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A New Species of the Genus *Tachaea* (Isopoda, Corallanidae) from the lake Tonlé Sap, Cambodia*

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カンボジア、トンレサップ湖から発見されたエビノコバン属の１新種

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カンボジア、トンレサップ湖から発見されたエビノコバン属の一種を新種，*Tachaea tonlesapensis* として記載した。本種はインドのカルカッタから知られている*Tachaea spongillicola* Stebbing ともっと類似するが, (1) 腹尾節が狭いこと, (2) 交尾針が長いこと, (3) 雌の顎脚基部が広くならないこと, (4) 両触角の鞭数が多いこと, (5) 目が小さいこと及び (6) 大顎髭の剛毛が少ないことで区別される。本種のホロタイプ（TOYA Cr-13154）は富山市科学文化センターで保管される。また，近傍の市場か採取された極めて類似した標本が採取されたので相違点を記載した。

Key word：Isopoda, *Tachaea tonlesapensis,* new species, Cambodia, Tonlé Sap, parasite, crustacea

In December 2004, during a survey at the lake Tonlé Sap, Cambodia, Dr.Tetsuya Narita happened to find many individuals of parasitic isopods on shrimps. They were sent to me for identification, and at the closer examination of mine, they proved to represent a new species of the genus *Tachaea*.

The zoo-faunistic surveys were embedded in the "Evaluation of Mechanisms Sustaining in the Biodiversity of Lake Tonlé Sap, Cambodia" project funded by the Grant-in Aid for the International Scientific Field Research from Japan Society for Promotion of Science (15405004).

Tachaea tonlesapensis n.sp.

(Figs. 1-2)

Description of female: Body 4.0 times as long as wide, excluding uropods and both antennae. Color white. Cephalon triangular, with a weakly protruded antero-lateral medial area. Eyes rounded triangular, mediocre in size, the number of ommatidia of each eye not discerned accurately, but considered to be about 45-50.

Antennule (Fig.1C) composed of 10 segments including two peduncular segments and eight flagellar segments. Antenna (Fig.1D) , reaching the posterior margin of the third pereonal segments, composed of five peduncular and 16 flagellar segments.

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Mandible(Fig.1F): pars incisiva three-segmented; lacinia mobilis absent; palp three-segmented, second segment occupies almost half the length of whole length of palp, with six segments on the posterior half; terminal segment the length of the second, with 11 segments, the terminal one long and serrated. Maxillula (Fig.1F): outer plate tapers to its a strong single apical tooth. Maxilla (Fig.1G) very small, composed of two segments. Maxilliped (Fig.1H): endite without wide vibratory lamera; palp five-segmented.

Pereopod 1(Fig.1I): basis rectangular, 3.2 times as long as wide, with a seta on inner margin and two short setae on outer margin; ischium 2/5 as long as basis, with two setae on inner margin; merus 3/5 as long as ischium, with four setae including a longer one on inner margin and two setae at outer distal margin ; carpus short, with four to six setae on inner margin ; propodus as long as ischium, with three stout setae on inner margin; dactylus strongly falcate.

Pereopod 2(Fig.1J): basis rectangular, 3.3 times as long as wide, with three short setae on outer margin; ischium 3/5 as long as basis, with two setae on inner margin and two setae on outer distal angle; merus half the length of ischium, with four setae including a longer one on inner margin and a seta at outer distal margin; carpus short, with four setae on inner margin and a seta at outer distal area; propodus as long as ischium, with two stout setae on inner margin; dactylus falcate.

Pereopod 3 (Fig.1K): basis rectangular, 3.1 times as long as wide, with two short setae on both margins ; ischium half the length of basis, with three setae on inner margin ; merus half the length of ischium, with five setae including a longer one on inner margin and a seta at outer distal margin; carpus short, with five setae on inner margin and a seta at outer distal area; propodus a little longer than ischium, with three stout setae on inner margin and a few of setae at outer distal area; dactylus falcate.

Pereopod 4 (Fig.1L): basis rectangular, 3.1 times as long as wide, with 1-3 short setae on both margins; ischium 3/5 as long as basis, with four to five setae on inner margin and a seta at outer distal angle; merus 3/5 as long as ischium, with four setae on inner margin and two setae on inner margin; carpus 90% as long as merus, with four long on inner margin and five morphologically complicated setae on holotype; propodus 1.7 times longer than carpus, with two groups of two setae on inner margin and a seta at outer distal angle; dactylus falcate.

Pereopod 5 (Fig.1M): basis rectangular, 2.8 times as long as wide ; ischium 3/5 as; long as basis, with four setae on inner margin and two setae at outer distal area; merus almost square half the length of ischium, with two groups two setae on inner margin and a sate at outer distal area; carpus as long as merus, with three setae on inner margin and three setae at outer area; propodus 1.7 times longer than carpus, with thee setae on inner margin and three setae at outer distal area:dactylus falcate.

Pereopod 6(Fig.1N): basis 2.7 times as long as wide, with a seta at inner distal angle ; ischium 4/5 as long as basis, with three setae on inner margin and two setae at outer distal area ; merus half the length of ischium, with three stouter setae on inner margin and three setae at outer distal area ; carpus almost as long as merus, with three stout setae on inner margin and four to five setae at outer distal area and three setae on outer distal area; propodus 1.7 times longer than carpus, with two stouter and two slender setae on inner margin and to short setae on outer margin; dactylus falcate.

Pereopod 7(Fig.1O): basis rectangular, four times as long as with, with 9-10 setae on outer area; ischium 3/5 as long as basis, with three setae on inner martin and two setae on outer distal area; merus 3/5 as long as ischium, with three to four setae on inner margin and three setae on outer distal angle; carpus 3/4 as long as merus, with four longer setae at inner distal area and seven to eight setae at outer distal area ; propodus 1.5 times as long as merus, with two groups of three setae on inner margin and five to six setae oat outer distal area ; dactylus falcate.

Pleopod 1(Fig.2A): basis rectangular, with nine setae on lateral margin; endopod long and rectangular; exopod with a transverse suture line.

Pleopod 2 (Fig.2B): basis with eight setae; endopod long, terminal part swollen.

Pleopod 3(Fig.2C): basis rectangular, with eight setae; both rami rectangular.

Pleopod 4(Fig.2D): basis rectangular; both rami rectangular.

Pleopod 5(Fig.2E): basis rectangular; endopod rectangular; exopod shorter than endopod, with a transverse suture line.

Uropod (Fig.2F): basis triangular, with two setae on outer margin and setae on distal end: endopod rectangular, 2.2 times as long as with, with eight teeth and more than 30 plumose setae around the margin; exopod slender, a little shorter than endopod, with six teeth and more than 37-38 plumose setae around the margin.

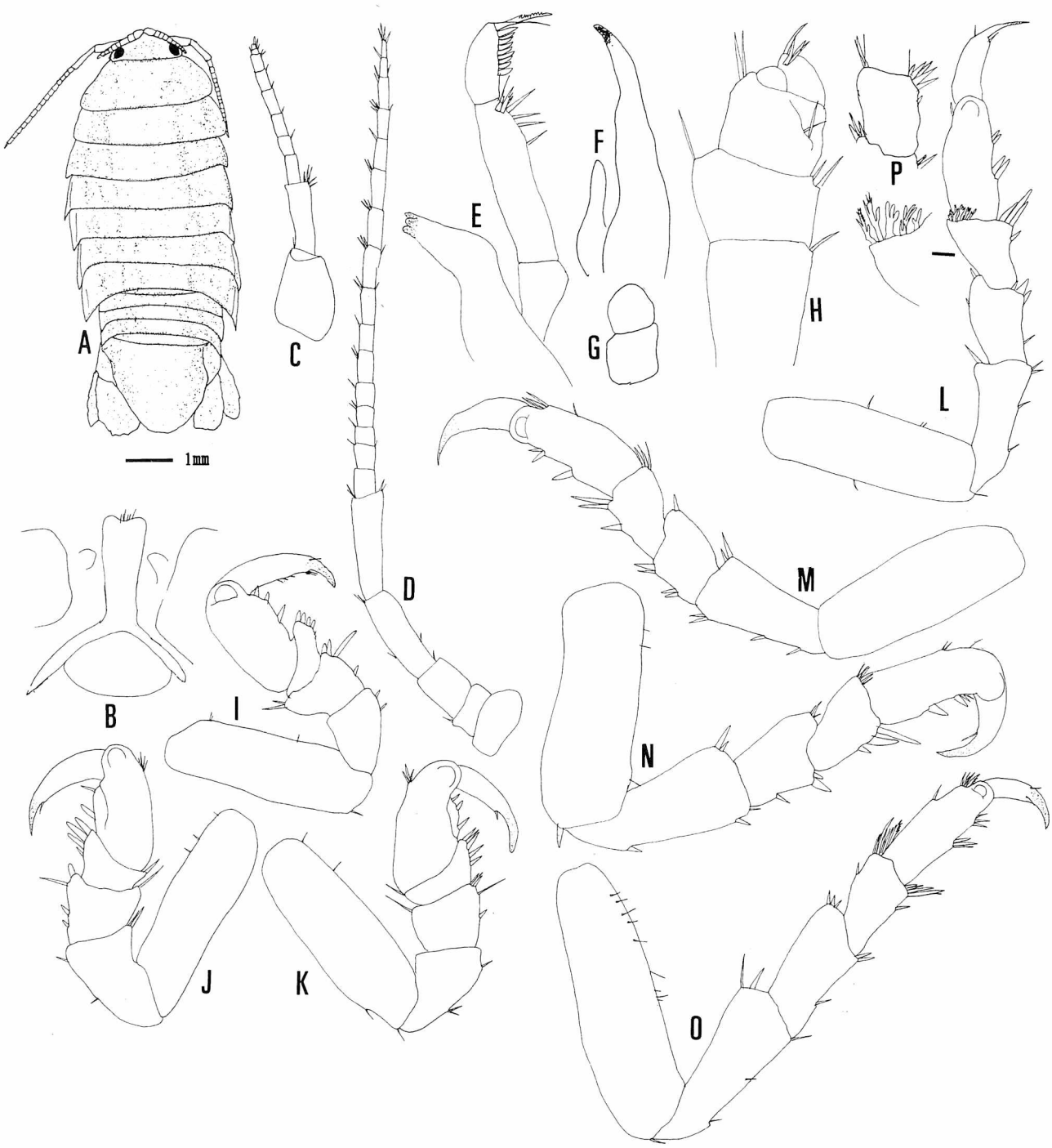

Fig.1 ***Tachaea tonlesapensis*** **n.sp. and a male collected at Kompong Cham**

A. Dorsal view; B,Frontal lamina, clypeus and labium; C,Antennule; D, Antenna; E, Mandible; F,Maxillula; G, Maxilla; H; Maxilliped; I-O Pereopods 1-7. P,Carpus of pereopod 4 in male collected from a fishery market at Kompong Cham (A-O,Holotype female; P, Male collected from Kompong Cham).

Material examined: 13♀♀(1♀ holotype, 8.3 mm in body length and 9♀♀ paratypes, 6.2 ～10.0mm in body length, 3♀♀ will be deposited at Hokkaido University Museum); fishery market of Kompong Chhnang, lake Tonlé Sap, Cambodia, Dec.14, 2004. coll. Tetsuya Narita. Type series is deposited as follows: Holotype (TOYA Cr-13154) and 3 paratypes(TOYACr-13155～13157) at Toyama Science Museum, 3 paratypes (NSMT Cr-16627) at the National Science Museum, Tokyo and 3 paratypes (ZIHU-3181, 3182, 3183) and other 3 specimens at the of the Hokkaido University Museum.

Ecology: The species was collected from shrimps belonging to Atydae and/or Palaemonidae, but the names of host shrimps were not determinate.

Etymology: The species name is after the type locality ; Tonlé Sap, Cambodia.

Remarks: Hitherto six species of the genus *Tachaea* have been known from all over the world (Riek 1953, Riek 1967, Schioedte and Meinert 1879, Stebbing 1907, Thielemann, 1910. Weber, 1892). Among them, the present species is most closely allied to *T.spongillicola* stebbing reported from freshwater area of Calcutta, India, but the former is

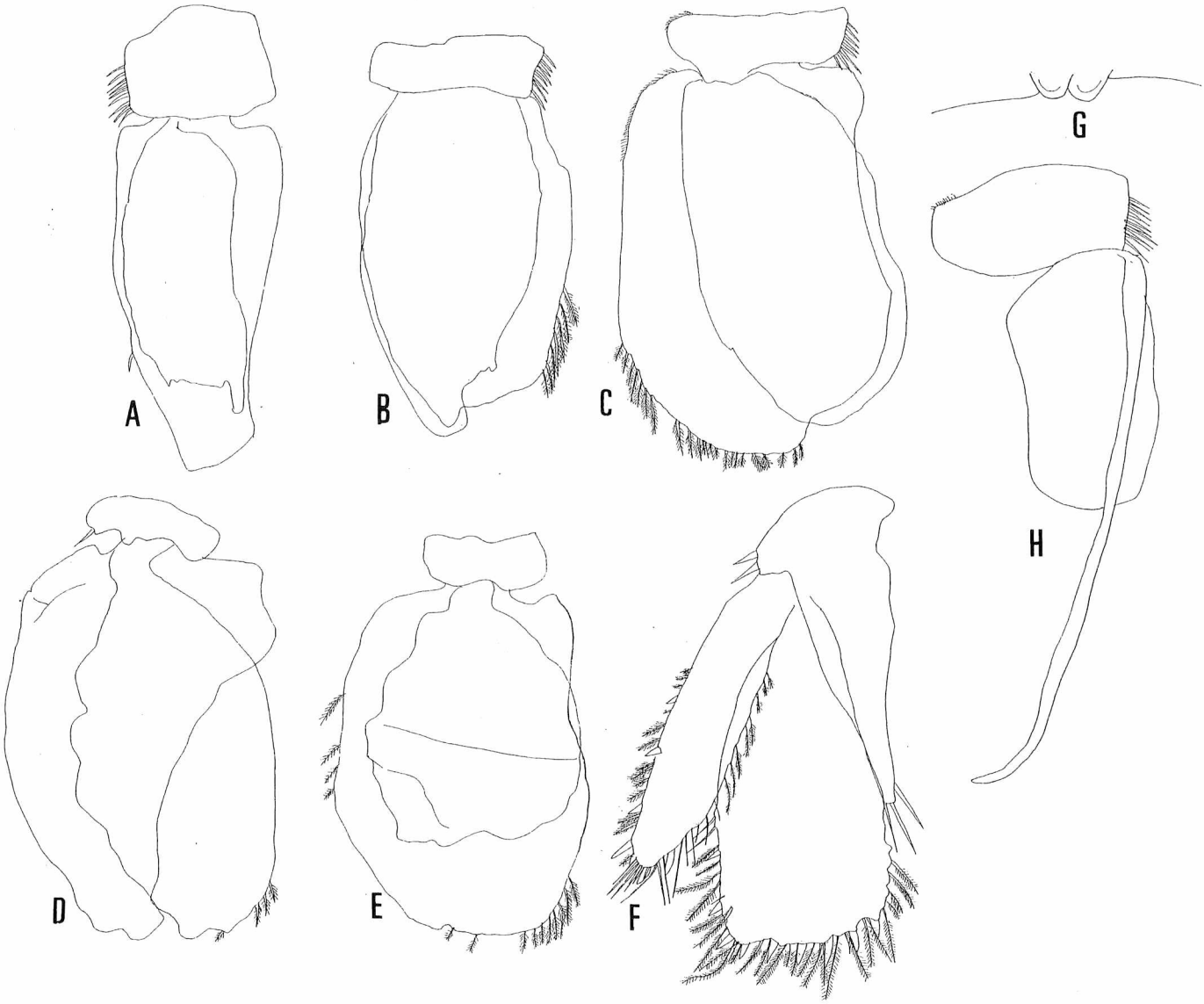

Fig.2 *Tachaea tonlesapensis* n. sp. and a male collected at Kompong Cham
A-E, Pleopods 1-5; F, Uropod; G,Penes, H, male second pleopod(A-B, Holotype female of *Tachaea tonlesapensis* n.sp. G and H. Male collected at Kompong Cham).

separated from the latter in the following features: (1) narrower pleotelson, (2) longer stylus of male second pleopod, (3) absence of wide vibratory lamella of maxilliped in both sexes, (4) numerous flagellar segments of both antennae, (5) smaller eyes and (6) numerous segments of mandibular palp. Species name of the host shrimps was/were not ascertained but the shrimps were composed of the species belonging to Atyidae and Palaemonidae.

Some specimens of the genus *Tachaea* were also collected in another market, Kompong cham. And they are very closely allied to the specimens of type series, but the former is different from the latter only in absence of complicated setae on carpus of pereopod 4 in both sexes (Fig.1P) . They are considered to belong to the present new species, for the difference is small. The habitat of host shrimps was unknoun (from the Mekong River ?).

Among, these specimens, three male specimens were included. The descriptcm of the sexual features of these specimens are as follows: Penes (Fig.2G) is very short. Pleopod 2 (Fig.2H) has basis with eight setae, stylus very long, exceeds far beyond the endopod and its endopod rectangular.

The material examined is as follows:3♂♂(8.8-9.9 mm in body length) and 3♀♀(5.3-7.0mm in body length) from shrimps, fishery market of Kompong Cham, Cambodia, The habitat of host shrimps was unkoun, Dec. 16, 2004. Coll.Tetsuya Narita. These specimens were considered to be collected from a separate water system (perhaps from the river Mekon, but there are not accurate informations)Species name of the Host shrimps is (or are) not but the shrimps are mingled with the species belonging to Atyidae and Palaemonidae. The specimens will be deposited as follows: 4 specimens (TOYACr-13158~13161)at the Toyama aScienceMuseum and 2 specimens. (ZIHU-3184, 3185) at twe Hokkido University Museum.

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References

Riek, E. F.,1953, A corallanid isopod parasitic on freshwater prawns in Queensland. *Proceedings of the Linnaean Society of New South Wales,* 77 (5-6): 259-261.

Riek, E. F.,1967, A new corallanid isopod parasitic on Australian freshwater prawns. *Proceedings of the Linnaean Society of New South Wales,* 91: 176-178.

Schioedte, J. C. and Meinert, F. W.,1879, Symbolae ad Monographiam Cymothoarum Crustaceorum Isopodum Familiae 1. Aegidae. *Naturhistorisk Tidsskrift* (3) 12:321-414.

Stebbing, T. R. R.,1907, A freshwater isopod from Calcutta. *Journal of the Linnaean Society* (Zoology) 30: 39-42.

Thielemann, M.,1910, Beiträge zur Kenntnis der Isopodenfauna Ostasiens. *Abhandlungen Akademie der Wissenschaften Mathematischen-Physikalische Klasse in München* 2 (3): 1-109.

Weber, M.,1892, Die Süsswasser-Crustaceen des Indischen Archipels, nebst Bemerkungeň uber die Süsswasser-Fauna im Allgemeinen. *(In) Max Weber's Zoologische Ergebnisse* einer Reise in Neederlandisch Öst-Indien. Leiden: E. J. Brill. 2, 528-571.