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NOTES ON NEW FRESH-WATER PRAWNS OF THE  
GENUS PALAEMON FROM YUNNAN

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## NOTES ON NEW FRESH-WATER PRAWNS OF THE GENUS PALAEMON FROM YUNNAN

By S. C. Yü

Forty-two specimens of fresh-water prawns collected from Yunnan in 1933 were studied by me. After a careful examination they were found to be of two species all belonging to the genus *Palaemon*. The one is probably related to a Japanese species and the other is even unable referred to any described one. Both of them are considered as new to science.

### *Palaemon brevicarpus* de Haan

de Haan, 1850, Fauna Japonica, crust., p. 172.

v. Martens, 1868, Arch. f. Naturgesch. (34), p. 43.

de Man, 1879, notes Leyden Musseum, I, p. 175.

### var. *heterochirus* nov.

Twenty-two examples with both males and females (18 ♂♂ & 4 ♀♀) agree in number of rostral teeth and in proportion of the different articles of the second pair of legs with de Haan's description. But an examination upon the form of rostrum and the structure of carpus and fingers of the second legs, they present another aspect to which I give emphasis for establish a new variety. The following appear to be the principle characters of them:—

- (1) The rostrum is stout and short, reaching not to the end of the antennular peduncle. The proportion between the rostrum and the smooth carapace is greater in the young

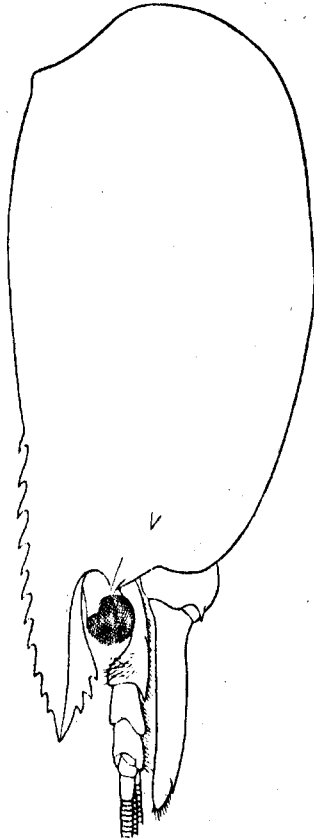


Fig. 1.

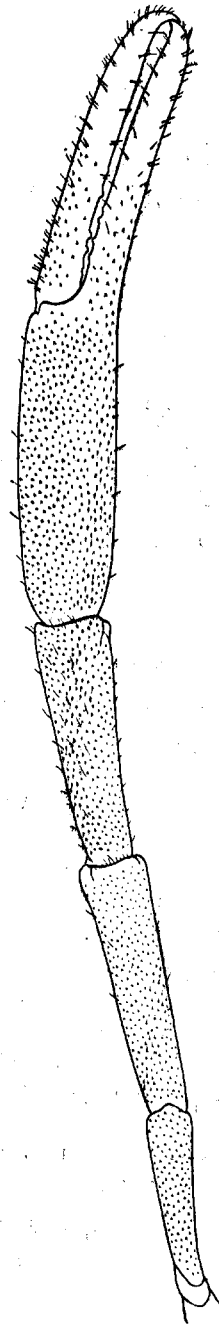


Fig. 2.

Fig. 1.—Carapace with rostrum of *Palaemon brevicarpus* var. **heterochirus** nov.

Fig. 2.—Second pereopod of *Palaemon brevicarpus* var. **heterochirus** nov.

specimens and smaller in the adults, in the largest males the rostrum is probably only one-third as long as the carapace. The upper border of the rostrum is armed with 10 to 12 teeth of which 4 or 5 are situated on the carapace and the fifth or sixth one is just placed above the orbital border, the teeth become more and more compact anteriorly, so that the total distance of the first four or five teeth is just equal to that of the rests. The lower border of the rostrum is armed with 2 to 3 teeth of which the first one is situated just below the last but one or two of the upper.

- (2) The antennular peduncle is relatively short, with the anterolateral spine of its first article reaching hardly beyond the half length of its second article. The scaphocerite of the second antenna is very broad and over reaches the antennular peduncle by a length of about three millimetres, the proportion between the maximum and minimum width of the scaphocerite is probably 5 to 3.
- (3) The second pair of pereiopods is unequally developed in the male specimens while the larger and longer one is either on the left or right side. They are covered with minute spines on the surface of all the articles excepting the fingers which are devoid of any asperity but the scattered hairs. In the male specimens the ischium of the larger leg is shorter than the carpus while that of the smaller is almost as long as; the merus of both legs is decidedly longer than the carpus, cylindrical in shape and more or less compressed; the carpus is cylindrical in shape and a little more than two-thirds as long as the palm which is more or less compressed and hardly swollen; the fingers are either as long as or slightly longer than the palm, each is provided

with a row of conical tubercles near the proximal one-third of the posterior part of cutting edge.

*Remarks*—This new variety differs sufficiently from the typical form of the species in several undeniable points: Firstly according to de Haan's description, the rostrum is slightly upwards at the tip and equal to the antennular peduncle, but after the specimens of Yu nan, the rostrum is absolutely straight and a little shorter than the latter; secondly the second pair of legs is granulated in Japanese form but covered with spinules in our specimens; thirdly the carpus of second legs is oblong-conical in shape and just longer than the half length of the palm in typical form but cylindrical and proportionly longer in this variety; and lastly the fingers are unarmed in the one but provided with tubercles in the other, although in the young male specimens of Yunnan it is also unarmed.

*Locality*—Taken from a mountain stream at ning-Erh.

*Measurements*—All the specimens are examined and measured. the measurements are in millimetres as showing in the accompanying table.

***Palaemon yunnanensis* sp. nov.**

*Diagnosis*—Rostrum convex superiorly, at most one-third as long as carapace, armed generally with seven or eight teeth on the superior border and one or two on the inferior. Carpus of second pair of pereiopods about two-thirds as long as merus, hardly reaching the half length of palm. Fingers longer than merus but shorter than palm, with two large tubercles just behind their cutting edges.

*Description*—The twenty specimens of both sex collected by Mr. Nie are unfortunately very damaged and preserved in a bad condition. Many of pereiopods are broken down and all the second pairs of the same are separated from the main bodies while the cephalothorax and many of the second pereiopods are good enough for describing. They

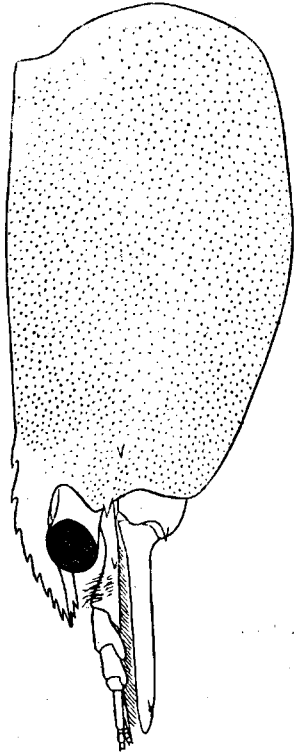


Fig. 3.

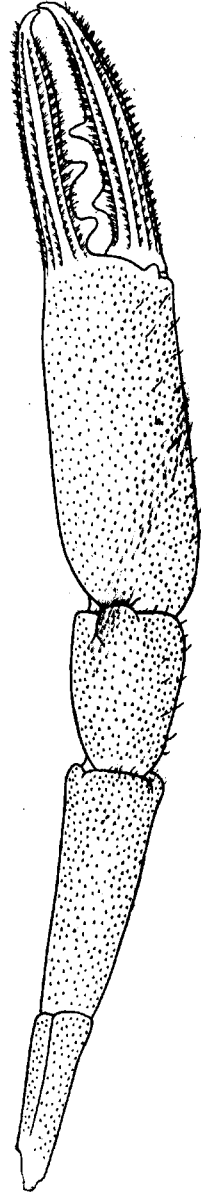


Fig. 4.

Fig. 3.—Carapace with rostrum of **Palaemon yunnanensis** nov. sp.

Fig. 4.—Second pereopod of **Palaemon yunnanensis** nov. sp.

presents the following characters:—

- (1) The carapace measures 20-23 mm. in the larger males. It is covered compactly with minute spines, making the whole surface but the rostrum strongly asperated. The asperities in the female or young specimens seem much less prominent. The rostrum is very short and convex on the upper border, measured 6-7 mm. in the larger specimens and reaching only to the middle of the second article of the antennular peduncle. The teeth on the upper border of the rostrum are in general 7 or 8 rarely 9 in number, among the twenty specimens there is only one male with ten and another with six teeth on this border. The distance between the teeth are gradually shortened towards the distal end of the rostrum, so that the teeth are more and more compact anteriorly. The first one or two teeth are situated on the carapace, the second or third is just above the orbital border, but the last is placed just behind the tip of the rostrum. On the lower border of the rostrum there are, at most, two teeth of which the second, if present, is also very near to the tip and placed just below the last tooth of the upper border.
- (2) The antennular peduncle is very short, about one-fifth shorter than the scaphocerite of the antenna. The antero-lateral spine of the first article of the peduncle reaches beyond the two-thirds of the second. The scaphocerite is narrow in general aspect, its greatest width is probably two times as wide as the maximum width of its anterior end which is accurately rounded.
- (3) The second pair of pereopods is very stout and plumped. All the articles but fingers are covered with minute spines

on their surfaces, rendering thus the legs to an asperated aspect. Besides the asperities all the articles are provided with hairs which are very few on other articles but very compact and especially arranged into several longitudinal rows besetted in longitudinal furrows on the fingers, so that the surfaces of the fingers are peculiar and specialized into several longitudinal ridges between the rows of hairs. The ischium is compressed, one-third shorter than the merus and as long as the carpus. The merus is more or less cylindrical in shape, about one time and one-half as long as the carpus and about two-thirds as long as the palm. The carpus is nearly conical in shape, slightly shorter than the half length of the palm and decidedly longer than the half-length of the fingers. The palm is more or less oblong and much compressed, much longer than the fingers in the largest specimens. The fingers are very strong and more or less compressed. The fixed one is provided with two large tubercles just behind the cutting edge which occupies nearly the anterior two-third of the whole length of the finger. On the movable one there are also two large tubercles, but the cutting edge which just precedes the latter is only equal to the half length of the finger.

*Remarks*—This species is only captured near the south-western boundary of Yunnan province in rocky caves of mountain stream. It remote from all known species of palaemon lived in China, a case very peculiar and interest. Its possible relatives perhaps lie with certain Indo-malayan species.

*Locality*—Mann-Tchi-Pan.

*Measurements*—The broken specimens are separately measured in millimetres as showing in the accompanying tables.







## 沼蝦屬之雲南

## 淡水蝦

喻兆琦

是篇所述二種·皆隸沼蝦屬。其一與日本短腕沼蝦有關·他一則迥異於已知諸華種·蓋皆科學上新供獻也·其特徵如下：

## 異臂沼蝦 (新變種)

鼻突(Rostrum)短而勁·平直無灣曲·稍短於小觸須柄(Antennular peduncle)·與平滑之頭胸甲成 1 與 3 之比·上緣有齒十至十二·下緣有齒二至三·第二對步足密被細刺·致表面甚粗糙。腿節(Merus)略長於腕節(Carpus)·而短於掌。腕節形略呈圓柱·長稍過於掌之三分二。指約與掌同長·各有數細齒於其切緣後。

## 雲南沼蝦 (新種)

鼻突甚短·纔及小觸須柄第二節之半·與粗糙頭胸甲之比至多為一與三·上緣凸如虹·有齒七或八·下緣有齒一或二·第二對步足亦密被細刺。腿節長如腕節一又二分一倍。腕節難及掌長之半·形略呈圓錐。掌形略呈長方·甚肥厚而扁。指短於掌·各有二大齒於切緣後。