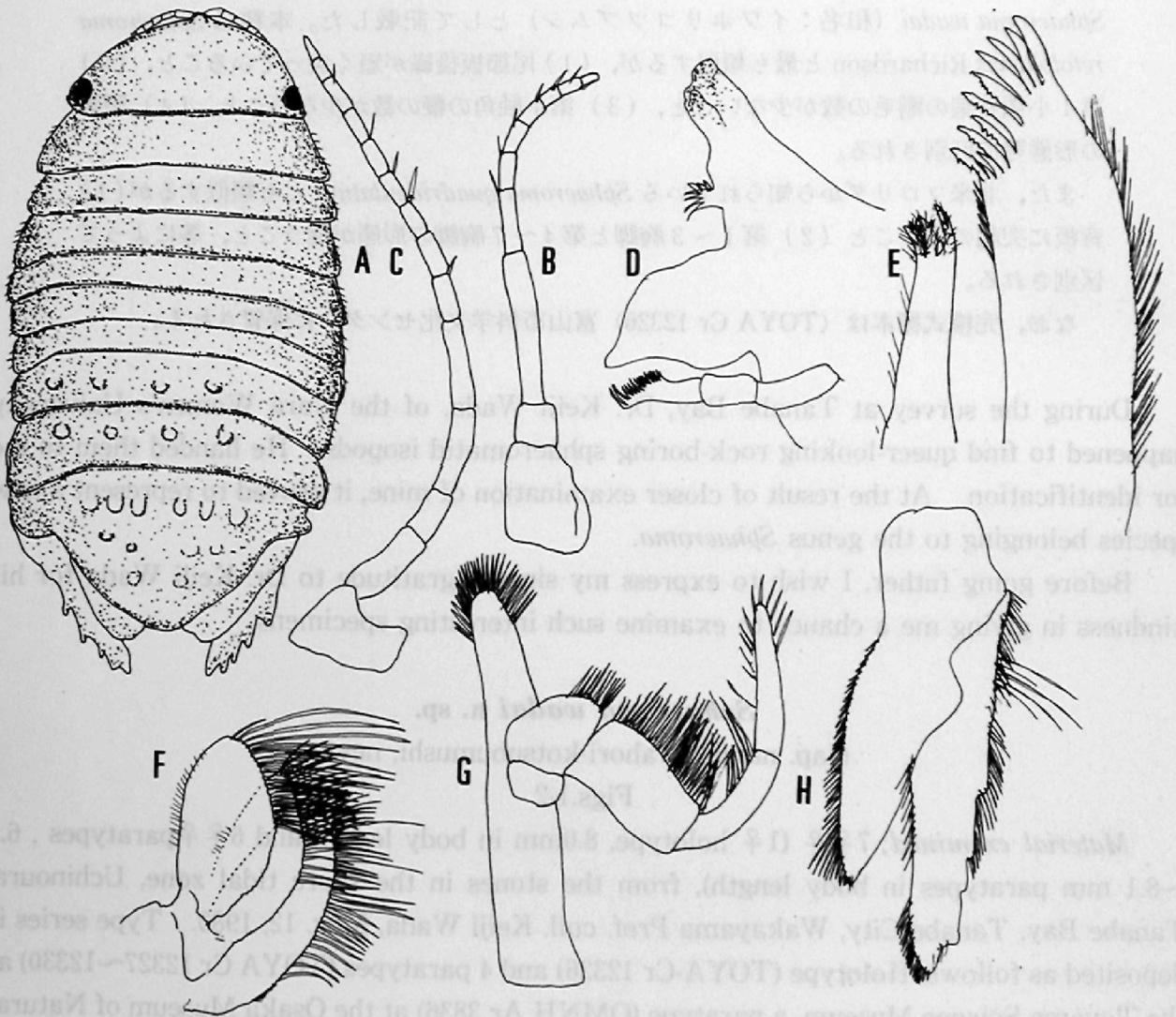
*Material examined*; 7♀♀ (1♀ holotype, 8.0mm in body length and 6♀♀ paratypes, 6.4~8.1 mm paratypes in body length), from the stones in the shore tidal zone, Uchinoura, Tanabe Bay, Tanabe City, Wakayama Pref. coll. Keiji Wada, Mar. 12, 1980. Type series is deposited as follows: Holotype (TOYA-Cr 12326) and 4 paratypes (TOYA Cr 12327~12330) at the Toyama Science Museum, a paratype (OMNH Ar 3836) at the Osaka Museum of Natural

History, 2 paratypes (SMBL Type 377) at the Seto Marine Biological Laboratory, Kyoto University.

*Description:* Body lanceolate, 1.8 times as long as wide. Color dull yellow in alcohol. Cephalon rounded with a small medial process at the tip. Sixth and seventh pereonal somites with a series of 4 tubercles on dorsal surface. Pleotelson with 2 tubercles, which are arranged in 3 pairs in the first row, 2 pairs in the second row and a pair of last row, its tip is rounded.

Eyes situated laterally, each eye with 50 ommatidia. Coxal plates not visible in dorsal view.

Antennule (Fig.1B) reaching the posterior part of cephalon, and composed of 11 segments; distal 6 segments are flagellum and each segment bears 1 or 2 aestetasc on distal corner.



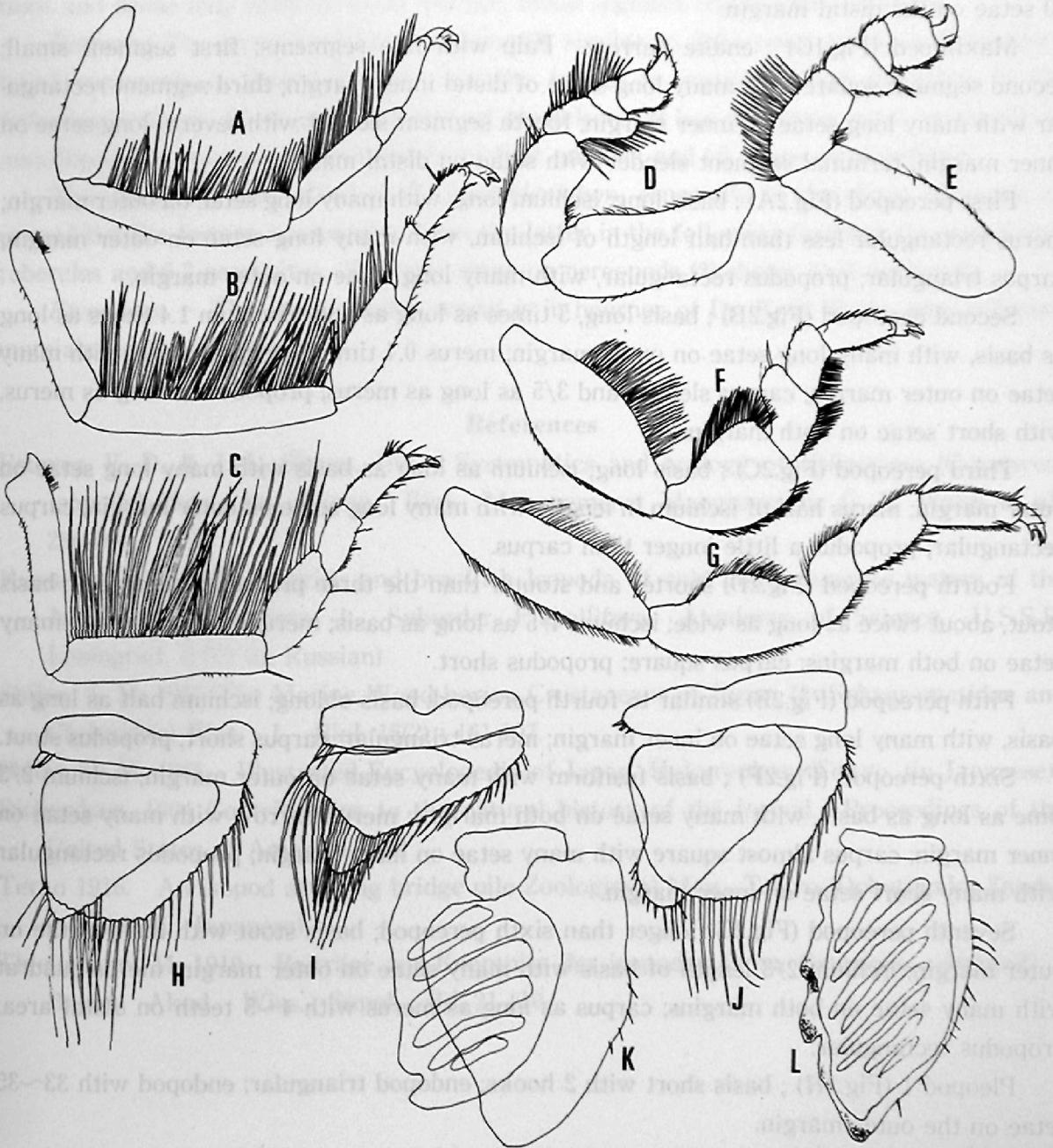
**Fig.1.** *Sphaeroma wadai* n. sp.

A. Dorsal view; B. Antennule; C. Antenna; D. Mandible; E. Maxillula F. Maxilla;  
G. Maxilliped; H. Uropod. (All: Female holotype).

Antenna (Fig.1C) long, reaching anterior part of first pereonal somites, and composed of 3 peduncular segments and 11 flagellar segments; first peduncular segment stout; second segment square; third segments oblong.

Fronatal lamina narrow. Clypeus V-shaped.

Mandible (Fig.1D); pars incisiva single-headed; lacinia mobilis single-headed; palp 3-



**Fig.2.** *Sphaeroma wadai* n. sp.

A. First pereopod; B. Second pereopod; C. Third pereopod; D. Fourth pereopod; E. Fifth pereopod; F. Sixth pereopod; G. Seventh pereopod; H. Pleopod 1; I. Pleopod 2  
J. Pleopod 3; K. Pleopod 4; L. Pleopod 5. (All: female holotype).

segmented, terminal segment with 20 setae on inner margin.

Maxillula (Fig.1E) ; outer lobe bears 10 teeth at the tip, five of them with 3~6 smaller denticles on inner margin; inner lobe with four plumose setae at the tip, one of them is slenderer than the other three.

Maxilla (Fig.1F) typical for the genus: endopod with 20 setae; each lobe of exopod with 20 setae on the distal margin.

Maxilliped (Fig.1G) ; endite narrow. Palp with five segments; first segment small; second segment square with many long setae of distal inner margin; third segment rectangular with many long setae on inner margin; fourth segment slender with several long setae on inner margin; terminal segment slender with setae on distal margin.

First pereopod (Fig.2A) ; basis long; ischium long, with many long setae on outer margin; merus rectangular less than half length of ischium, with many long setae on outer margin; carpus triangular; propodus rectangular, with many long setae on outer margin.

Second pereopod (Fig.2B) ; basis long, 5 times as long as wide; ischium 1.4 times as long as basis, with many long setae on outer margin; merus 0.4 time as long as wide, with many setae on outer margin; carpus slender and  $\frac{3}{5}$  as long as merus; propodus as long as merus, with short setae on both margins.

Third pereopod (Fig.2C) ; basis long; ischium as long as basis with many long setae on outer margin; merus half of ischium in length, with many long setae on outer margin; carpus rectangular; propodus a little longer than carpus.

Fourth pereopod (Fig.2D) shorter and stouter than the three preceding pereopods; basis stout, about twice as long as wide; ischium  $\frac{4}{5}$  as long as basis; merus triangular with many setae on both margins; carpus square; propodus short.

Fifth pereopod (Fig.2E) similar to fourth pereopod; basis oblong; ischium half as long as basis, with many long setae on inner margin; merus triangular; carpus short; propodus stout.

Sixth pereopod (Fig.2F) ; basis fusiform with many setae on outer margin; ischium  $\frac{2}{3}$  time as long as basis, with many setae on both margins; merus narrow with many setae on inner margin; carpus almost square with many setae on inner margin; propodus rectangular with many short setae on inner margin.

Seventh pereopod (Fig.2G) longer than sixth pereopod; basis stout with many setae on outer margin; ischium  $\frac{2}{3}$  length of basis with many setae on outer margin; merus quadrat with many setae on both margins; carpus as long as merus with 4~5 teeth on distal area; propodus rectangular.

Pleopod 1 (Fig.2H) ; basis short with 2 hooks; endopod triangular; endopod with 33~35 setae on the outer margin.

Pleopod 2 (Fig.2I); basis with 2 hooks; endopod lanceolate with 11~13 setae on inner margin; exopod with more than 40 setae on inner margin

Pleopod 3 (Fig.2J) ; basis with 3 setae; endopod triangular lanceolate with 12~14 short setae on distal margin; exopod round with more than 35 setae around the margin.

Pleopod 4 (Fig.2K) ; basis small; endopod lanceolate with several pleats; exopod lanceolate with several setae on outer margin.

Pleopod 5 (Fig.2L) somewhat slenderer than pleopod 4; basis short; endopod lanceolate with several pleats; exopods lanceolate with 3 bosses and more than 15 setae on the margin.

Uropod (Fig.1H) ; basis rectangular; endopod triangular; outer lobe with 4 stout projections and dense long hairs on outer margin; distal segment trapezoidal in shape.

*Remarks:* The present species is apparently similar to *Sphaeroma retrolavis* Richardson found commonly in Japanese Coast, but the former is separable from the latter in the following features: (1) shorter hind part of pleotelson, (2) less numerous setae on the tip of maxilliped, (3) less numerous segments of first antenna and (4) shape of maxilliped.

This species is also allied to *S. quadridentatum*, especially in the shape of exopod of uropod but the former is separable from the latter in the following features: (1) presence of tubercles and 6-7 pereonites, (2) longer setae on pereopods (3) shorter 4~5 pereopods.

*Etymology* — The species name, *wadai* is in honor of Dr. Keiji Wada, who collected materials for the first time.

#### References

- Estevez, E. D. & J. L. Simon, 1975. Systematics and ecology of *Sphaeroma* (Crustacea Isopoda) Proc. Int. Symp. Biol. Management Mangrove (In: G. E. Walsh et al. 286-304
- Kussakin, O. G. 1982. Marine and brackish Isopoda of cold and temperate waters of the Northern Hemisphere I. Suborder Flabellifera. Academy of Science. U.S.S.R. Leningrad. 1-170 (in Russian).
- Shiino, S. M. 1957 The Marine Wood boring Crustaceans of Japan II (Sphaeromatidae and Cheluridae) Was. J. Biol. 15(2) : 161-197.
- Shiino, S. M. 1965. Illustrated Encyclopedia of Japan, Hokuryukan, Tokyo. (in Japanese)
- Richardson, 1904 Contributions to the natural history of the Isopod. Proceedings of the United States of America. 1-89
- Terao 1916. An isopod attacking bridge pile Zoological Mag., Tokyo (Dobutugaku Zasshi) 9: 28-182 (in Japanese)
- Thielemann, M. 1910. Beiträge zur Kenntniss der isopoden fauna Ostasiens. Abhandl. Bayer. Akad. Wiss. Suppl. Bd. 21-110.