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A New species of the genus Papulphiloscia (Crustacea:Isopoda:Phiosciidae) from Minami Daito Island, Southern Japan*

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南大東島から発見されたミナミワラジムシの１新種

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沖縄県南大東島の星野洞で発見されたミナミワラジムシ属の一種を新種 *Papuaphiloscia daitoensis*（和名：ダイトウミナミワラジムシ(新種)）として記載した。本新種は南西諸島沖永良部島から知られている *P.insulana* ともっとも類似するが，(1) オスの第1腹肢内肢に多数の1列の小さい刺があること，(2) 第２触角がより長いこと，(3) 第4胸節背部の感覚剛毛の位置が側縁から比較的近いこと，(4) 頭部前縁の中央部に明瞭な隆起が無いことにより区別される。模式標本は富山市科学文化センターで保管される。

キーワード：ミナミワラジムシ，等脚目，南大東島，新種，
Key words：new species, Papuaphiloscia, Isopoda, Okinawa, Daito Island

During a cave-survey at Hoshino-do(Hoshino-ana), Mr.Yuji Inagaki happened to collect three individuals of a philosciid isopod, together with terrestrial amphipods. They were sent to Prof. Morino, Ibaraki University by the courtesy of Mr. Tadashi Yamanouchi, and only isopod specimens were sent to me for my study by the courtesy of Prof. Morino. At the closer examinations of mine, they proved to represent a new species of the genus *Papuaphiloscia.*

Before going further, I wish to express my sincere gratitude to Prof. Hiroshi Morino of the Ibaraki University, Mr. Yuji Inagaki and Mr. Tadashi Yamanouchi for their kindness in giving me a chance to examine an interesting materials.

Family Philosciidae

Papuaphiloscia daitoensis sp.nov.,
(Daito-minami-warajimushi, new)

(Figs.1 and 2)

Material examined： 2♂♂(1♂holotype, 4.2mm in body length, and 1♂ paratype, 4.5 mm in body length, TOYA Cr-12921) and 1♀(allotype 3.1mm in body length), Hoshino-do, north west part of Minami Daito Island, Okinawa Pref. Apr.12,1999, Yuji Inagaki. Holotype（TOYA Cr-12920), allotype (TOYA Cr-12921) are deposited at the Toyama Science Museum and a paratype (OMNH Ar-5868) at the Osaka Museum of Natural History.

Description of male: Body 2.9 times as long as wide. Color white. Eyes lacking. Cephalon rounded. Posterior margin of pleotelson rounded postero-medial area. Noduli lateralis on pereonal somites are situated almost near area from each lateral margin (Fig.2). Pleonal somites abruptly narrower than pereonal somites.

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*Contributions from the Toyama Science Museuum, No.278

Antennule(Fig.1B): first and second segments square, the latter with 3 aesthetascs; third segment rectangular, with 2 aesthetascs at its tip. Antenna (Fig.1C), reaching pereonal somite 2 and composed of 3 peduncular segments and 3 flagellar segments; mutual length of 3 flagellar segments being 2:1:1. Right mandible: pars incisiva 3-toothed; lacinia mobilis thin and 3-toothed; a hairy seta; processus molaris represented by a single tuft of seta. Left mandible (Fig.1D) :pars incisiva 4-toothed; lacinia mobilis 4-toothed, with a hairy seta; processus molaris represented by single seta. Maxillula (Fig.1E) : inner lobe with 2 plumose setae; outer lobe with 8 simple and relatively long teeth at tip. Maxilla (Fig.1F) with relatively narrow dental area. Maxilliped (Fig.1G) : endite rectangular, with a bigger and 2 smaller spurs on outer distal area; palp narrow.

Pereopod 1(Fig. 1H) : basis 3.0 times as long as wide, with 2 rows of short setae on ventral margin; ischium half as long as basis, with 3-4 setae on inner margin and a seta on outer margin ; merus as long as ischium, with 4 setae on inner margin and a seta at the outer-distal angle; carpus 1.6 times as long as carpus, with 6 long setae on inner margin and many fine setae on lateral distal area; propodus as long as carpus, with 4 longer and 7-8 shorter setae on inner margin ;dactylus bifid.

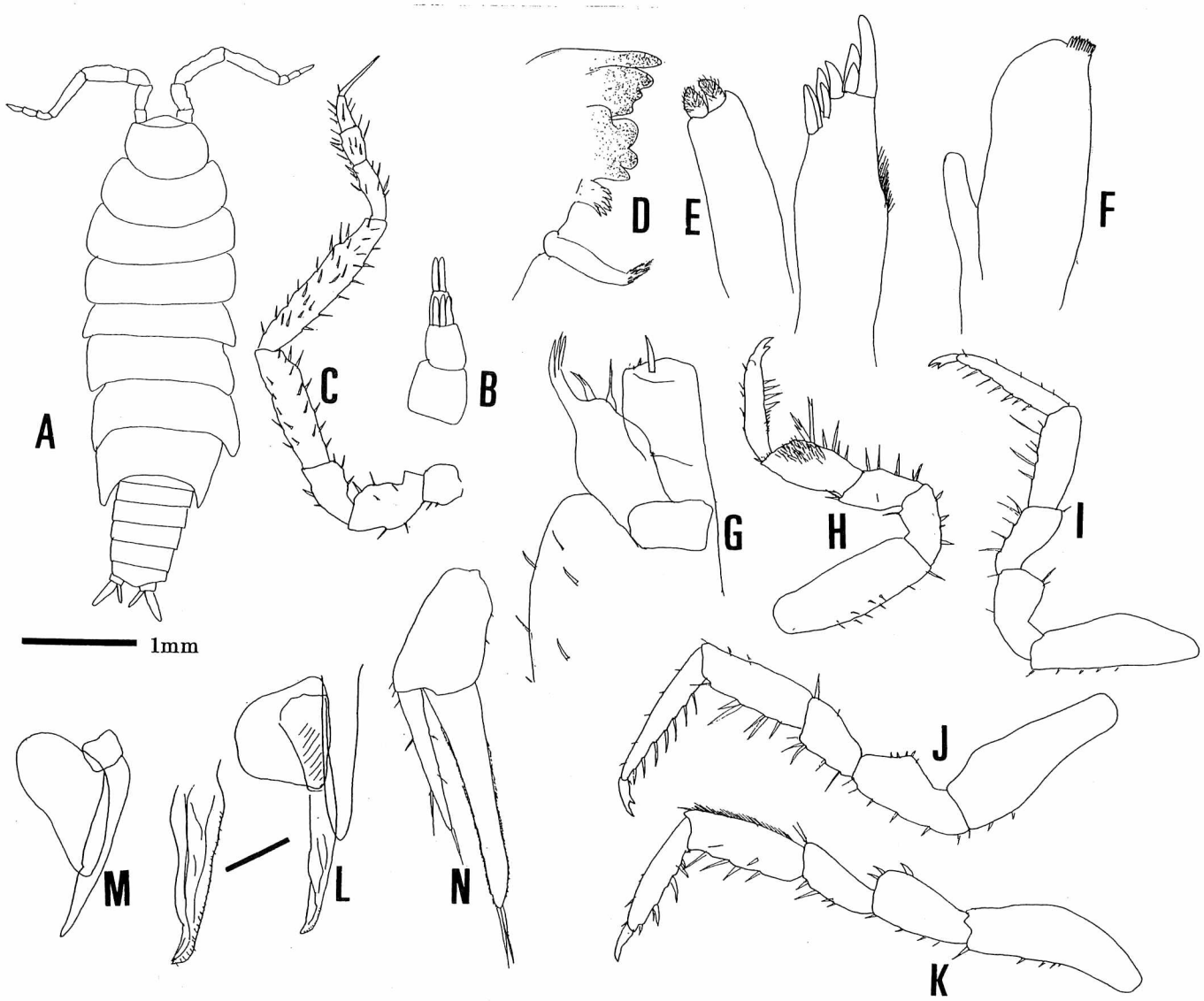

Fig.1 *Papuaphiloscia daitoensis* n. sp.
A, Dorsal view; B, antennule; C, antenna; D, right mandible; E, maxillula; F, maxilla; G, maxilliped; H, pereopod 1; I, pereopod 3; J, pereopod 5; K, pereopod 7; L, penes and pleopod 1; M, pereopod 2; N, uropod (All: holotype male).

Pereopods 2-6(Figs.1 I and J) similar : basis 2.5 -3.4 times as long as wide, with 2-5 short setae on inner margin; ischium 0.6 times as long as basis, with 2-5 setae on inner margin and several short setae on outer margin; merus 0.5-0.7 times as long as ischium, with 5 setae on inner margin and 2 setae on outer margin on outer margin ; carpus 1.5-1.8 times as long asmerus, with 6 setae on inner margin; propodus a little longer than carpus, with 7 setae on inner margin and 5-6 setae on outer margin; dactylus bifid.

Pereopod 7 (Fig.1K) : basis 3.2 times as long as wide, with a seta at inner distal angle and 4-5 short setae on inner margin; ischium half as long as basis, with 3-4 setae on inner margin and 3 setae on outer margin; merus 0.8 times as long as ischium, with 4-6 setae on inner margin and 2 setae on distal margin; carpus 1.5 times as long as merus, with 4 setae on inner margin and many short setae on outer margin ; propodus 0.8 times as long as carpus, with 6-7 setae on inner margin and 4 short setae on outer margin; dactylus bifid.

Penes(Fig.1L) relatively narrow. Pleopod 1(Fig.1L):endopod straight, apical area bending outwards, bearing a series of more than 40 spinules; exopod semi-circular. Pleopod 2(Fig.1M):endopod straight and rather short; exopod unequally ovate.

Uropod (Fig.1N): basis pentagonal, 1.6 times as long as wide; endopod 1.7 times as long as basis, with 2 long setae at tip and many fine setae on lateral borders; exopod 0.7 times as long as basis, with 2-4 setae on both margins.

Female: Roughly same to male except for copulatory apparatus.

Etymology. The present new species is named after the type locality, Daito Islands.

Distribution. Type locality.

Remarks. The present new species is most closely allied to *Papuaphiloscia insulana,* from Okinoerabu Island, Amami Islands (Vandel,1970). The former is, however, separated from the latter by the following features: (1) presence of a row of small denticles along the endopod of male first pleopod, (2) longer antenna, (3) remoter position of noduli lateralis on the 4th pereonal somite, and (4) absence of antero-medial process on the cepahlon. The species is also

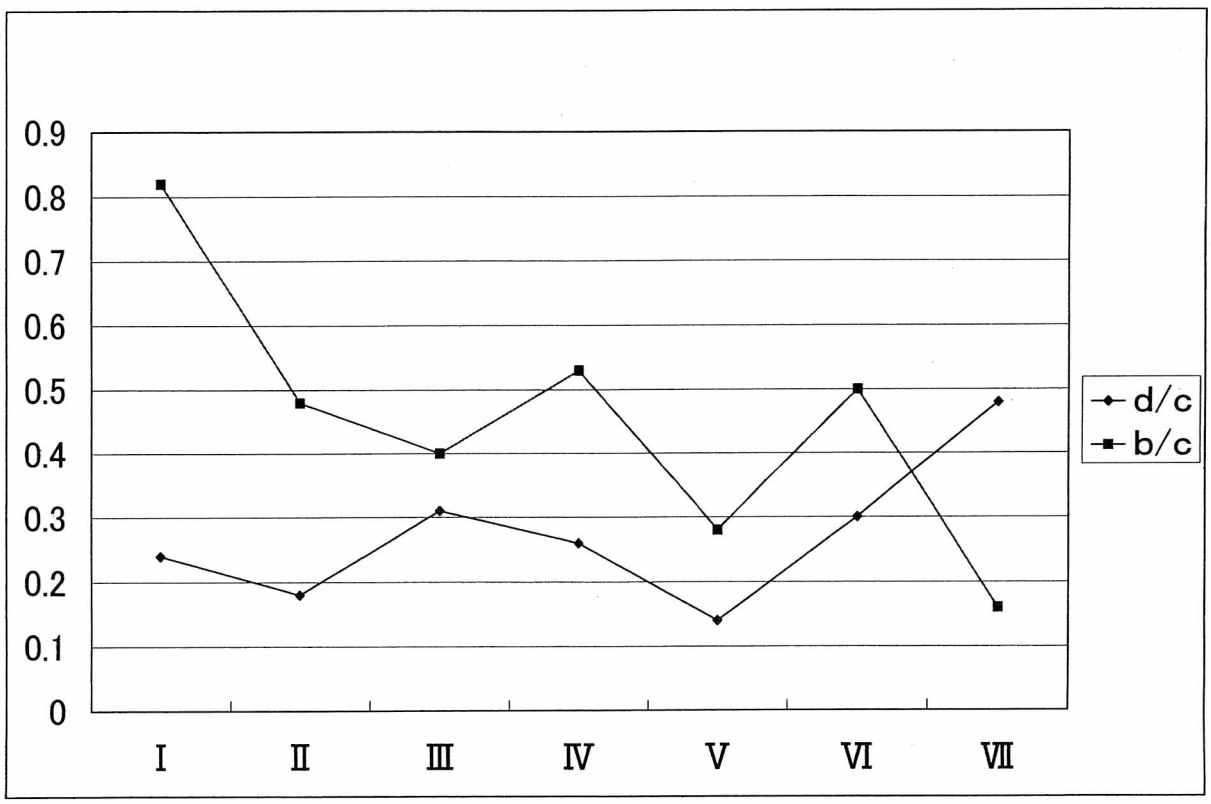

Fig.2 *Papuaphiloscia daitoensis* n. sp.
Positions of Noduli lateralis

allied to *Papuaphiloscia alba* reocorded from the Impereial Palace, Tokyo (Nunomura, 2000). But the former is, however, separated from the latter by the following features: (1), presence of a series of numerous spinules on endopod of male first pleopod,(2) longer antenna, (3) nearer location of noduli lateralis on dorsal surface of pereoanal somite 4 and (4) absence of middle protuberance on anterior margin of cephalon.

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