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(Stebbing, 1905) (Crustacea: Isopoda:
Sphaeromatidae) from Aka-jima, Kerama Islands,
Okinawa, southern Japan

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Okinawa, Southern Japan ***

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**沖縄県慶良間諸島から発見されたオナガウミセミ (新称)
Cilicaeopsis whiteleggei (等脚目: コツブムシ科)**

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沖縄県慶良間諸島阿嘉島真謝浜の水深2~3 mのサンゴ礁, 根の間の底砂の上に堆積した死サンゴ礫から発見されたコツブムシを *Cilicaeopsis whiteleggei* (Stebbing, 1905) と同定した. しかし, 今回採取された標本には次のような原記載との相違が見られた. すなわち, (1)オスの体の後部に伸長する突起が先端は明瞭に二又しないこと, (2)両触角が短く鞭数が少ないこと, (3)第1小顎基節内葉上の歯が短く, 数が少ないこと, (4)胸脚が太く短いこと, 特に5-6胸脚の長節と腕節が幾分短いこと, (4)額葉が狭いこと, (5)尾肢の先端が丸いこと, (6)尾肢の先端が内側に太い刺があり, 先端が外に反らないこと, (7)丸みを帯びた交尾器の形態, (8)第1小顎底節内葉上の剛毛が4本のものほか, 3本であるものがあることなどの相違点が見出された. これらの形質は今回の個体が別の種類とする形質ではなく, 本種としては幾分若い個体であるための変異であろうと考えられる. なお, 本種はわが国では沖縄から報告があるが形態の記載はない. また, 本種にオナガウミセミという新称を提唱する.

キーワード: オナガウミセミ, 慶良間, 新産地, 変異, 等脚目, コツブムシ科

Key words : *Cilicaeopsis whiteleggei*, Kerama, new occurrence, variation, Isopoda, Sphaeromatidae.

Hitherto, eight species of the genus *Cilicaeopsis* have been reported mainly from tropical waters and southern hemisphere. Among them, *Cilicaeopsis whiteleggei* (Stebbing, 1905) has been once recorded from Okinawa but there have been no morphological accounts in it (Okinawa Defense Bureau, 2011).

In summer, 2013, the son of the junior author had washed away animals from some amounts of dead-corals, 2-3m in depth and happened to find a strange small isopod at Majanohama Beach, Aka-jima, Kerama Islands, Zamami-son, Okinawa Prefecture, southern Japan. The junior author had preserved in ethanol and took

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photos and sends it to the senior author. Then the junior author collected some additional specimens on July 2014 including a female.

As the results of the study of senior author, they proved to be *Cilicaeopsis whiteleggei* (Stebbing, 1905), but they show some differences from the original description.

Order Isopoda
Family Sphaeromatidae
Genus *Cilicaeopsis* Hansen

(Japanese name: Onaga-umisemi-zoku, new)

Sphaeromatidae with endopod of pleopods 45 folds but exopod of those lack folds. Pleonal endopod 3 without brachial fold. Presence of prominent posterior process extending from the midline of the pleon in males. Absence of a median tooth in the semicircular notch of the pleotelson apex (Hansen 1905; Harrison and Holdich, 1984).

***Cilicaeopsis whiteleggei* (Stebbing, 1905)**

(Japanese name: Onaga-umisemi, new)

(Figs.1-3)

Cilicaeas whiteleggei Stebbing,1905 Ceylon, Report on the Isopoda collected by Professor Herdman, at Ceylon, in 1902. Ceylon Pearl Oyster Fisheries, 1905, supplementary reports 23: 1-64.

Cilicaeopsi whiteleggei: Richardson, 1910; Nierstrasz, 1931 Harrison & Holdich, 1984 Storey, 2002.

Material examined: 1♂(5.3mm in body length), from the death-coral on coral reef, 3m in depth Majanohama, Aka-jima, Kerama Islands, 3, Aug. 2013, coll. Soh Mimori; 1♂(5.0mm in body length) from the death-coral on coral reef, 3m in depth Majanohama, Aka-jima, Kerama Islands, 19, July 2014, coll. Ryosuke Mimori; 1♀(5.9mm in body length), from the death-coral on coral reef, 3m in depth Majanohama, Aka-jima Island, Kerama Islands, 21, July 2014, coll. Ryosuke Mimori; 1♂(5.8mm in body length) from the death-coral on coral reef, 2m in depth, Maehama, Aka-jima, Kerama Islands, 22, July 2014,coll. Ryosuke Mimori. These specimens are deposited at Toyama Science Museum (TOYA-Cr- 23621~23624)

Description of a male: Body (Fig. 1A-C) barrel-shaped, 2.4 times as long as wide. Color pale yellow. Eyes relatively big, each eye composed of about 70 ommatidea. Epimera of each segment distinct. Penes (Fig.2J) paired: each penis 9 times as long as wide. Pleotelson with a longitudinal, posteriorly directed process(Fig. 2K). Posterior margin of pleotelson with a pair of low projection.

Antennule (Fig 2A), composed of 2 peduncular segments and 7-9 flagellar segments. Antenna (Fig 2B) longer than antenna, composed of 5 peduncular segments and 9-13 flagellar segments. Epistome(Fig. 2C) relatively narrow. Labium(Fig. 2D) normal.



A, Dorsal view

B, Lateral view

C, Ventral view

Fig. 1 A male of *Cilicaeopsis whiteleggei* (Stebbing, 1905)

A, Dorsal view; B, Lateral view; C, Ventral view. (All: A male collected from Aka-jima, Okinawa, Taken by Ryosuke Mimori).

Right mandible (Fig 2E): pars incisiva with a single tooth, lacinia mobilis thin, with 3 teeth; processus molaris wide; papal segment 3 with 12-13 setae. Left mandible (Fig 2 F): pars incisiva with a single tooth, lacinia mobilis with 5 teeth; processus molaris wide; terminal palpal segment with 5-6 setae. Maxillula (Fig.2G): mesial lobe 4 teeth; lateral lobe with 11 teeth, including a deeply serrated, others without denticles. Maxilla(Fig. 2H) :lateral lobe with 6 robust pectinate setae, middle lobe with 7-8 robust pectinate setae; mesial lobe with 10 robust pectinate setae including 3-4 serrated setae. Maxilliped (Fig.2 I): endite lateral margin distal margin; palp five-segmented; segment 1 narrow, segments 2-5, with about 5, 7, 8, 7 terminal setae respectively; epipodite triangular.

Pereopod 1 (Fig. 3A) :basis 4 times as long as wide, with 4 setae on distal half of outer margin; ischium with 2 setae including a stronger one on outer margin; merus a little wider than long, with a seta on inner margin and 2 setae on outer distal atria; carpus triangular with 4 setae; propodus 1.5 times as long as wide, with 2 setae on inner margin and a short seta at inner distal angle ; dactylus forms a strong claw.

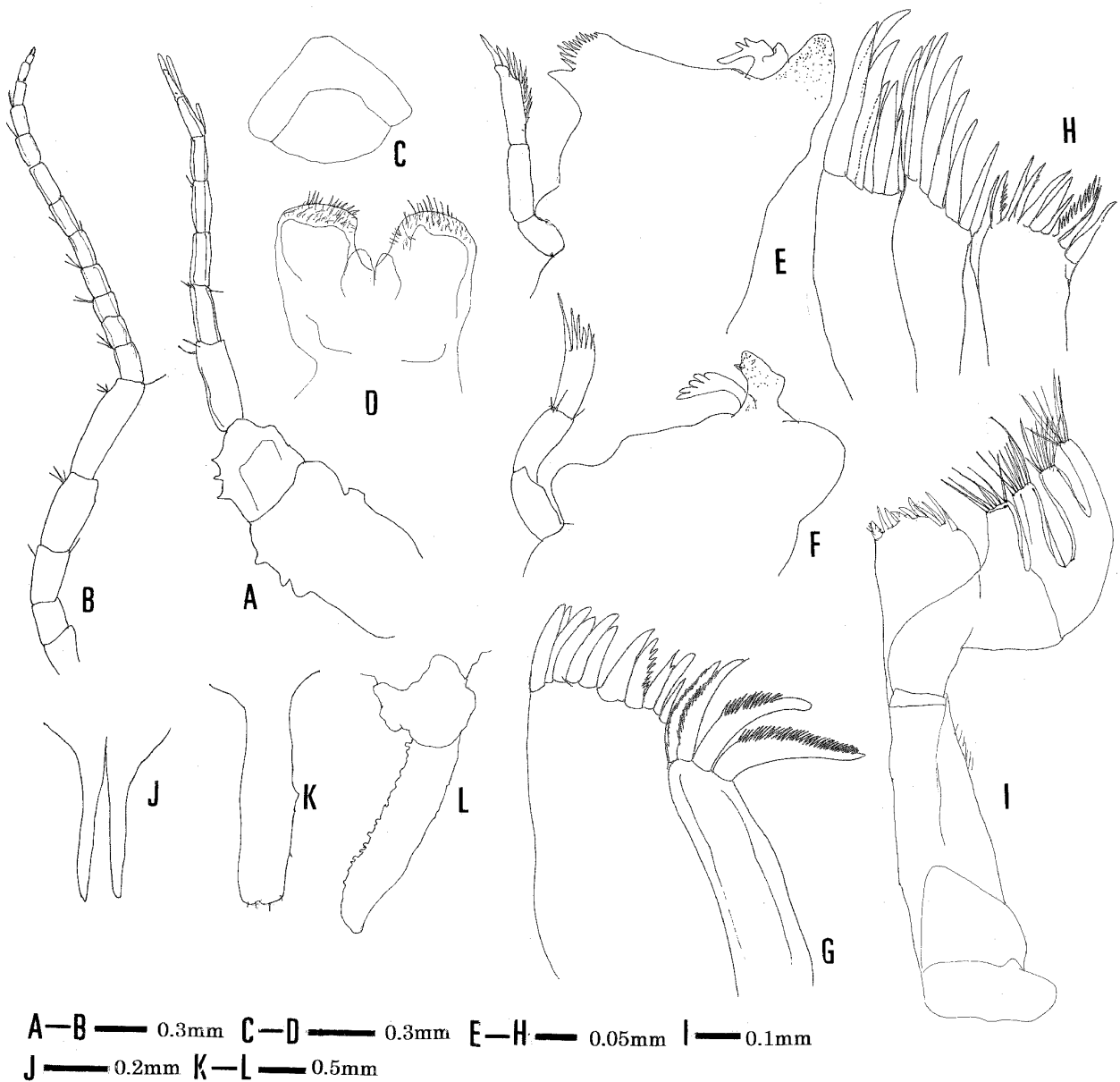


Fig. 2 Males of *Cilicæopsis whiteleggei* (Stebbing, 1905)

A, Antennule; B, Antenna; C, Epistome; D, Labium; E, Right mandible; F, Left mandible; G, Maxillula; H, Maxilla; I, Maxilliped; J, Penes; K, Process of male abdomen; L Uropod(All: Males collected from Aka-jima, Okinawa).

Pereopod 2 (Fig. 3B) :basis 4 times as long as wide; ischium, 3.6 times as long as wide, with a seta at inner distal angle; merus 0.6 times as long as ischium, with much fur-like setae on inner margin and 3 setae on distal margin; carpus rectangular, a little shorter than merus, with much fur-like setae on its margin and 3 setae on distal margin; propodus 4 times longer than carpus, with 2-3 setae and much fur-like setae on inner margin and 1-2 setae at outer distal angle.

Pereopod 3(Fig. 3C): basis 4 times as long as wide; ischium 3 times as long as wide, with 3-4 setae on outer margin; merus two-thirds as long as ischium, with much fur-like setae on inner margin and 5 setae on distal outer margin; carpus rectangular, with much fur-like setae on its margin; propodus 1.4 times longer than carpus, with 2-3 setae on inner margin and 1-2 setae at outer distal angle.

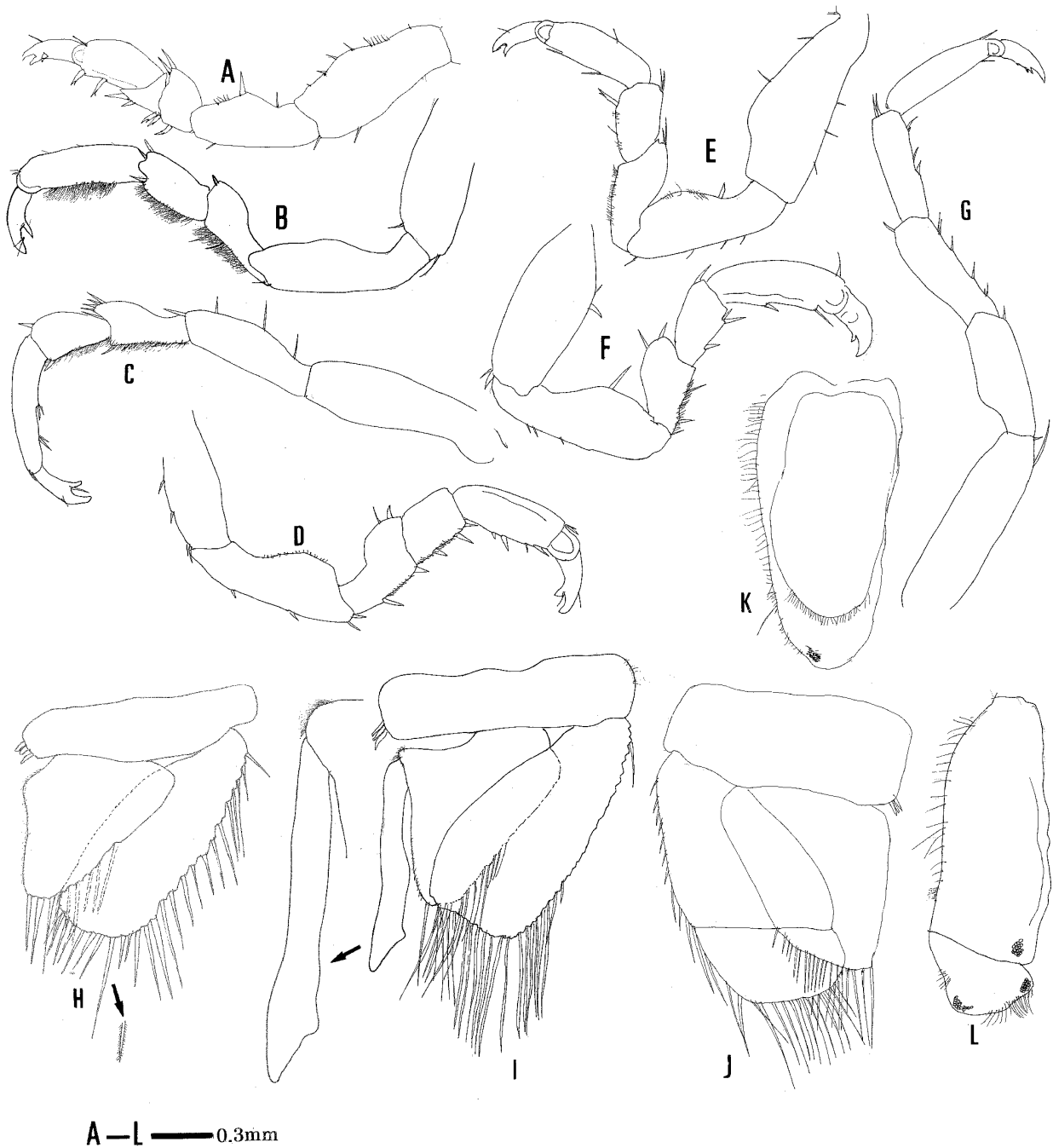


Fig. 3 Males of *Ciliacopsis whiteleggei* (Stebbing, 1905)

A-G, Pereopods 1-7; H-K, Pleopods 1-4; L, Endopod of pleopod 5 (All: Males collected from Aka-jima, Okinawa).

Pereopods 4-7 almost similar. Pereopod 4(Fig. 3D): basis long, with 3-4 setae on inner margin; ischium 4 times as long as wide, with 3 setae on inner margin and much hair on sternal margin; merus half-length of ischium, with 2-3 setae hair on sternal margin and many fur-like setae on inner margin; carpus a little shorter than merus, with 2-3 setae and much hair on its margin and; propodus 1.7 times longer than carpus, with 2-3 setae on inner margin and 1-2 setae at outer distal angle.

Pereopod 5 (Fig. 3E): basis with 3 setae on both margins; ischium with 4-5 setae on inner margin and much hair on sternal margin; merus half-length of ischium, with much hair on its margin and 2-4 setae on outer distal area; carpus rectangular, with 2 setae and much hair on inner margin and 2-4 setae on outer distal area; propodus 1.5 times longer than carpus, with 2-3 setae on inner margin and 1-2 setae at outer distal angle.

Pereopod 6 (Fig. 3F): basis with 2 setae on inner distal angle; ischium as long as basis, with a seta on sternal margin; merus with much hair on its margin; carpus rectangular, with 3 setae on inner margin and a seta at outer angle and 5-6 setae on distal margin; propodus twice longer than carpus, with 2-3 setae on inner margin and a seta at outer distal angle.

Pereopod 7 (Fig. 3G): basis long, 4 times as long as wide, with a seta at inner distal angle; ischium 2.6 times as long as wide; merus with 5-6 setae on inner margin; carpus rectangular, with 3 setae on its margin and; propodus 1.2 times longer than carpus, with 2-3 setae on inner margin and 1-2 setae at outer distal angle.

Pleopod 1 (Fig. 3H): basis, with 3 coupling hooks; endopod with about 9-10 plumose setae; exopod with about 26-30 plumose setae.

Pleopod 2 (Fig. 3I): basis rectangular, with 3 coupling hooks; endopod rhomboid, with 10-11 plumose setae; appendix masculina straight, apical part narrowed to a short obtuse points, apical part round; exopod with about 20 plumose setae.

Pleopod 3 (Fig. 3J): basis with 3 setae; endopod with about 18-20 plumose setae; exopod with a distinct suture line, and about 26-27 plumose setae.

Pleopod 4 (Fig. 3K): basis short; endopod rectangular and folded, with much hair around the margin; exopod with a boss and much hair around the margin.

Pleopod 5 (Fig. 3L) :basis short; endopod lanceolate and folded; exopod rectangular, with 3 bosses.

Uropod (Fig 2L): basis almost square; endopod reduced; exopod long, 4.6 times as long as wide, inner side of serrateed.

Description of a young female considered to be *Cilicaeopsis whiteleggei* (Stebbing,1905), collected together with males, in the same habitat.

Body 1.7 times as long as wide. Color pale yellow. Eyes mediocre in size and each with about 40 ommatidea. Anterior margin of cephalon round. Each pereonal somite similar in shape and each 13 times as wide and long. Posterior margin and a small concavity at the posterior end (Fig. 4P).

Antennule (Fig. 4B), reaching composed of 2 peduncular segments and 8 flagellar segments. Antenna (Fig. 4C) longer than antennule, reaching composed of 5 peduncular segments and 11 flagellar segments.

Mandible (Fig. 4D): terminal palpal segment with 13 short setae on lateral margin. Maxillula (Fig. 4D) egg-shaped, without any stout setae. Maxilliped(Fig 4F): endite egg-shaped; epipodite round short palpal segment 2 rectangular, 1.7 times as long as wide, with a protrusion on inner distal angle and a seta; segment 3 square; segment 4 slender; segment 5 small and triangular.

Pereopod 1 (Fig. 4G): basis long, 4 times as long as wide, with a seta on inner margin; ischium half-length of basis; merus half-length as long as wide, with 3 setae on inner margin and with a seta on outer distal angel; carpus triangular, with 2 setae on inner margin; propodus with 7 setae on inner margin.

Pereopods 2-3 (Fig. 4H): ischium 3.5 times as long as wide: merus a littler shorter than ischium, with 3 setae; carpus a little shorter than merus, with 2 setae on inner margin; pereopod 1.3 times longer than carpus, with 2 setae on inner margin.

Pereopods 4-6 (Fig. 4I) similar in shape: basis 4.0-4.5 times as long as wide; ischium half-length of basis:

merus 0.7 times as long as wide, with a protruded outer distal part with 1 or 2 setae; carpus as long as merus; propodus 1.5 times longer than carpus; dactylus bifid.

Pereopod 7 (Fig. 4J): basis 3.2 times as long as wide; ischium two-thirds as long as wide, with a seta on sternal margin; merus 0.8 times as long as ischium, with 3-4 setae on inner margin and a seta on outer margins;

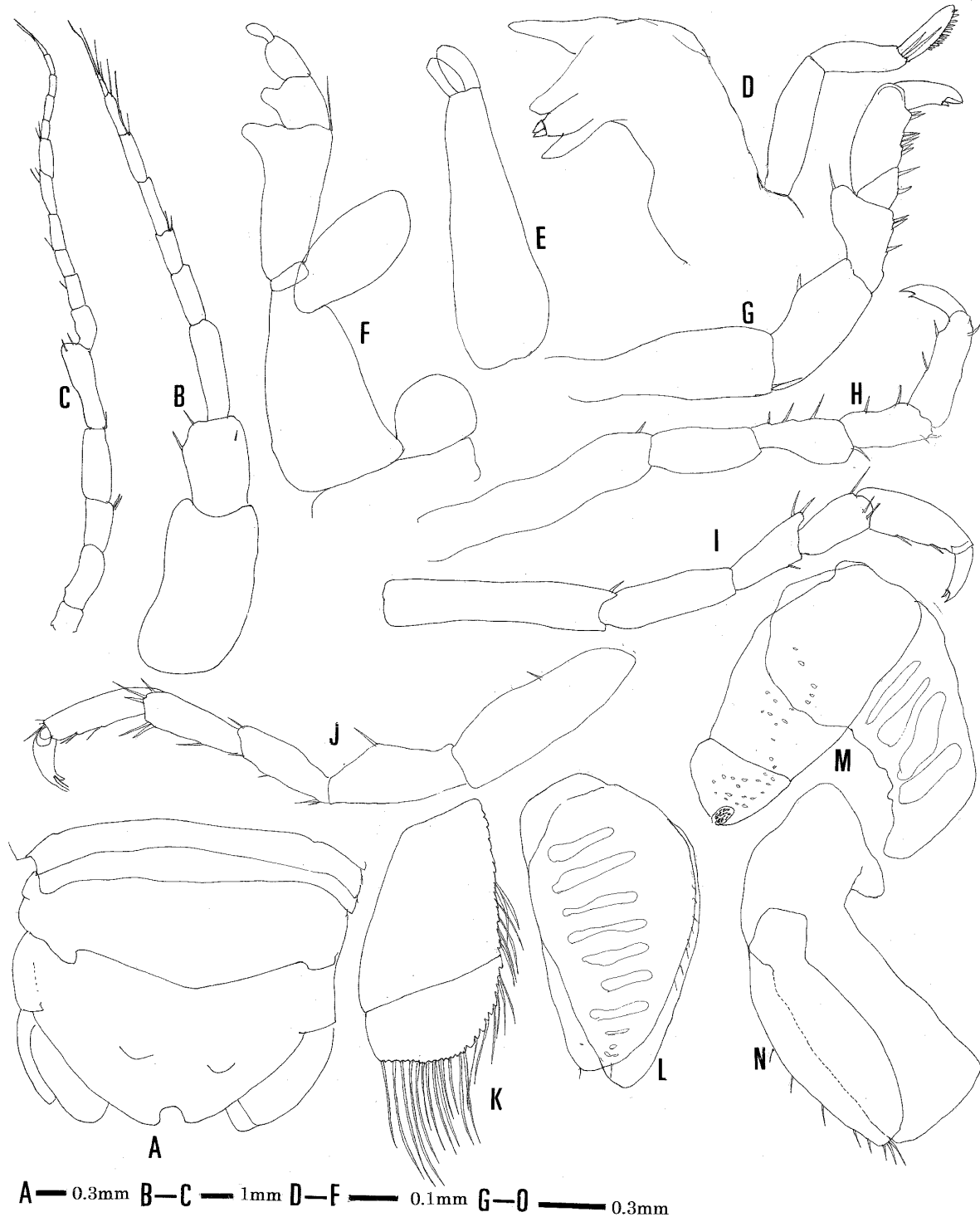


Fig. 4 A young female considered to be *Cilicaeopsis whiteleggei* (Stebbing, 1905)

A, Posterior part of dorsal view; B, Antennule; C, Antenna; D, Mandible; E, Maxillula; F, Maxilliped; H, Pereopod 1; I, Pereopod 3; K, Pereopod 5; J, Pereopod 7; K, Pleopod 3; L, Pleopod 4; M, Pleopod 5; N, Uropod (All: a female collected from Akajima, Okinawa).

carpus as long as merus, with 3 setae on inner margin and 3 setae on distal margin: propodus almost as long as carpus, with 3 setae on inner margin and 3 setae on at outer distal angle.

Pleopod 1: endopod, with 6 setae on inner margin; exopod with 32 setae around the margin.

Pleopod 3 (Fig. 4K): exopod rectangular, 1.7 times as long as wide, with 26-27 setae.

Pleopod 4 (Fig. 4L): endopod egg-shaped and folded; exopod lanceolate.

Pleopod 5 (Fig. 4M): endopod and folded; exopod with a boss at the tip, 1.7 times as long as wide.

Uropod (Fig. 4N): basis almost square; endopod rectangular, 2.1 times as long as wide ; exopod lanceolate 2.3 times as long as wide.

Remarks: The present male specimens agree with the description of type specimen from Trincomalee, off Foul Pont, deep water Point off Galle Sri Lanka and other descriptions (Stebbing, 1905; Harrison, and Holdich, 1984, Yu & Li 2003).

The present specimens agree with the original description of *Cilicæopsis whiteleggei* (Stebbing,1905), reported from Sri Lanka, but the former shows some differences from the latter in the following features: (1) almost entire tip of process on posterior end of pereonal somite, (2) shorter antennae bearing less numerous flagellar segments of both antennae, (3) shorter and less numerous teeth on maxillula, (4) narrower frontal lamina, (5) straight uropod, (6) presence of tip of uropodal tip, with stouter spurs, (6) shape of appendix masculina, especially rounded tip, (7) rounder appendix masculina and (8) presence of individuals bearing 3 setae on endopod of maxillula. These features are considered to be younger form of this species; a similar forms was described as "*Cilicæa* sp.juv.", together with original description of this species(Stebbing, 1905).

This species shows remarkable sexual dimorphisms (Stebbing, 1905; Harrison, and Holdich, 1984; Yu & Li, 2003). The female specimen was collected from the above-mentioned area and this feature agrees with a "juvenile" collected together with male specimens, this young female agrees with the description of Stebbing's original report, therefore, it is considered to be the same species.

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