

**GNORIMOSPHAEROMA LATA N. SP., A NEW MARINE
ISOPOD FROM KII, JAPAN¹⁾**

SABURO NISHIMURA

Seto Marine Biological Laboratory, Sirahama

With 5 Text-figures

A new species of Isopoda, belonging to the flabelliferan family Sphaeromatidae, is here described from the coastal waters of Kii Peninsula, central Honshu, Japan.

The writer expresses his hearty thanks to Professor H. UTINOMI and Dr. T. TOKIOKA of the Seto Marine Biological Laboratory for their constant interest in his study on Isopoda and for their kindness in reading the manuscript.

Gnorimosphaeroma lata NISHIMURA, n. sp.

(Japanese name: Habahiro-kotsubumushi)

(Figs. 1 – 5)

MATERIAL EXAMINED: 1) 26 ♂, 29 ♀, 9 juv. (1 ♂ holotype, 1 ♀ allotype, 62 paratypes). Exposed shore of Cape Bansho-no-Hana, Sirahama, Kii Peninsula, Japan; Feb. 14, 1967. Deposited at the museum of the Seto Marine Biological Laboratory (SMBL-Type 224). 2) 2 ♀. Sheltered shore of Seto in the same town; Feb. 11, 1967. 3) 3 ♂, 4 ♀. Seto; Mar. 12, 1967. 4) 2 ♂, 2 ♀. Seto; Apr. 15, 1967. All collected by S. NISHIMURA.

DIAGNOSIS: Body elliptical, dorsally moderately convex, epimera broad, subquadrangular, margins heavily pubescent. Each eye with 30–45 ocelli. Basal segments of peduncle of 1st antennae are expanded into subquadrangular plates, produced in front of cephalon, with their proximal inner margins approximating each other on the midline; 2nd segments are moderately expanded, too. Maxilliped (Fig. 3 B) with one coupling hook. Mandibular incisor (Fig. 2 E, F) with a lacinioid seta instead of true lacinia mobilis. Male stylus of 2nd pleopod (Fig. 4 B) extends slightly less than one-half of its length beyond the distal margin of endopod. Exopod of 3rd pleopod (Fig. 4 C) incompletely segmented. Exopod of 4th pleopod (Fig. 4 D) also segmented incompletely, or occasionally completely. Exopod of 5th pleopod not segmented and lacks squamiferous areas on inner margin. Endopods of 4th and 5th

1) Contributions from the Seto Marine Biological Laboratory, No. 495.

pleopods wholly opaque and branchial, though thin and without folds; exopod of 5th pleopod also opaque and branchial except for the proximal small area; other rami of all pleopods are transparent, without any opaque or branchial area. Last pleonite not so wide as preceding ones, only anterior two pleonites reaching the lateral border of the "second" pleonal somite (Fig. 1 A, C); 1st incision not extending so far medially as 2nd incision. Exopod of uropod (Fig. 3 H) one-third as long as endopod, which has an acute inner distal end; both rami smooth all around, without any spines or crenulations.

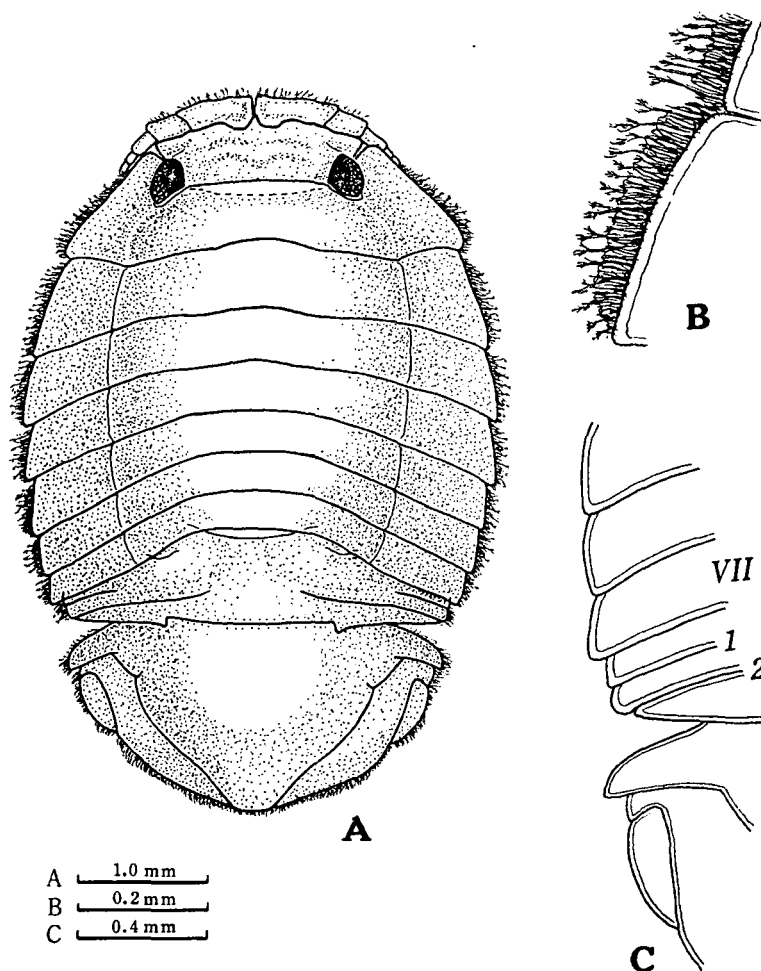


Fig. 1. *Gnorimosphaeroma lata*, n. sp., male. A—Holotype, dorsal view; B—Margin of epimera; C—Left lateral border, VII, seventh pereonite, 1-2, first and second incisions on the "second" pleonal somite.

FURTHER DETAILS: *Male*.— Cephalon moderate, with a small but conspicuous rostral process and raised sinuous frontal margin, the anterolateral corner angulate and extended forward. First antenna reaching the middle of 1st pereonite; 2nd seg-

ment of peduncle slightly longer than one-half of 1st, 3rd segment three-fifths as long as 2nd; flagellum with 7 segments. Second antenna long, extending beyond the middle of 3rd pereonite; flagellum with 10 segments.

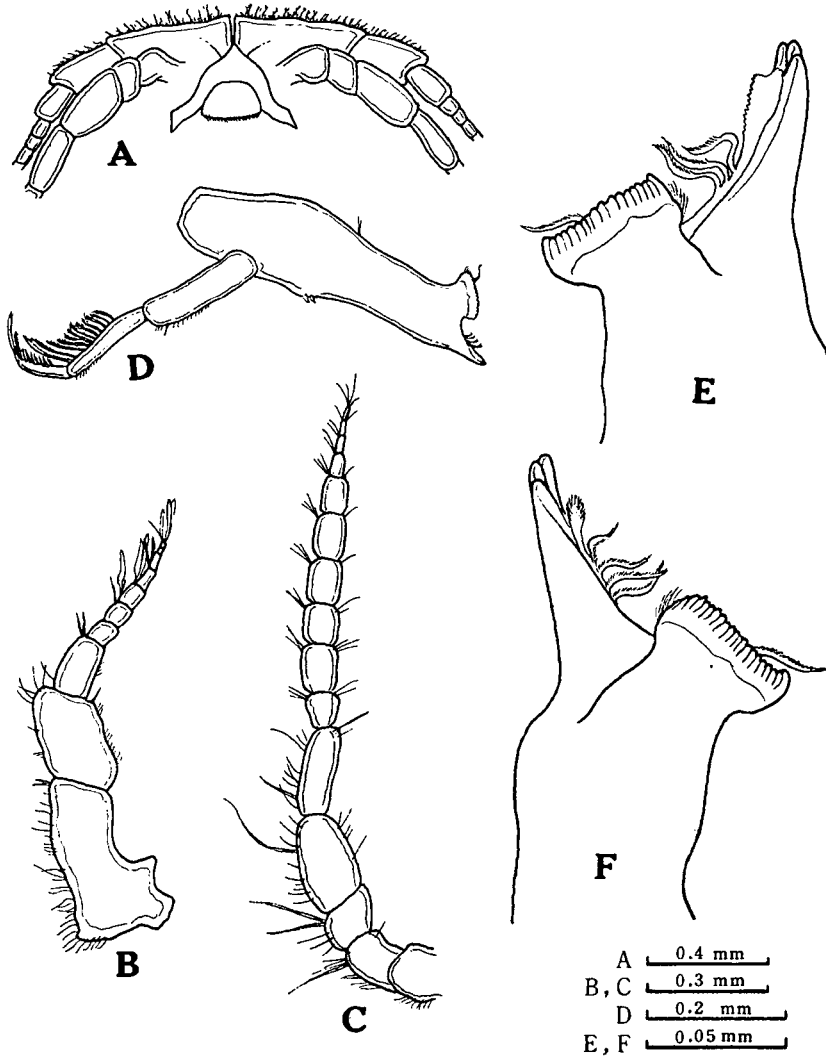


Fig. 2. *Gnorimosphaeroma lata*, n. sp., male. A—Front of cephalon, ventral view; B—First antenna; C—Second antenna; D—Mandible; E—Right mandible, incisor, setal row and molar process; F—Left mandible, incisor, setal row and molar process.

Right mandibular incisor (Fig. 2 E) with 3 teeth and a setal row with a lacinoid seta, to which are attached 3 pectinate setules. Left mandibular incisor (Fig. 2 F) with 3 teeth and a setal row with a lacinoid seta and 4 pectinate setules. Molar pro-

cesses are expanded. Mandibular palp (Fig. 3 A) 3-segmented, 1st and 2nd segments elongate, subequal in length, terminal segment one-half as long as 2nd. First maxillary inner lobe with 2 pectinate and 2 simple setules at the apex, outer lobe with 4 teeth and 1 or 2 simple spines at the apex. Second maxillary inner lobe with about 2 pectinate and 4 simple setules at the apex, inner lappet of outer lobe with 4 dentate

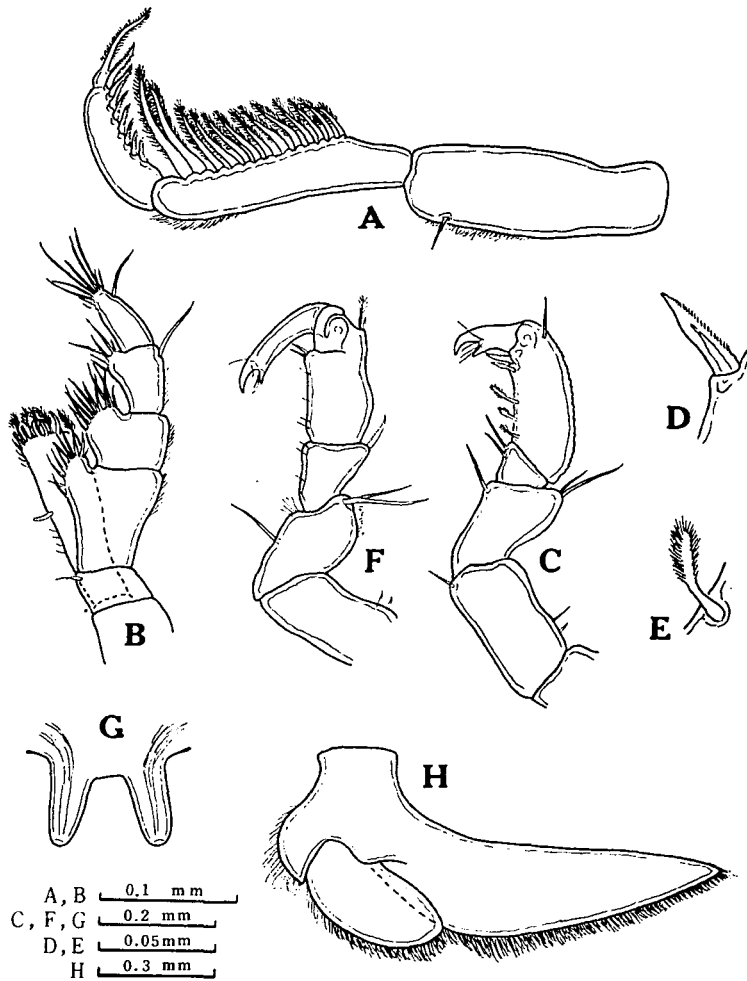


Fig. 3. *Gnorimosphaeroma lata*, n. sp., male. A—Mandibular palp; B—Maxilliped; C—First pereopod; D—Dentate spine on first pereopod; E—Pectinate setule on first pereopod; F—Second pereopod; G—Penis; H—Uropod, ventral view.

apical spines, outer lappet with 3 dentate apical spines. Maxillipedal palp (Fig. 3 B) 5-segmented, in its broadest part slightly more than one and half times as wide as endite; middle 3 segments provided each with a lobe. Endite not extending beyond the distal end of 3rd segment of palp.

Propodus of 1st pereopod (Fig. 3 C) not markedly swollen, with a dentate spine and 4 pectinate setules on inferior margin. Other pereopods slightly more elongate than 1st, propodal segments lacking pectinate setules on inferior margin.

Rami of penis (Fig. 3 G) short, blunt-tipped, not united at base.

Exopod of 1st pleopod (Fig. 4 A) with about 18 plumose marginal setae and 1 or 2 simple outer proximal setae, endopod with about 17 plumose marginal setae. Exopod of 2nd pleopod with about 24 plumose marginal setae, endopod with about 17

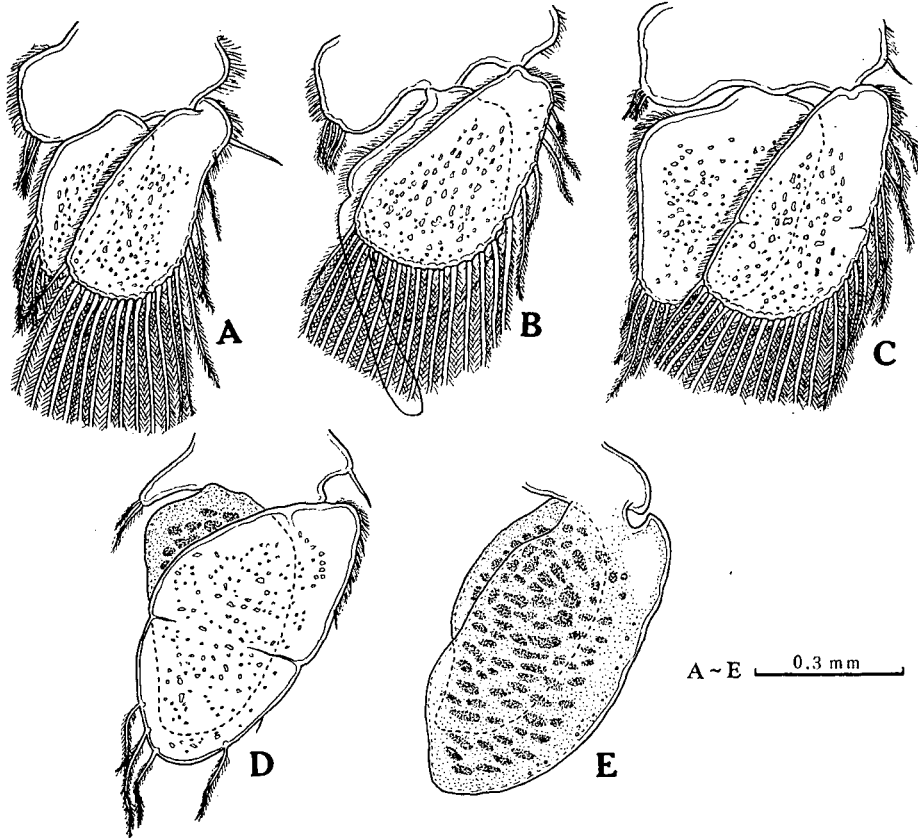


Fig. 4. *Gnorimosphaeroma lata*, n. sp., male. A—First pleopod; B—Second pleopod; C—Third pleopod; D—Fourth pleopod; E—Fifth pleopod. Distal portion of some marginal setae omitted in A, B and C.

plumose marginal setae. Exopod of 3rd pleopod with about 24 plumose marginal setae, endopod with about 16 plumose marginal setae. Exopod of 4th pleopod with 2 to 4 plumose apical setae and several simple outer-marginal setules, endopod lacks any of them. Both rami of 5th pleopod without setae or setules.

Dorsal surface of pereon smooth. Faint sutures mark the boundary between epimera and 2nd to 7th pereonites inclusive. First pereonite produced forward late-

rally, where it is nearly twice as long as in the median portion.

Dorsal surface of pleon and pleotelson smooth. Pleotelson evenly convex, subtriangular with obtusely truncated apex, with no shelf along the ventrolateral margin. Uropods not extending beyond pleotelsonal apex.

Female.— Considerably smaller than male. Body a little more slender, epimera less developed than in male. Cephalon shorter, the anterolateral corner less conspi-

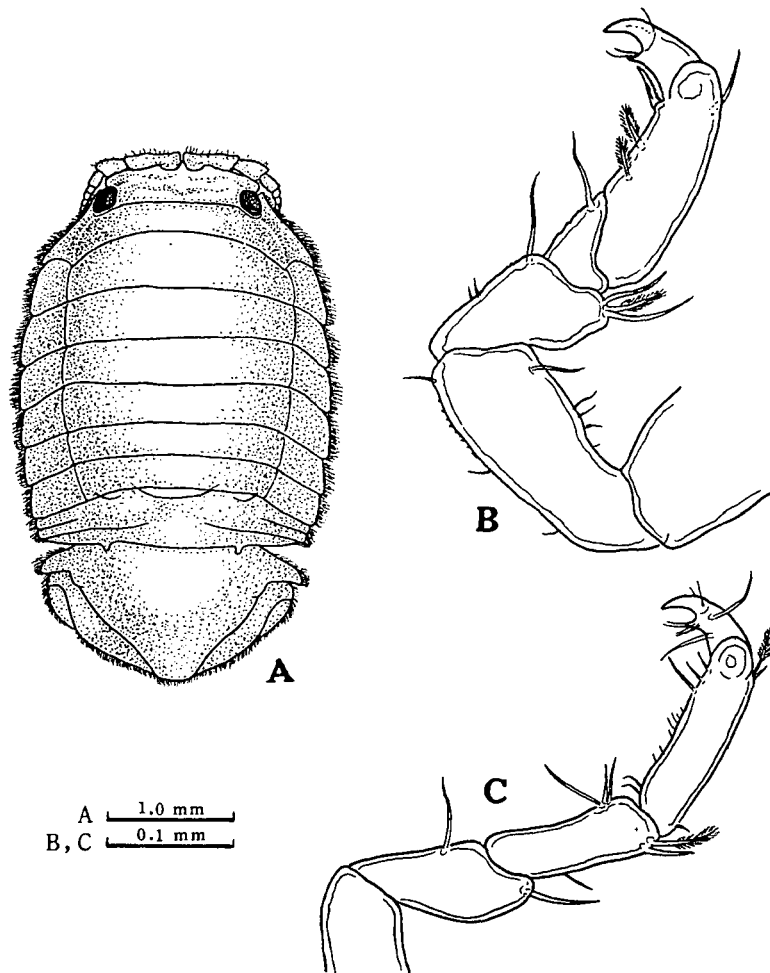


Fig. 5. *Gnorimosphaeroma lata*, n. sp., female. A—Allotype, dorsal view; B—First pereopod; C—Second pereopod.

cuous. (However, some females may be more similar to male in these respects). Second antenna shorter, extending only to the end of 2nd pereonite. Propodus of 1st pereopod with a dentate spine and only 2 pectinate setules on inferior margin. In other respects including mouth parts, roughly similar to male.

COLOR: As preserved in alcohol, yellow brown with melanophores scattered all over the dorsal surface, especially densely on pleon and pleotelson, eyes black.

MEASUREMENTS OF TYPES:

	Holotype ♂	Allotype ♀
Body length (BL)	4.3 mm	3.3 mm
Body width (BW)	2.9 mm	1.9 mm
	(at 3rd pereonite)	(at 5th pereonite)
Pleotelson length	1.1 mm	0.8 mm
Pleotelson width	2.3 mm	1.6 mm
BL/BW	1.5	1.7

ECOLOGICAL NOTES: The present new species lives under stones or pebbles in the lower intertidal zone, especially abundantly on the exposed shore. When the animals are taken out of water together with stones, they crawl about, but adhering more or less tightly to the stone surface. When they are detached from the substratum, then they fold the body as broad and flat sphaeromatids usually do. Most of fully-grown males were found embracing each a medium-sized female in the ventral hollow. Most of large-sized females were gravid; the three dissected females held 38 eggs, 26 eggs and 22 early embryos, respectively, in the incubatory chamber. The eggs measured 0.30–0.35 mm in diameter. Frequently, numbers of a peritrich ciliate of the family Vaginicolidae were found attached to pereopods, pleopods and the ventral surface of epimera.

REMARKS: The present new species resembles closely *Gnorimosphaeroma ovata* (GURJANOWA) (syn. *Exosphaeroma ovata* GURJANOWA) on one hand and *G. noblei* MENZIES on the other. From the former, it differs in having shorter 1st and 2nd antennae, subquadrangular rather than tongue-shaped epimera, 1st incision shorter than 2nd on the "second" pleonal somite, subtriangular rather than semi-circular pleotelson with truncated rather than evenly rounded apex, shorter uropodal exopod, apically acute rather than round uropodal endopod, etc. From the latter, it is distinguishable by its broader body (BL/BW: 1.5–1.7 versus 2.1–2.2), more expanded 1st and 2nd peduncular segments of 1st antenna, the latter longer than 3rd segment, its broad subquadrangular rather than small subtriangular epimera, narrower last pleonite not reaching the lateral border of the "second" pleonal somite, larger numbers of marginal setae on pleopods, incomplete segmentation of exopods of 3rd and 4th pleopods, etc. On the whole, the present new species seems to have a closer affinity to *Gnorimosphaeroma noblei* recorded from the California coast (MENZIES 1954) than to *G. ovata* known from Peter the Great Bay and the Mamiya (Tartary) Straits in the northern Japan Sea (GURJANOWA 1933, 1936).

REFERENCES

- GURJANOWA, E. 1933. Contribution to the Isopoda fauna of the Pacific Ocean I. New species [of] Valvifera and Flabellifera. Exploration des Mers l'URSS, no. 17, pp. 87–106. (In Russian with

English summary).

- 1936. Faune de l'URSS, nouvelle séries, no. 6; Crustacées, vol. VII, no. 3: Isopodes des mers orientales. Éd. l'Acad. Sci. l'URSS, Moscou et Leningrad, 279 pp. (In Russian with German summary).
- MENZIES, R.J. 1954. A review of the systematics and ecology of the genus "*Exosphaeroma*", with the description of a new genus, a new species, and a new subspecies (Crustacea, Isopoda, Sphaeromidae). Am. Mus. Novit., no. 1683, 24 pp.