

REVISION OF THE CHINESE FRESHWATER CRABS
PREVIOUSLY PLACED IN THE GENUS *ISOLAPOTAMON* BOTT,
1968 (CRUSTACEA: DECAPODA: BRACHYURA: POTAMIDAE)

Dai Ai Yun and Michael Türkay

ABSTRACT. - The taxonomy of the Chinese freshwater crab species previously assigned to the genus *Isolapotamon* Bott, 1966 (Potamidae) is revised. *Isolapotamon* is now restricted to taxa from Southeast Asia. The nine Chinese species are here referred to five new genera, viz. *Neilopotamon*, *Yarepotamon*, *Minpotamon*, *Vadosapotamon* and *Latopotamon*. Two new Chinese species are also described, *Neilopotamon xinganense* and *Yarepotamon guangdongense*.

KEY WORDS. - China, new genera, new species, Brachyura, Potamidae, taxonomy.

INTRODUCTION

In describing the Southeast Asian potamid genus *Isolapotamon* Bott, 1968, Bott (1970), included eight species, viz. *I. anomalum* (Chace, 1938) (type species), *I. griseivoldi* (Chace, 1938), *I. mindanaoense* (Rathbun, 1904), *I. sinuatifrons* (H. Milne Edwards, 1853), *I. kinabaluense* (Rathbun, 1904), *I. mahakkamense* (De Man, 1899), *I. consobrinum* (De Man, 1899) and *I. chaseni* (Roux, 1934). Since then, an additional eight Southeast Asian species have been recognised and added to the genus, viz. *I. doriae* (Nobili, 1900), *I. collinsi* Holthuis, 1979, *I. naiadis* Ng, 1986, *I. beeliae* Ng, 1986, *I. nimboni* Ng, 1987, *I. bauense* Ng, 1987, *I. grusophallus* Ng & Yang, 1986, *I. spatha* Ng & Takeda, 1992 (Holthuis, 1979; Ng, 1986, 1987; Ng & Yang, 1986; Ng & Takeda, 1992). Ng (1988) removed the Malayan species *Potamon chaseni* Roux, 1934, from the genus *Isolapotamon* and referred it to *Stoliczia* Bott, 1966. We feel that this is not appropriate and that a new genus should eventually be established for the species. This is, however, outside the scope of the present paper. The genus *Isolapotamon* s. str. was also recently revised by Ng & Tan (in press) and is restricted to Borneo and Philippines.

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Seven more Chinese species (all new) had also been referred to *Isolapotamon* by the first author and her colleagues over the years (Dai et al., 1975, 1979, 1980, 1984, 1990). For the present study, all the Chinese species were re-examined and compared with typical species of *Isolapotamon* from Borneo. It became evident, that the Chinese species so far assigned to *Isolapotamon* are a very heterogeneous group, are polyphyletic and unrelated to *Isolapotamon* s. str.

The major differences between the Chinese species of "*Isolapotamon*" and *Isolapotamon* s. str. are as follow: the exopod of third maxilliped is narrower with the outer border almost straight (vs. arched); male abdomen subquadrilateral in shape or broadly triangular (vs. triangular); median interruption between sternites 4/5, 5/6, 6/7 is relatively broader; and the male first pleopod is generally more slender (vs. stout).

As a result of the present observations, the taxonomy of the Chinese "*Isolapotamon*" species to be reappraised. Five new genera and two new species are established in this paper.

All the specimens examined in the present study are deposited in the Institute of Zoology, Academia Sinica in Beijing, China. Voucher specimens will be deposited in the Senckenberg Museum (Frankfurt am Main) and Zoological Reference Collection (National University of Singapore). The author citation for the Chinese species follows that suggested by Ng (1994).

KEY TO NEW GENERA

1. Male first gonopod terminal segment not cylindrical, tip either with nose-like projection or expanded and flattened dorso-ventrally 2
- Male first gonopod terminal segment cylindrical, tip either blunt or tapering to a tip 3
2. Male first gonopod terminal segment tip divided into three prongs; male abdomen triangular; female telson triangular *Minpotamon*
- Male first gonopod terminal segment tip expanded and flattened dorso-ventrally, 'spatula' shaped; male abdomen subquadrate; female telson semi-circular *Vadopotamon*
3. Male first gonopod terminal segment bent at nearly right angles; male abdomen subquadrate; male telson triangular, lateral sides concave *Latopotamon*
- Male first gonopod terminal segment not bent, straight; male abdomen triangular; male telson triangular, lateral sides straight 4
4. Male first gonopod terminal segment cylindrical, not tapering, slightly expanded basally; tip usually bottle-mouth liked *Neilopotamon*
- Male first gonopod terminal segment cylindrical, tapering, slightly expanded distally; tip not bottle-mouth liked *Yarepotamon*

TAXONOMY

Neilopotamon, new genus

Isolapotamon, Tai & Sung, 1975: 173; Dai et al., 1984: 66 (not Bott, 1968).
Neilopotamon Dai & Türkay, 1993: 18 (nomen nudum).

Type species. - *Isolapotamon sinense* Tai & Song, 1975, by present designation.

Diagnosis. - Medium sized crabs (18 mm to 25 mm carapace width). Carapace with dorsal surface smooth. Exopod of third maxilliped with short flagellum. Male abdomen pagoda-shaped. Median longitudinal groove of thoracic sternum moderately broad. Middle suture of sternites 7 and 8 moderately short. Male first pleopod stout, terminal segment short, thick; groove marking sperm channel turning dorsally at terminal segment; gonopodal pore terminal in position.

Etymology. - "Neilu" means middle of China, not near the coast; in arbitrary combination with the genus *Potamon*. Gender neuter.

Remarks. - The genus was first named by Dai & Türkay (1993) in an abstract published for a meeting. Although the abstracts volume is a valid publication, a valid Latin name was provided and a list of species classified in the genus was provided, there was no description or diagnosis of the taxon. As such, *Neilupotamon* Dai & Türkay, 1993, is a nomen nudum. The first valid use of this name is thus in this present paper.

Distribution. - Hunan, Guizhou province and Guangxi Zhuang Autonomous Region.

KEY TO SPECIES OF NEILUPOTAMON

1. Male first pleopod with terminal segment slender, about more than 2.5 times as long as broad, ventral lobe produced into semicircular structure 2
- Male first pleopod with terminal segment stout, about less than 2.5 times as long as broad, ventral lobe produced into triangular structure 3
2. Male first pleopod with terminal segment about 3.8 times as long as broad, ventral lobe produced into flattened semicircular structure; male second pleopod with subdistal segment about 1.9 times as long as distal segment; female gonopore with posterior border reaching half of sixth sternite *N. sinense*
- Male first pleopod with terminal segment about 2.7 times as long as subterminal segment, ventral lobe produced into subglobose structure; male second pleopod with subdistal segment about 2.3 times as long as distal segment; female gonopore with both anterior and posterior borders near sternites 4/5 and 5/6 *N. papilionaceum*
3. Male first pleopod with terminal segment about 2.2 times as long as broad, narrowing towards tip, ventral lobe produced into flat angular structure *N. physalium*
- Male first pleopod with terminal segment about 2 times as long as broad, distinctly narrowing towards tip, ventral lobe with basal portion strongly produced *N. xinganense*

Neilupotamon sinense (Tai & Sung, 1975)

(Pl. I: 1; Fig. 1)

Isolapotamon sinense Tai & Sung, 1975: 173-174, pl. III, fig. 12, pl. IV, fig. 25; Dai et al., 1984: 66-68, Fig. 33.

Material examined. - Holotype, 1 male (AS)(HN7374050), Hunan Province, Hwietung, May 1973.

Paratypes - 1 male, same data as holotype.

Others - 1 female, same data as holotype. — 1 male, 1 female, Hunan Province, Hwietung, 28 Nov. 1975.

Diagnosis. - Male first pleopod comparatively slender, terminal segment slightly produced ventrally at base. Male abdomen with telson slightly concave laterally.

Description. - Carapace slightly convex anteriorly and posteriorly. Surface punctate, glabrous only anterior branchial region near anterolateral border, frontal lobes rugose. Cervical groove deep, continuous with H-shaped groove. Postfrontal lobes moderately prominent, oblique. Postorbital crest comparatively convex. Frontal margin with a rounded emargination.

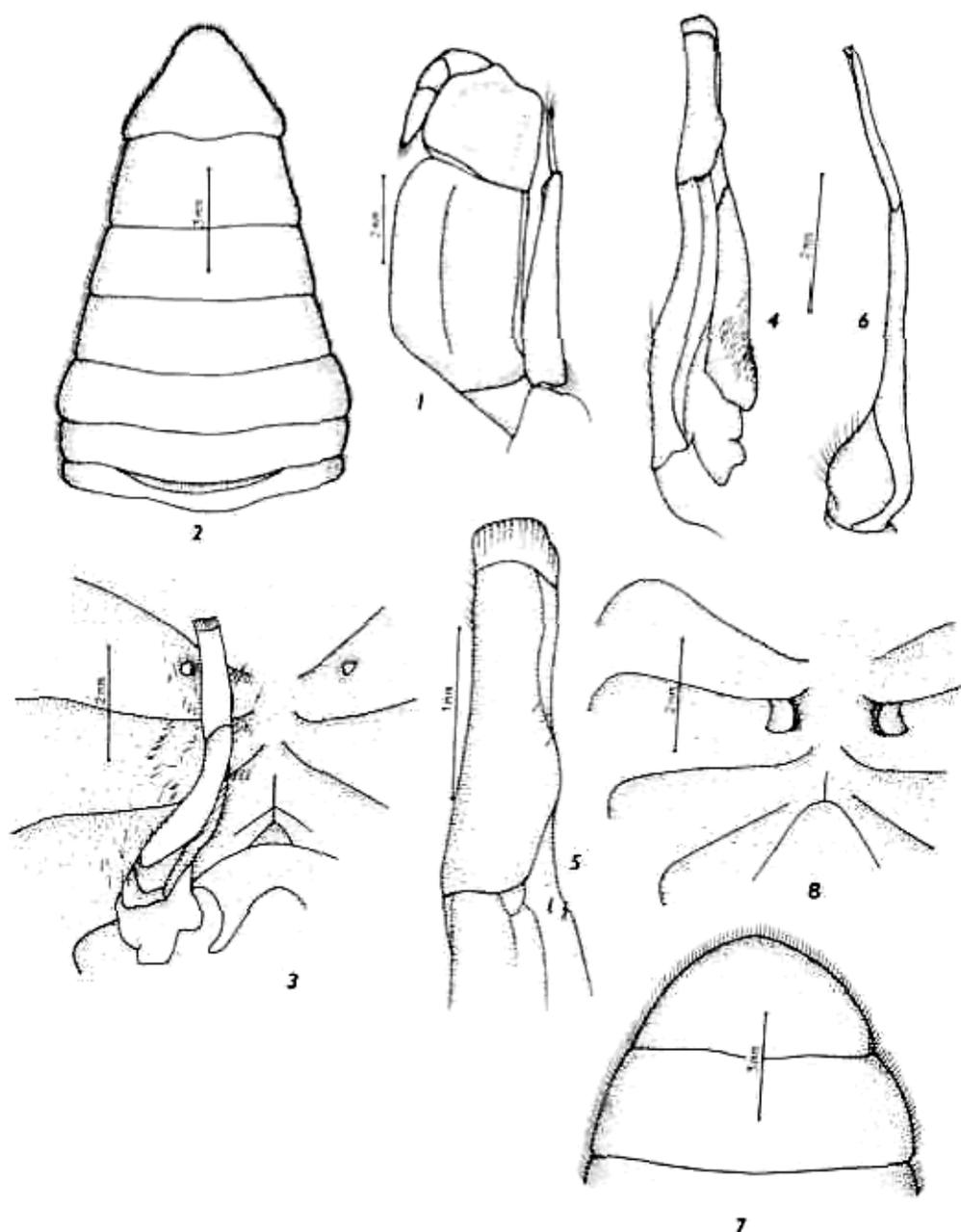


Fig. 1. *Neilopotamon sinense* (Tai & Sung, 1975). 1-6, male; 7-8 female. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod; 7. Female abdomen; 8. Female genital pore.

Exorbital tooth blunt, connected with ventral orbital border. Epibranchial tooth granular. Anterolateral border crested, turning backwards, lined with granules. Suborbital region well by curved granular crest, surface smooth. Third maxilliped ischium length about 1.6 times width, with submedian groove. Merus width about 1.1 times length, median surface depressed. Exopod reaching to proximal one-fifth of merus, with flagellum.

Chelipeds clearly unequal. Upper surface of carpus with fine rugae, inner border with blunt spine and much smaller one just below it. Outer surface of manus with fine rugae. Larger manus length about 1.3 times height, 1.1 times length of movable finger. Fingers stout, with rounded blunt teeth, gap narrow when closed. Ambulatory legs slender, smooth.

Median longitudinal groove of thoracic sternum moderately narrow. Longitudinal suture of sternites 7 and 8 somewhat short. Male abdomen subquadrate in shape, sixth segment width about 2.2 times length, telson triangular, slightly concave laterally, width about 1.4 times length.

Female abdomen ovate, sixth segment width about 2.9 times length, telson width about 2.1 times length. Gonopore quadrate in shape, opening inwards.

Male first pleopod slender, reaching beyond abdominal locking tubercle of fifth sternite. Subterminal segment length about 1.9 times length of terminal segment. Ventral lobe of terminal segment produced at base. Groove for male second pleopod turning dorsally towards posterior half of terminal segment of male first pleopod. Gonopodal pore rounded, terminal in position. Male second pleopod with subdistal segment about 1.9 length of as distal segment.

Carapace length of male 17.5-18.6 mm, breadth 22.3-24 mm; of female, length 17.5 mm, breadth 22.3 mm.

Remarks. - The differences of this species from congeners are rather minor, but as we do not know the range of variation within the species due to the lack of sufficient material, we prefer to list them as separate taxa until more specimens are available to solve the question conclusively.

Distribution. - Hunan Province.

Neilopotamon papilionaceum (Dai, Song, He, Cao, Xu & Zhong, 1975)
(Pl. I: 2; Fig. 2)

Isolapotamon papilionaceum Dai, Song, He, Cao, Xu & Zhong, 1975: 262, pl. 7, fig. 7; Dai et al., 1984: 68-69, fig. 34.

Material examined. - Holotype, 1 male (HuN737512), Hunan Province, Hweitung, May 1973.

Paratypes - Allotype: 1 female, 2 males, same data as holotype.

Diagnosis. - Male abdomen with telson more concave laterally. Male first pleopod with dorsal lobe of terminal segment more produced at base.

Description. - Carapace slightly convex anteriorly and posteriorly. Surface pitted, glabrous. Only anterior branchial region near anterolateral border and frontal region with

fine rugae. Cervical groove deep, continuous with H-shaped groove. Postfrontal lobe not prominent, slightly oblique. Postorbital crest bluntly rounded. Frontal border slightly emarginated medially. Epibranchial tooth granular. Anterolateral border crested, turning backwards, lined with granular teeth. Suborbital region well delimited by curved granular crest, surface smooth. Third maxilliped ischium length about 1.3 times width, with submedian groove. Merus width about 1.1 times length, median surface depressed. Exopod reaching proximal one-quarter of merus, with short flagellum.

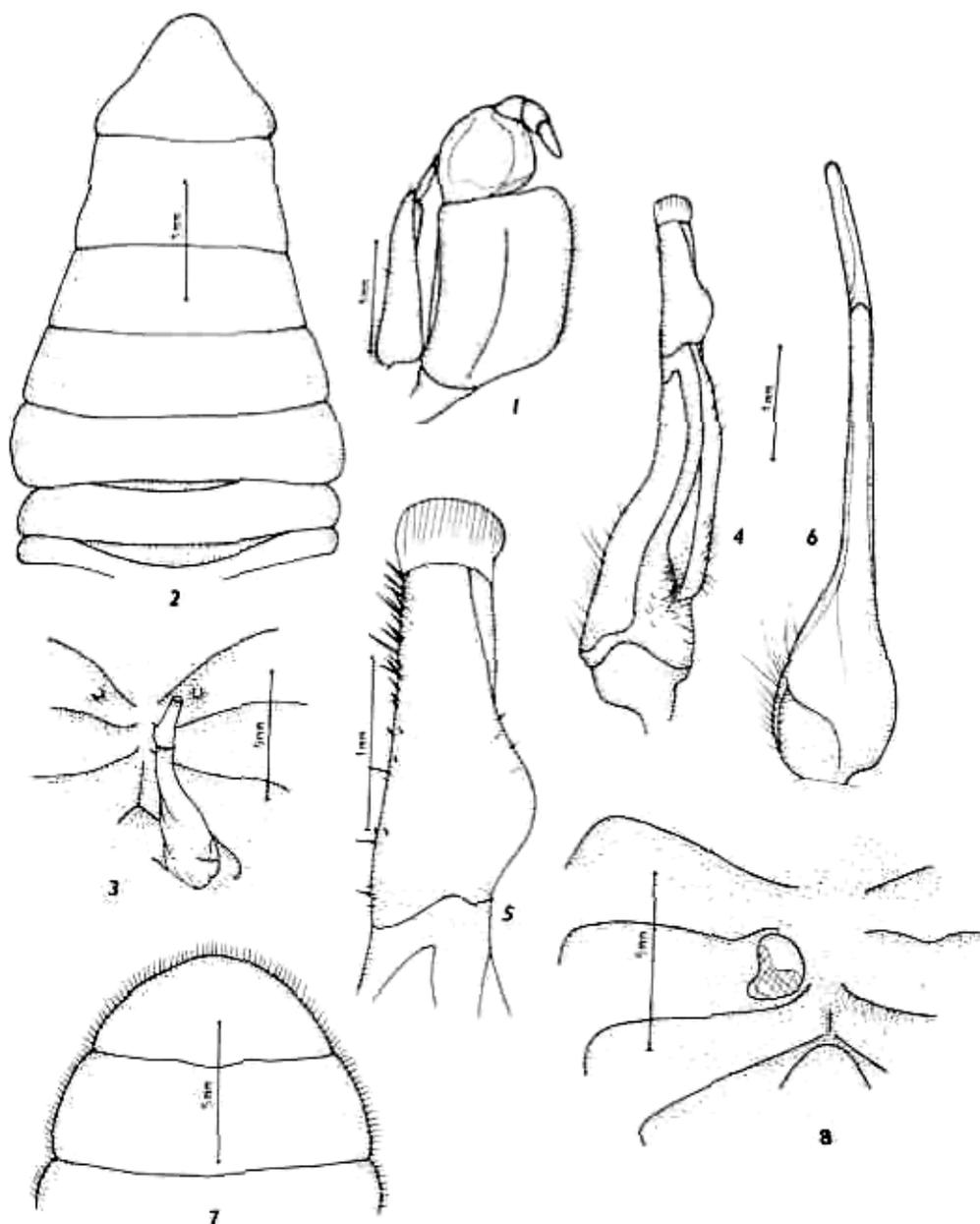


Fig. 2. *Neilopotamon papilionaceum* (Dai et al., 1975). 1-6, male; 7-8 female. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod; 7. Female abdomen; 8. Female genital pore.

Chelipeds clearly unequal. Carpus with granules on inner surface, with short, blunt spine on inner distal angle, with row of tubercles at base. Manus with fine rugae on outer upper surface. Larger manus length about 1.4 times height, 1.2 times length of movable finger. Fingers strong, with alternatively large and small blunt and rounded teeth. Gap between fingers narrow when closed. Ambulatory legs slender, smooth.

Male abdomen subquadrate in shape, sixth segment width about 2.4 times length, telson triangular, concave laterally, width about 1.5 times length. Median longitudinal groove of thoracic sternum moderately narrow. Longitudinal suture of sternites 7 and 8 moderately short.

Female abdomen ovate, sixth segment width about 3 times length, telson width about 2.3 times length. Gonopore comparatively large, outer border slightly arched, outer distal angle produced outwards.

Male first pleopod slender, about reaching abdominal locking tubercle of fifth sternite, subterminal segment as broad as long, subterminal segment length about 2.1 times that of terminal segment; terminal segment with ventral lobe distinctly produced at base. Groove for male second pleopod turning dorsally on distal half of male first pleopod. Male second pleopod with subdistal segment about 3.3 times length of distal segment.

Carapace length of male 19.3 mm, breadth 25 mm; female, length 18.2 mm, breadth 24.5 mm.

Distribution. - Hunan Province.

Neilopotamon physalisum (Dai, Song, Li, Chen, Wang & Hu, 1984)

(Pl. 1: 3; Fig. 3)

Isolopotamon physalisum Dai, Song, Li, Chen, Wang & Hu, 1984: 257, pl. 1: 1, figs. 1-8.

Material examined. - Holotype, 1 male (AS)(GZ6383052), Guizhou Province, Congjiang County, Zhaibian, May 1963.

Paratype: Allotype, 1 female, Guizhou Province, Congjiang County, coll. May 1963. — 2 males, 1 female, Guizhou Province, Rongjiang County, Apr. 1963. — 1 male, Guizhou Province, Rongjiang County, 4 Mar. 1963.

Diagnosis. - Male first pleopod with terminal segment very prominent, ventral lobe strongly produced. Male abdomen telson without constriction behind base.

Description. - Carapace slightly convex anteriorly and posteriorly. Surface smooth, only anterior branchial region near anterolateral border, postfrontal and postorbital regions finely rugose. Cervical groove moderately broad, shallow. H-shaped groove deep, distinct anteriorly. Postfrontal lobes not prominent. Postorbital crest blunt. Frontal border emarginated medially. Exorbital tooth blunt, connected with ventral orbital border, lateral border with relatively elongate granules. Epibranchial tooth granular. Anterolateral border crested, posterior part with relatively elongated granules. Suborbital ridge crested, surface smooth. Third maxilliped ischium length about 1.6 times width, with submedian groove, merus width about 1.1 times length, median surface depressed. Exopod reaching proximal one-fifth of merus, with short flagellum.

Chelipeds subequal. Upper surface of carpus finely rugose, inner distal angle with blunt spine, with very small one below it. Manus rugose, covered with numerous fine granules, larger manus length about 1.4 times width. 1.1 times longer than movable finger. Fingers stout with blunt rounded teeth, without gap when closed. Ambulatory legs slender, smooth.

Male abdomen subquadrate in shape, sixth segment width about 1.9 times length, telson triangular, width about 1.5 times length, without constriction behind base. Median longitudinal groove of thoracic sternum moderately narrow, deep. Longitudinal suture of sternites 7 and 8 moderately short.

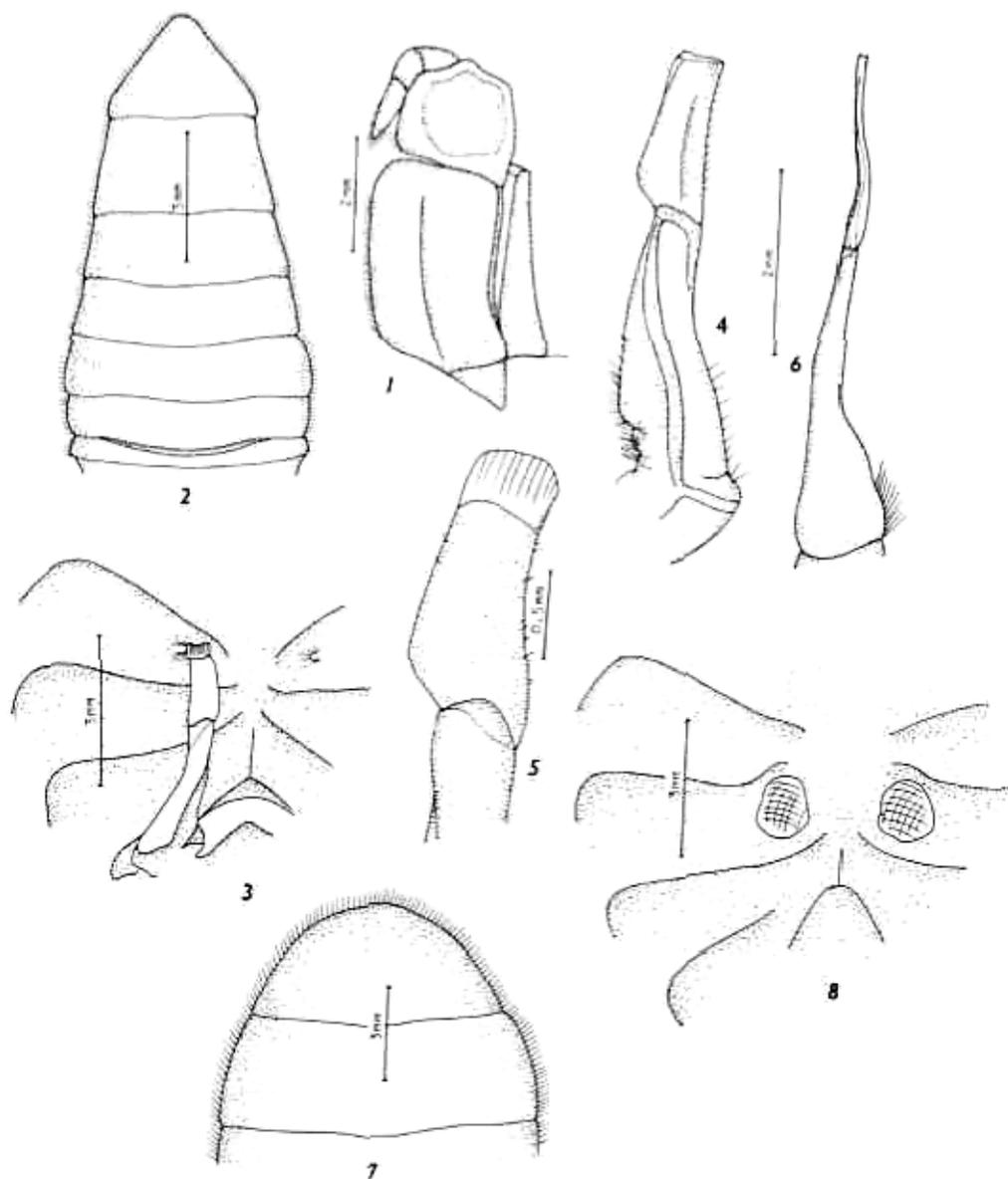


Fig. 3. *Neilopotamon physalium* (Dai et al., 1984). 1-6, male; 7-8 female. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod; 7. Female abdomen; 8. Female genital pore.

Female abdomen ovate, sixth segment about 2.9 times broader than length, telson semicircular, about 2.1 times as broader than length. Genital pore quadrate in shape.

Male first pleopod reaching about abdominal locking tubercle of fifth sternite. Subterminal segment about 1.9 times length of terminal segment. Terminal segment prominent, produced ventrally. Male second pleopod with subdistal segment about 1.6 times length of distal segment.

Carapace length of male 15 mm, breath 19.2 mm; of female, length 16.7 mm, breath 2.6 mm.

Distribution. - Guangxi Zhuang Autonomous Region, Guizhou and Hunan provinces.

Neilopotamon xinganense, new species

(Pl. I: 4; Fig. 4)

Material examined. - Holotype, male (AS)(GX8391119A), Xingan, Guangxi, 11 Aug. 1983.

Paratypes - Allotype, 1 female, 1 male, 1 female, same data as holotype. — 8 males, 11 females (2 juveniles), Rongshui, Guangxi, 9 Oct. 1977.

Description. - Carapace slightly convex, surface with pits. Epibranchial region with fine rugae. Cervical groove deep, conspicuous, connected with H-shaped groove between gastric and cardiac regions. Postfrontal lobes slightly convex. Postorbital crest slightly raised. Frontal margin slightly deflexed, anterior border emarginated medially. Dorsal orbital border ridged, exorbital angle triangular, outer border about as long as half length of antereolateral border, which is lined with 6-7 granular teeth. Epibranchial teeth not prominent, rounded, blunt. Third maxilliped with merus about 1.1 times as broad as long, ischium about 1.5 times as long as broad. Exopod about reaching proximal one-third of merus, with short flagellum.

Cheliped unequal, carpus slightly smooth, inner-distal angle with a short spine, with 3-4 granules at its base; larger manus about 1.5 times as long as high, about 1.1 times as long as immovable finger, inner border of fingers with triangular teeth, almost no gap when closed. Ambulatory legs slender, smooth, with propodus about 1.8 times as long as broad, shorter than dactylus.

Median longitudinal groove of thoracic sternum moderately deep. Male abdomen pagoda-shaped, sixth segment about 2 times as broad as long; telson about 1.5 times as broad as long.

Female abdomen oval, sixth segment about 3.2 times as broad as long; telson about 2.4 times as broad as long.

Male first pleopod reaching or slightly beyond tubercle of abdominal lock; subterminal segment about 1.7 times as long as terminal segment; terminal segment about 2.1 times as long as broad, narrower in distal half, ventral lobe convex at base; gonopodal pore resembling bottle mouth. Male second pleopod with subdistal segment about 1.4 times as distal segment.

Carapace length of male 22.7 mm, width 28.5 mm; of female, length 21.5 mm, width 27 mm.

Remarks. - This new species is close to *N. physalium*, but the male first pleopod has a terminal segment which is about two times (not 2.2 times) as long as broad. The ventral lobe is also strongly prominent and not triangular.

***Yarepotamon*, new genus**

Malavopotamon, Dai et al., 1980: 372 (not Bott, 1968).

Isolapotamon, Dai et al., 1980: 373 (not Bott, 1968).

Yarepotamon Dai & Türkay, 1993: 18 (nomen nudum).

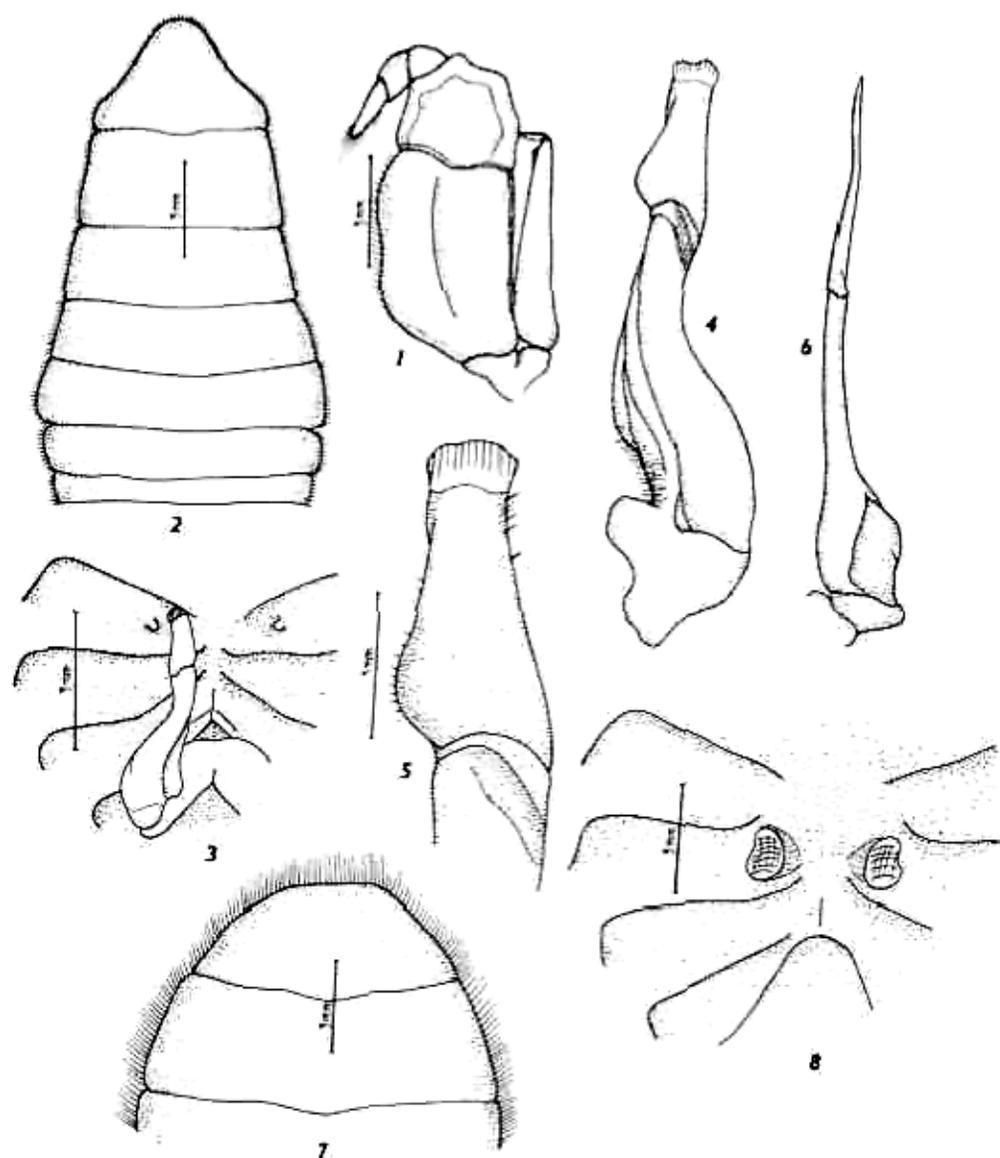
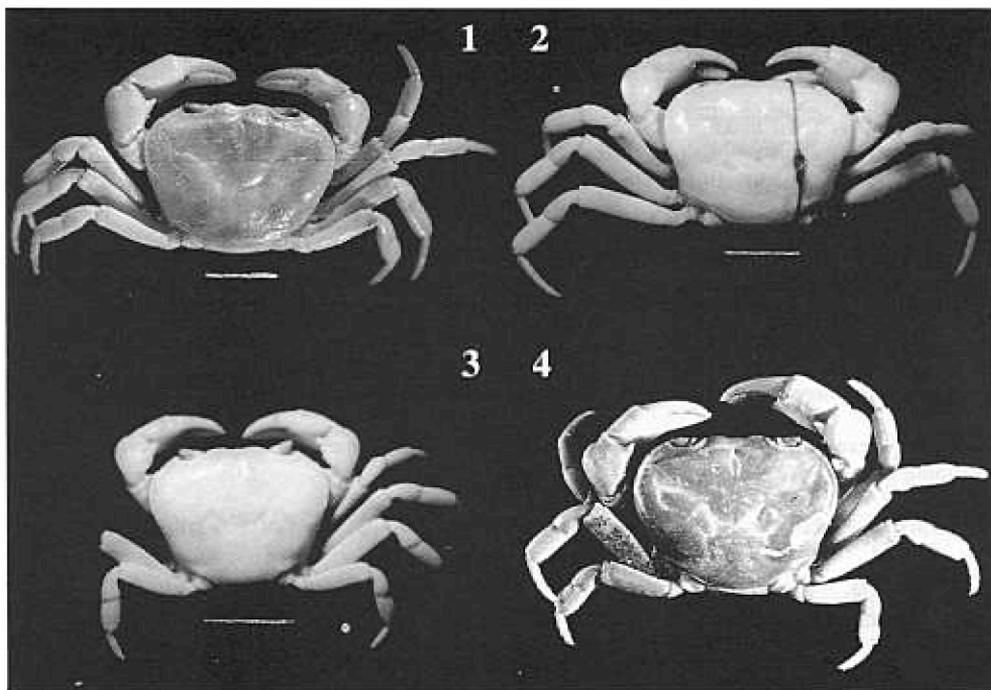


Fig. 4. *Neilopotamon xinganense*, new species. 1-6, male; 7-8 female. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod; 7. Female abdomen; 8. Female genital pore.



Pl. I. 1. *Neilupotamon sinense*; 2. *Neilupotamon papilionaceum*; 3. *Neilupotamon physalium*; 4. *Neilupotamon xinganense*. The scale bar represents 10 mm.

Type species. - *Yarepotamon breviflagellum*, new species, by present designation.

Diagnosis. - Exopod of third maxilliped with short and reduced flagellum or absent. Median longitudinal groove of thoracic sternum moderately deep. Median transverse groove of sternites 7 and 8 comparatively to moderately long. Terminal segment of male first pleopod with subdistal lobe, with or without projection; Gonopodal pore terminal in position; groove for male second pleopod on median position on male first pleopod median position.

Etymology. - “Yare” means southern China. In arbitrary combination with the genus *Potamon*. Gender neuter.

Remarks. - Dai & Türkay (1993) first used the name in an abstract published for a meeting. The abstracts volume is a valid publication and a Latin name was provided and a list of species classified in the genus provided. There was, however, no description or diagnosis of the taxon. *Yarepotamon* Dai & Türkay, 1993, is thus a nomen nudum. The first valid use of *Yarepotamon* is thus in the present paper.

Distribution. - Guangdong province and Guangxi Zhuang Autonomous Region.

Key to species of *Yarepotamon*

- 1. Third maxilliped with flagellum; male first pleopod terminal segment without projection 2
- Third maxilliped without flagellum or with only vestigial flagellum; male first pleopod terminal segment with projection 3

2. Male abdomen triangular, sixth segment about 1.9 times as broad as long *Y. guangdongense*
- Male abdomen broadly triangular, sixth segment about 2.2 times as broad as long *Y. gracillipa*
3. Flagellum of third maxilliped reduced, vestigial; terminal segment of male first pleopod with relatively short projection *Y. brevisflagellum*
- Flagellum of third maxilliped absent; terminal segment of male first pleopod with very strong projection *Y. aflagellum*

***Yarepotamon aflagellum* (Dai, Song, Li & Liang, 1980)**

(Pl. II: 1; Fig. 5)

Isolapotamon aflagellum Dai, Song, Li & Liang, 1980: 373, pl. I: 6; Fig. 6.

Material examined. - Holotype, 1 male (AS)(GX77800122), Guangxi Zhuang Autonomous Region, Zhaoping County, Wenzhu village, 20 Oct.1977.

Paratypes - Allotype: 1 female, 15 males, 1 females, 20 juv., same data as holotype.

Diagnosis. - Exopod of third maxilliped without flagellum. Tip of male first pleopod with a prominent tubercle.

Description. - Carapace convex, anteriorly and posteriorly. Surface finely pitted, with short setae, anterior branchial region near anterolateral border, postfrontal and postorbital crest with short fine rugae. H-shaped groove clearly visible. Postfrontal lobe moderately prominent. Postorbital crest comparatively sharp. Postorbital region more concave. Frontal border emarginated medially. Exorbital tooth subacute, separated from epibranchial tooth by U-shaped notch. Epibranchial tooth distinct, anterolateral border crested, directed upwards with granules. Suborbital region well delimited by curved groove, inner part without granules, surface covered with some tubercles. Third maxilliped ischium length about 1.3 times width, with submedian groove. Merus width about 1.2 times length, median surface depressed. Exopod reaching proximal one-third of merus, without flagellum.

Cheliped clearly unequal. Carpus covered with rugae and very short setae on upper surface, inner-distal angle with strong spine and small tubercle just below it. Manus with fine rugae on outer upper surface, length of larger manus about 1.3 times height, about equal to length of movable finger. Fingers strong, with alternating large and small teeth, gap narrow when fingers closed.

Male abdomen triangular, sixth segment width about 2.2 times length. Width of telson about 1.2 times length. Median longitudinal groove of thoracic sternum moderately narrow, transverse groove of sternites 7 and 8 comparatively longer.

Female abdomen ovate, width of sixth segment about 3 times length. Width of telson about 1.9 times length, longer than sixth segment. Gonopore rounded, opening inwards ventrally.

Male first pleopod slender, reaching well beyond abdominal locking tubercle of fifth sternite. Subterminal segment about 1.7 times length of terminal segment, with subdistal tubercle dorsally. Groove for male second pleopod on mesial side of subterminal segment of male first pleopod and reaching terminal segment of male first pleopod on same side,

slightly turning laterally at end. Gonopodal pore ovate, terminal in position. Male second pleopod with subdistal segment about 1.7 times length of distal segment.

Carapace length of male 13.8-18 mm, breadth 17.8-23.6 mm; female, 12.3-16.4 mm, 15.4-21 mm.

Distribution. - Guangxi Zhuang Autonomous Region.

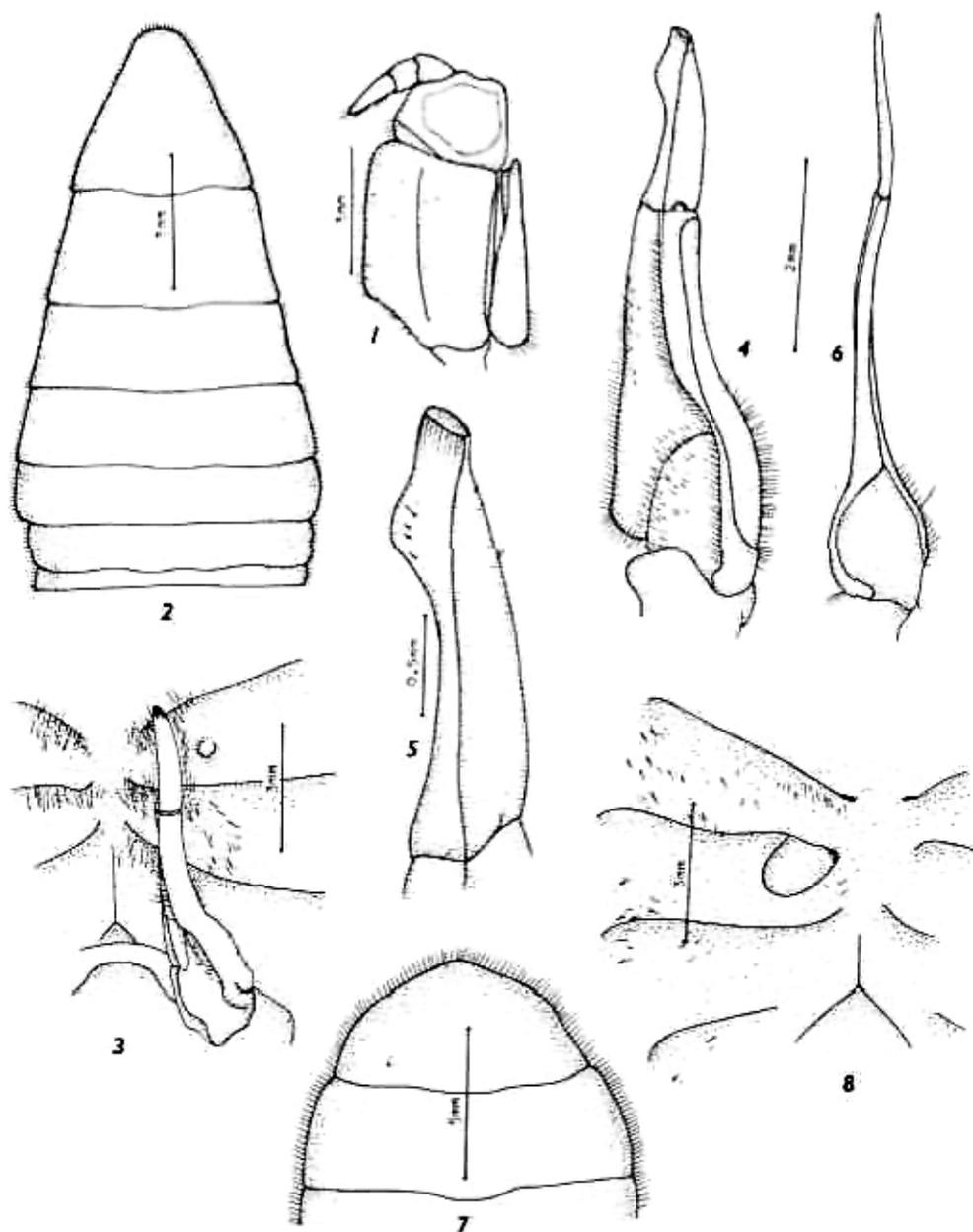


Fig. 5. *Yarepotamon aflagellum* (Dai et al., 1980). 1-6, male; 7-8 female. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod; 7. Female abdomen; 8. Female genital pore.

Yarepotamon breviflagellum, new species

(Pl. II: 2; Fig. 6)

Material examined. - Holotype, male (AS)(GD8494184A), Guangdong Province, Guangning, Gushui, 1984.

Paratypes - Allotype (GDB494184B), 2 males, same data as holotype.

Diagnosis. - Exopod of third maxilliped with vestigial flagellum. Terminal segment of male first pleopod with weak subdistal tubercle.

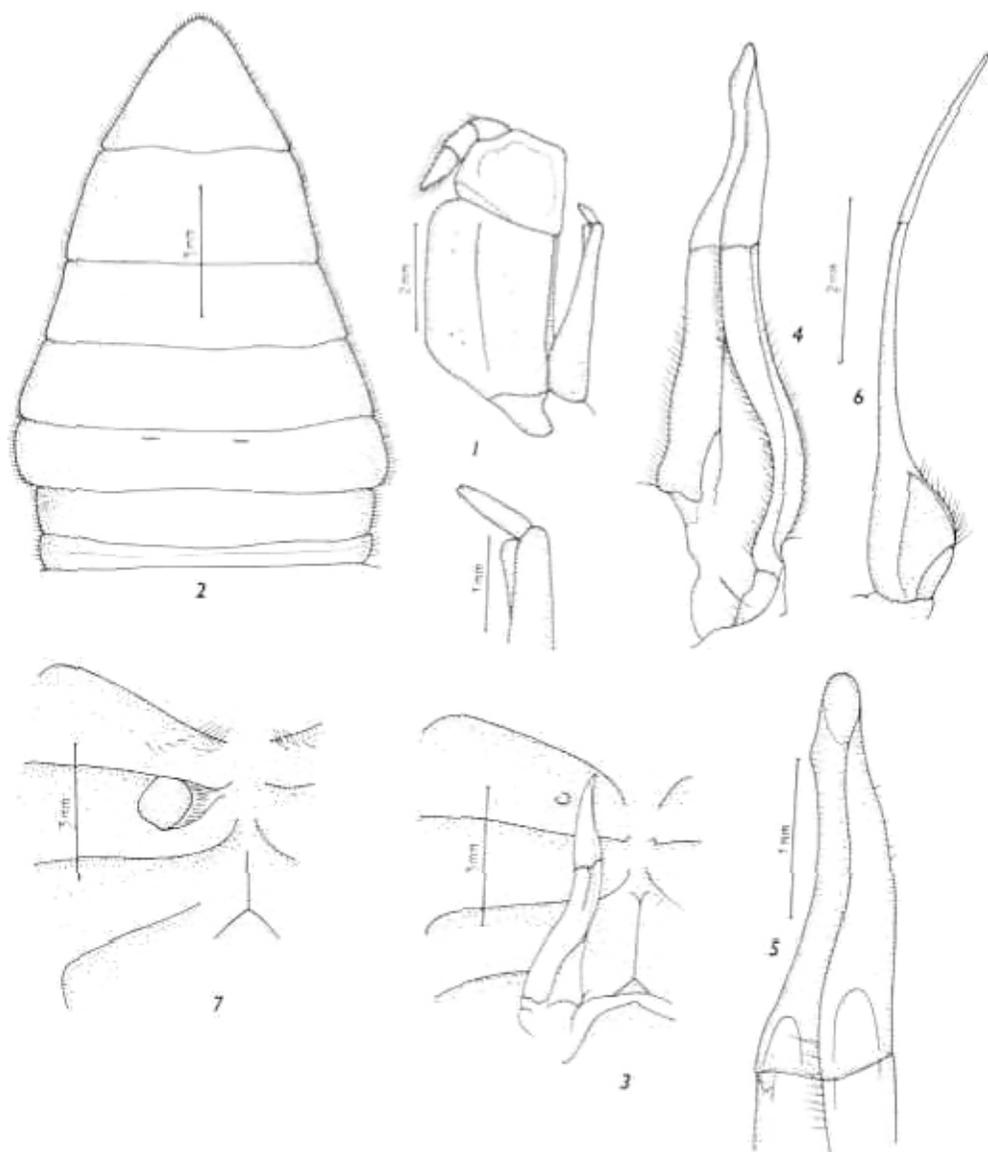


Fig. 6. *Yarepotamon breviflagellum*, new species. 1-6, holotype male (GD8494184A), carapace length 18.8 mm, breadth 21.6 mm; 7, allotype female (GD8494184B). 1. Third maxilliped and flagellum; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod; 7. Female genital pore.

Description. - Carapace generally smooth with very short setae. Anterior branchial region near anterolateral border, postfrontal lobes and postorbital crest with short rugae. Cervical groove deep, H-shaped groove distinct anteriorly. Postfrontal lobe produced. Postorbital crest moderately prominent. Frontal border emarginated medially, bilobed. Exorbital tooth subacute triangular. Epibranchial tooth granular. Anterolateral border crested, with granular teeth. Suborbital region well delimited by curved groove, surface covered with granules. Third maxilliped ischium length about 1.4 times width, with submedian groove. Merus width about 1.2 times length, median surface depressed. Exopod reaching proximal one-third of merus, with vestigial flagellum.

Chelipeds clearly unequal, carpus with upper surface covered with fine rugae and short setae, inner border with strong sharp spine and small one just below. Manus covered with reticulate rugae, larger manus width about 1.3 times height, length about 1.2 times length of movable finger. Fingers strong, with alternating large and small teeth. Gap narrow when fingers closed. Ambulatory legs slender, long.

Male abdomen triangular, sixth segment width about 2 times length. Telson width about 1.3 times length. Median longitudinal groove of thoracic sternum moderately narrow. Longitudinal suture of sternites 7 and 8 comparatively longer.

Male first pleopod reaching beyond abdominal locking tubercle of fifth sternite. Subterminal segment about 1.7 times as long as terminal segment. Terminal segment tapering to tip, with weak subdistal projection. Groove for male second pleopod on mesial side of subterminal segment of male first pleopod, reaching distal segment on same side, slightly directed laterally at end. Gonopodal pore terminal in position. Male second pleopod with subdistal segment about 2 times as long as distal segment.

Female abdomen broken. Genital pore quadrate to rounded.

Carapace length of male 18.1 mm, breadth 21.6 mm; female, length 17.5 mm, breadth 21.6 mm.

Remarks. - The present species is closely related to *Y. aflagellum*, but differs from the latter in having the male first pleopod with subterminal projection not prominent (vs. prominent) and the exopod of third maxilliped has a short flagellum (vs. absent).

Yarepotamon gracillipa (Dai, Song, Li & Liang, 1980)

(Pl. II: 3; Fig. 7)

Malayopotamon gracillipa Dai, Song, Li & Liang, 1980: 327, fig. 5.

Material examined. - Holotype, 1 male (AS)(GX7780021), Guangxi Zhuang Autonomous Region, Zhaoping county, 19 Nov. 1977.

Paratypes - Allotype: 1 female, 1 males, 8 juv., same data as holotype.

Others - 2 males, Guangxi Zhuang Autonomous Region, Zhaoping County, Longping, 19 Nov. 1977.

Diagnosis. - Exopod of third maxilliped with short flagellum. Male first pleopod terminal segment without any subdistal projection.

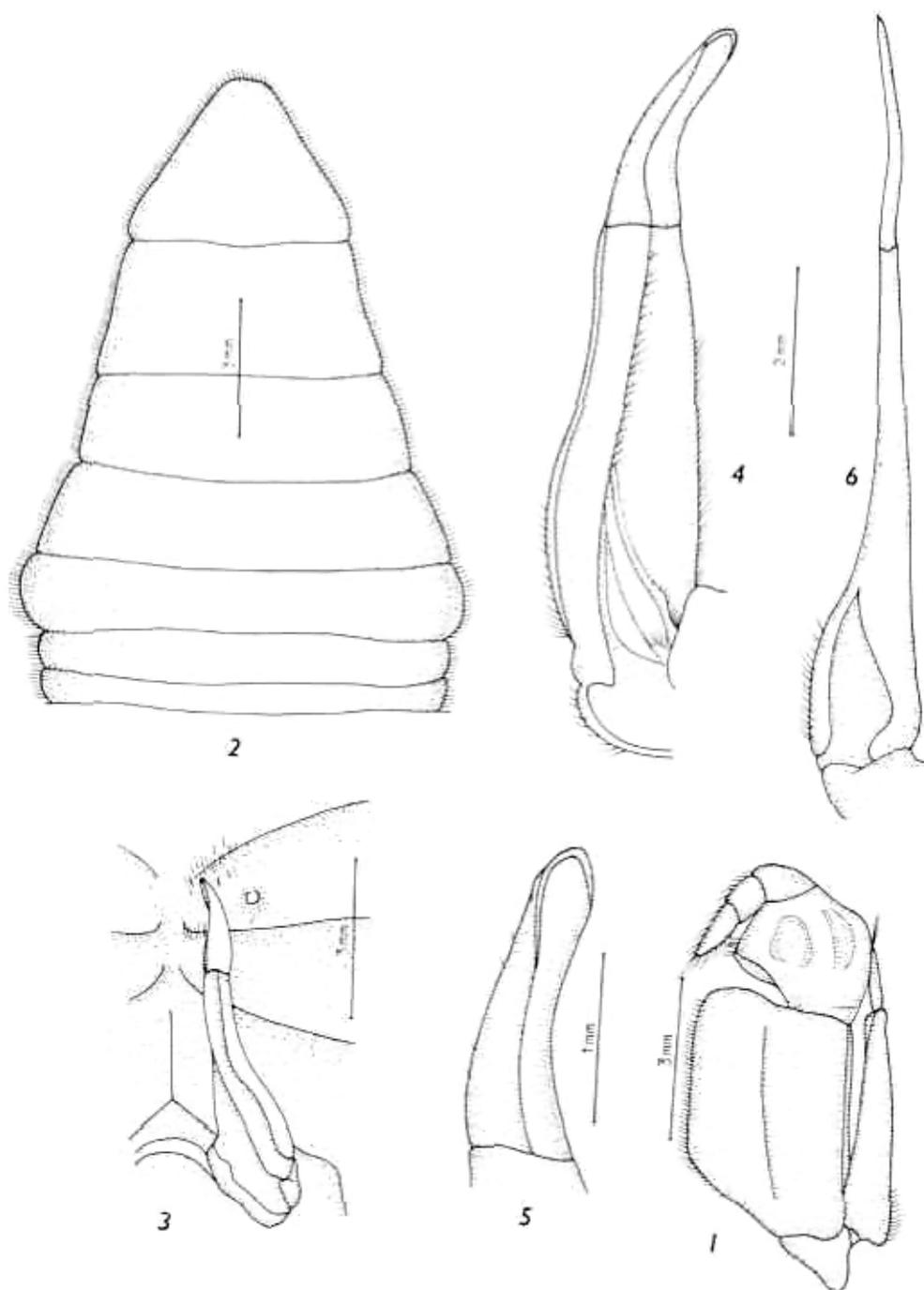


Fig. 7. *Yarepotamon gracillipa* (Dai et al., 1980). 1-6, male. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod; 7. Female abdomen; 8. Female genital pore.

Description. - Surface of carapace pitted, with short setae. Anterior branchial region near anterolateral border, frontal region near anterolateral border, postfrontal lobes and postorbital crest with fine rugae. Cervical groove shallow, broad, visible throughout length. H-shaped groove distinct along anterior portion. Postorbital crest comparatively sharp, connecting with epibranchial tooth. Frontal border emarginated medially. Exorbital tooth subacutely-triangular. Epibranchial tooth distinct. Anterolateral border serrated, turning upwards at end. Suborbital region well delimited by curved groove, inner half with only few granules, surface covered with rugae and tubercles. Third maxilliped ischium length about 1.5 times width, with submedian groove. Merus width about 1.2 times length, median surface depressed. Exopod reaching proximal one-quarter of merus, with short flagellum.

Chelipeds clearly unequal, carpus with a submedian depression on upper surface, inner border with sharp spine and small one below it. Manus with fine rugae on outer upper, length of larger one 1.3 times height, 1.1 times as long as movable finger, without gap when closed. Ambulatory legs slender, long.

Male abdomen triangular, width of sixth segment about 2 times length, width of telson about 1.4 times length, slightly longer than sixth segment. Median longitudinal groove of thoracic sternum moderately narrow. Longitudinal suture of sternites 7 and 8 comparatively longer.

Male first pleopod reaching beyond abdominal locking of fifth sternite. Subterminal segment about 2.1 times as long as terminal segment, tapering towards end, without any subdistal projection dorsally. Groove for male second pleopod on mesial side of subterminal segment of G1, reaching terminal segment of G1 on same side, slightly turning laterally at end. Gonopodal pore terminal in position. Male second pleopod with subdistal segment about 2 times as long as distal segment.

Carapace length of male 16.4-17.7 mm, breadth 20-22.4 mm.

Distribution. - Guangxi Zhuang Autonomous Region.

***Yarepotamon guangdongense*, new species**

(Pl. II: 4; Fig. 8)

Material examined. - Holotype: 1 male (GD9191104), Guangdong Province.

Description. - Carapace slightly flat, surface smooth. Epibranchial region with fine rugae. Cervical groove broad, slightly deep, distinct. H-shaped groove between gastric and cardiac regions slightly deep. Postfrontal lobe prominent, postorbital crest sharp. Front deflexed, anterior tooth angular emarginated medially. Dorsal orbital border ridged, smooth, exorbital tooth angular, anterolateral crested, with 17-18 serrated teeth, last part turned backwards. Third maxilliped with merus about 1.2 times broad as long, with ischium about 1.5 times as long as broad. Exopod reaching proximal one-third of merus, with flagellum.

Chelipeds distinctly unequal, carpus concave dorsally, inner-distal angle with acute spine, with spinule at its base; larger manus stout, about 1.3 times as long as high, about equal to movable finger in length. Fingers with narrow gap between fingers when closed. Ambulatory legs slender, smooth, last leg with propodus about 2.1 times as long as broad, slightly shorter than dactylus.

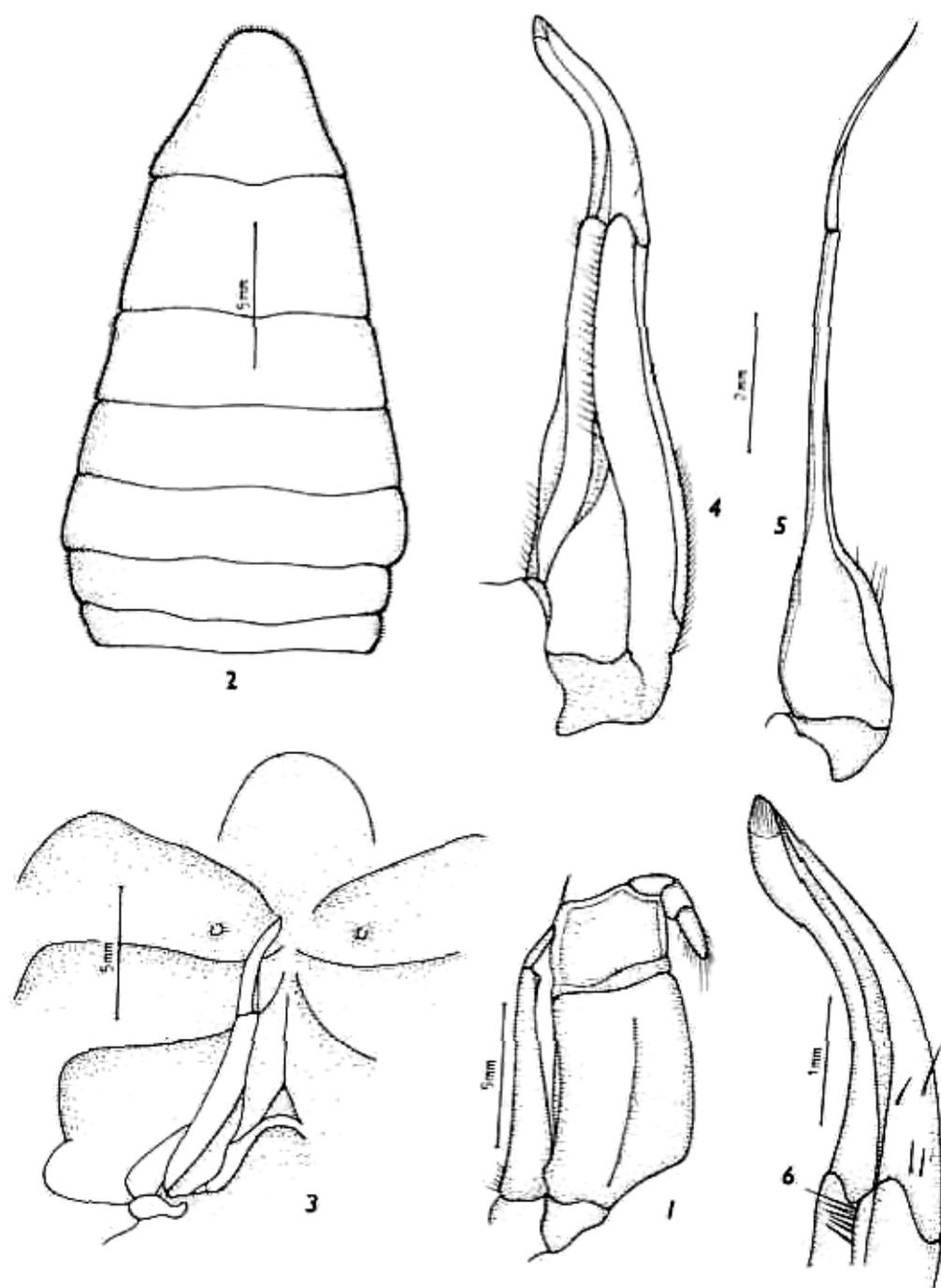


Fig. 8. *Yarepotamon guangdongense*, new species. 1-6, holotype male (GD9191104), carapace length 31.2 mm, breadth 41.8 mm. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod.

Male abdomen triangular, sixth segment about 1.9 times as broad as long; telson about 1.3 times as broad as long. Median longitudinal groove of thoracic sternum moderately deep, interruption between sutures of sternites 4/5, 5/6, 6/7 moderately deep, longitudinal suture of sternites 7 and 8 slightly long.

Male first pleopod reaching beyond abdominal lock, with subterminal segment about 2.1 times as long as terminal segment. Terminal segment slender, bent inwards and dorsally. Male second pleopod groove on median part of G1. Gonopodal pore terminal in position. Male second pleopod with subdistal segment about 2.2 times as long as distal segment.

Carapace length of male 31.2 mm, width 41.8 mm.

Remarks. - This new species is close to *Yarepotamon gracilipa* but is of a comparatively larger size with the regions better defined. The relatively stouter exopod of the third maxilliped also has a flagellum. In addition, the male first pleopod is more slender and distinctly tapering.

Minpotamon, new genus

Type species. - *Isolapotamon nasicum* Dai, Chen, Song, Fan, Lin & Zeng, 1979, by present designation.

Diagnosis. - Small sized crabs (ca. 15 mm carapace width). Front with 2 lobes. Exopod of third maxilliped with moderately long flagellum. Male abdomen with telson triangular. Male first pleopod with terminal segment more than half as long as subterminal segment, clearly bent laterally outwards, with subdistal projection prominent; Gonopodal pore terminal in position. Groove for male second pleopod on mesial side of subdistal and proximal part of terminal segment of male first pleopod, turning to dorsal side at distal part of terminal segment of male first gonopod.

Etymology. - The generic name is derived from the abbreviated name of Fujian Province in Chinese, "Min"; in arbitrary combination with the genus "Potamon". Gender neuter.

Distribution. - Fujian Province.

Remarks. - The present genus is monotypic. The peculiar shape of the male first pleopod easily differentiates it from other genera.

Minpotamon nasicum (Dai, Chen, Song, Fan, Lin & Zeng, 1979)

(Pl. II: 5; Fig. 9)

Isolapotamon nasicum Dai, Chen, Song, Fan, Lin & Zeng, 1979: 124, fig. 2.

Material examined. - Holotype, 1 male (FK7679016), Fujian Province, Longhai County, 27 Oct. 1975.

Paratypes - Allotype: 1 female, 2 males, same data as holotype. — 3 males, 3 females, Fujian Province, Longhai County, Jan. 1996.

Diagnosis. - Exopod of third maxilliped with flagellum. Terminal segment of male first pleopod with very prominent nose-like projection.

Description. - Carapace convex anteriorly and posteriorly. Surface finely pitted. Anterior branchial region near anterolateral border with fine rugae. Cervical groove with shallow depression posteriorly. H-shaped groove visible. Postfrontal lobes moderately prominent. Postorbital crest not straight. Postorbital region shallow. Frontal border emarginated medially. Exorbital tooth triangular, separated from epibranchial tooth by notch. Epibranchial tooth distinct. Anterolateral border crested, turning backwards, granulated. Suborbital region well

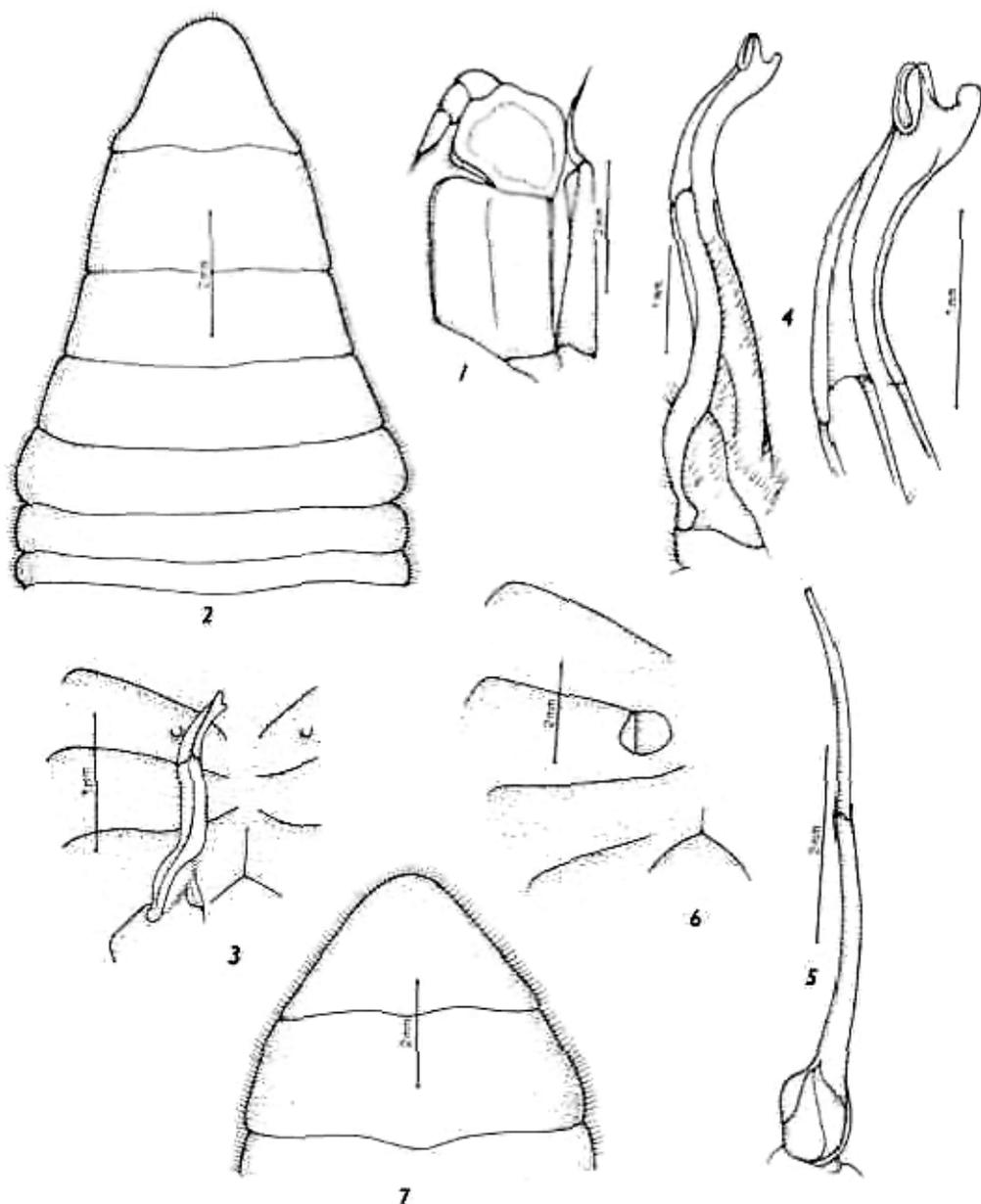


Fig. 9. *Minpotamon nasicum* (Dai et al., 1979). 1-5, male; 6-7 female. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod and male first pleopod distal segment; 5. Male second pleopod; 6. Female genital pore; 7. Female abdomen.

delimited by curved groove, inner portion with some granules, surface covered with granules. Third maxilliped ischium length about 1.4 times width, with submedian groove. Merus width about 1.1 times length, median surface depressed. Exopod reaching proximal one-third of merus, with flagellum.

Cheliped unequal, upper surface of carpus finely rugose with subacute spine on inner border, small blunt spine just below it. Outer upper surface of manus with fine rugae, larger manus length about 1.5 times height, 1.2 times length of movable finger. Fingers stout, with alternating large and small teeth, without gap when fingers closed. Ambulatory legs slender, each segment with short setae on borders.

Male abdomen triangular, sixth segment width about 2 times length, last segment width about 1.3 times length. Median longitudinal groove of thoracic sternum moderately narrow. Longitudinal suture of sternites 7 and 8 moderately long.

Female abdomen broadly ovate, sixth segment about 2.5 times as broad as long, telson triangular, about 1.9 times as broad as long. Genital pore submedian in position, opens inwards.

Male first pleopod reaching beyond abdominal locking tubercle of fifth sternite. Subterminal segment about 1.7 times as long as terminal segment, with subdistal nose-like projection. Groove for male second pleopod on mesial side of subterminal segment of G1, reaching terminal segment of G1 on same side, slightly turning laterally at end. Gonopodal pore terminal in position. Male second pleopod with subdistal segment about 1.5 times as long as distal segment.

Carapace length of male 11.0-12.4 mm, breadth 13.1-14.6 mm; of female, length 13.2-14 mm, breadth 16-17.1 mm.

Distribution. - Fujian Province.

***Vadosapotamon*, new genus**

Isolapotamon, Dai et al., 1990: 290 (not Bott, 1968).

Type species. - *Isolapotamon sheni* Dai, Chen, Liu, Luo, Yi, Liu, Gu & Liu, 1990, by present designation.

Diagnosis. - Small sized crabs (18 mm carapace width). Abdomen elongate in both sexes. Exopod of third maxilliped with flagellum. Median longitudinal groove of thoracic sternum shallow, broad. Male first pleopod with terminal segment longer than one-half of subterminal segment. Groove on male first pleopod for male second pleopod on lateral side.

Etymology. - The generic name is derived from the latin word 'Vadosa', meaning broad, in combination with the genus 'Potamon'. This is an allusion to the broad median groove of the thoracic sternum. Gender neuter.

Distribution. - Sichuan Province.

Remarks. - *Vadosapotamon*, new genus, is in our opinion, monotypic. While its male first pleopod superficially resembles that of *Isolapotamon*, it is compressed. The groove of the male second pleopod is on the lateral side, not on the mesial side and turns dorsally. We believe that these differences reflect a different phylogenetic background. Typical *Isolapotamon* species have a narrow thoracic sternum which is relatively deep whereas in *V. sheni*, it is distinctly broad and shallow.

***Vadosapotamon sheni* (Dai, Chen, Liu, Luo, Yi, Liu, Gu & Liu, 1990)**

(Pl. II: 6; Fig. 10)

Isolapotamon sheni Dai, Chen, Liu, Luo, Yi, Liu, Gu & Liu, 1990: 290, pl. 1: 5; Fig. 5.

Material examined. - Holotype, 1 male (SC8487077A), Sichuan Province, Rongjiang county, Shiping village, 25 Jun, 1984.

Paratypes - Allotype: 1 female (SC8487077B), same data as holotype.

Others - 8 males (1 juv.), 15 females (15 juv.), same data as holotype.

Diagnosis. - Abdomen elongate in both sexes. Exopod of third maxilliped with flagellum. Median longitudinal groove of thoracic sternum broad, shallow. Male first pleopod slender, with expanded and rounded terminal end; opening at tip terminal in position. Groove for male second pleopod on lateral side of G1.

Description. - Carapace slightly convex anteriorly and posteriorly. Surface generally glabrous, only anterior branchial region near anterolateral border, frontal and orbital regions with fine rugae. Cervical groove not very clear anteriorly, posterior portion with depression. H-shaped groove distinct in anterior portion. Postfrontal lobe slightly prominent, postorbital crest blunt, stopping at cervical groove. Frontal border emarginated medially. Epibranchial tooth granular. Anterolateral border crested, granulated, turning backwards towards end. Suborbital region well delimited by curved granular crest, surface covered with granules. Third maxilliped ischium length about 1.6 times width, submedian groove very shallow. Merus width about 1.2 times length, median surface depressed. Exopod reaching proximal one-third of merus, with flagellum.

Chelipeds moderately unequal. Carpus with upper surface finely pitted and rugose, inner border with large spine and very small one just below it. Manus with very fine rugae and pits on outer upper surface, length of larger chela about 1.4 times height, 1.2 times the length of movable finger. Fingers with few blunt teeth. Gap narrow when fingers closed. Ambulatory legs stout, smooth.

Male abdomen elongated, sixth segment width about 1.7 times length, telson triangular, width about 1.4 times length. Median longitudinal groove of thoracic sternum broad, shallow. Longitudinal suture of sternites 7 and 8 moderately long.

Female abdomen broad elongate, width of sixth segment about 2.5 times length, telson semicircular, width about 1.9 times length. Genital pore narrow, opening inwards.

Male first pleopod extends well beyond abdominal locking tubercle of fifth sternite. Subterminal segment about twice as long as terminal segment. Distal segment with rounded

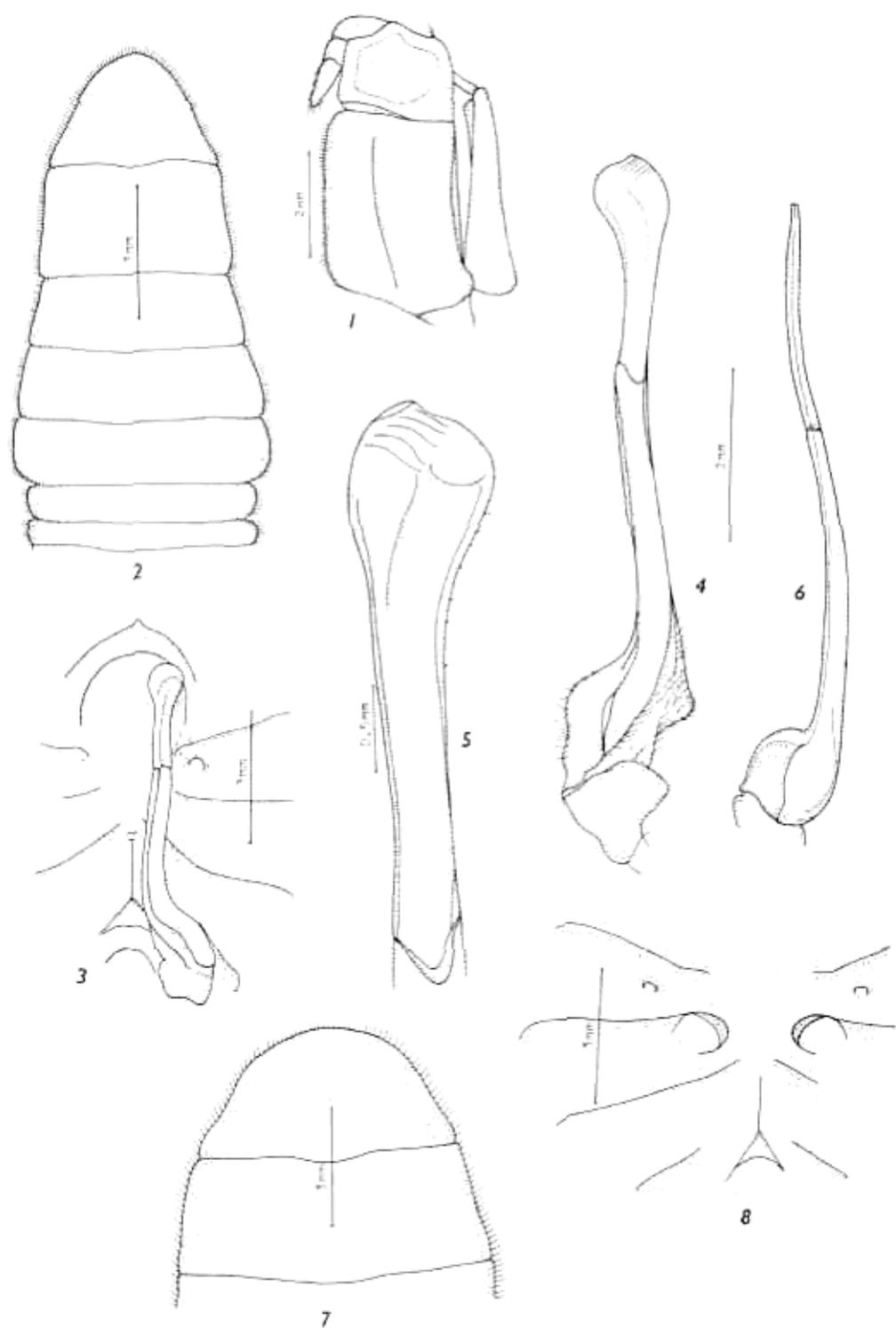


Fig. 10. *Vadosapotamon sheni* (Dai et al., 1990). 1-6, male; 7-8 female. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod; 7. Female abdomen; 8. Female genital pore.

expansion distally. Groove for male second pleopod on lateral side of G1. Gonopodal pore terminal in position. Male second pleopod with subdistal segment about 2.3 times as long as distal segment.

Carapace length of male 12.7-14 mm, breadth 16.5 mm-17.8 mm; of female 15.3 mm, breadth 20.5 mm.

Distribution. - Sichuan Province.

Latopotamon, new genus

Isolapotamon, Dai et al., 1984: 269 (not Bott, 1968).

Type species. - *Isolapotamon obtortum* Dai, Song, Li, Chen, Wang & Hu, 1984, by original designation.

Diagnosis. - Small sized crabs (16 mm carapace width). Median longitudinal groove of thoracic sternum very broad, shallow. Longitudinal suture of sternites 7 and 8 very short. Male first pleopod with terminal segment stout, short, turning outwards. Groove for male second pleopod turning dorsally on terminal segment of G1.

Etymology. - The generic name is derived from the Latin word "Lato", meaning broad and shallow, in combination with the genus "Potamon". In allusion to the median groove of the thoracic sternum. Gender neuter.

Distribution. - Guizhou Province.

Remarks. - *Latopotamon*, new genus, is very similar to *Vadosapotamon* with the median groove of the thoracic sternum broad and shallow. The male first pleopod is, however, quite different, being comparatively shorter, stouter and turning outwards (vs. straight). The groove for the male second pleopod is also dorsal (vs. lateral).

Latopotamon obtortum (Dai, Song, Li, Chen, Wang & Hu, 1984) (Pl. II: 7; Fig. 11)

Isolapotamon obtortum Dai, Song, Li, Chen, Wang & Hu, 1984: 259, pl. 1:2; fig. 9-14.

Material examined. - Holotype, 1 male (GZ8283053), Guizhou Province, Puding County, Bulang, 21 Apr. 1983.

Paratype - 1 male, Guizhou Province, Shuicheng County, Yushe Forest Reserve, 17 Oct. 1982.

Diagnosis. - Exopod of third maxilliped with a short flagellum. Male first pleopod stout, terminal segment short with distal end truncate and turning outwards.

Description. - Carapace slightly convex anteriorly and posteriorly. Surface smooth, only a few tubercles on epibranchial region near anterolateral border and postorbital crest. Cervical groove and H-shaped groove shallow but visible. Postfrontal lobes not prominent. Postorbital crest blunt. Frontal border emarginated medially. Exorbital angle with outer border long,

almost as long as half length of inner border. Epibranchial tooth granular. Anterolateral border crested with blunt granules, not clearly turning backwards. Suborbital region well delimited through granular crest, surface covered with weak rugae. Third maxilliped ischium length about 1.5 times width, with submedian groove. Merus width about 1.3 times length, median surface depressed. Exopod reaching proximal one-third of merus, with short flagellum.

Cheliped slightly unequal, swollen. Carpus with strong spine on inner-distal angle and very small one just below it, upper surface almost smooth. Manus smooth, slightly massive, length of larger one about 1.5 times height, about 1.1 times length of movable finger. Fingers broad, with blunt rounded teeth, almost no gape when fingers closed. Ambulatory legs stout, smooth.

Male abdomen subquadrate in shape, sixth segment width about 1.7 times length, telson triangular, width about 1.6 times length. Median longitudinal groove of thoracic sternum very broad and shallow. Transverse groove of sternites 7 and 8 very short.

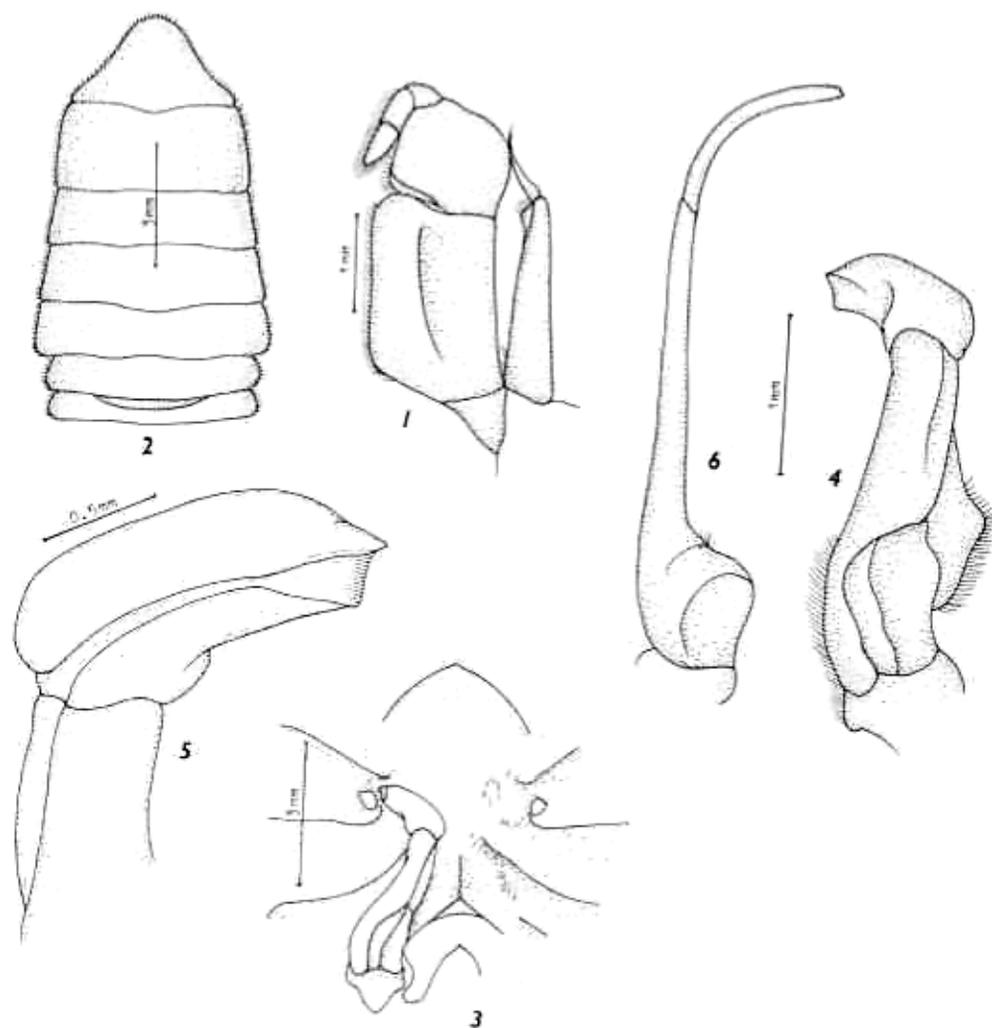
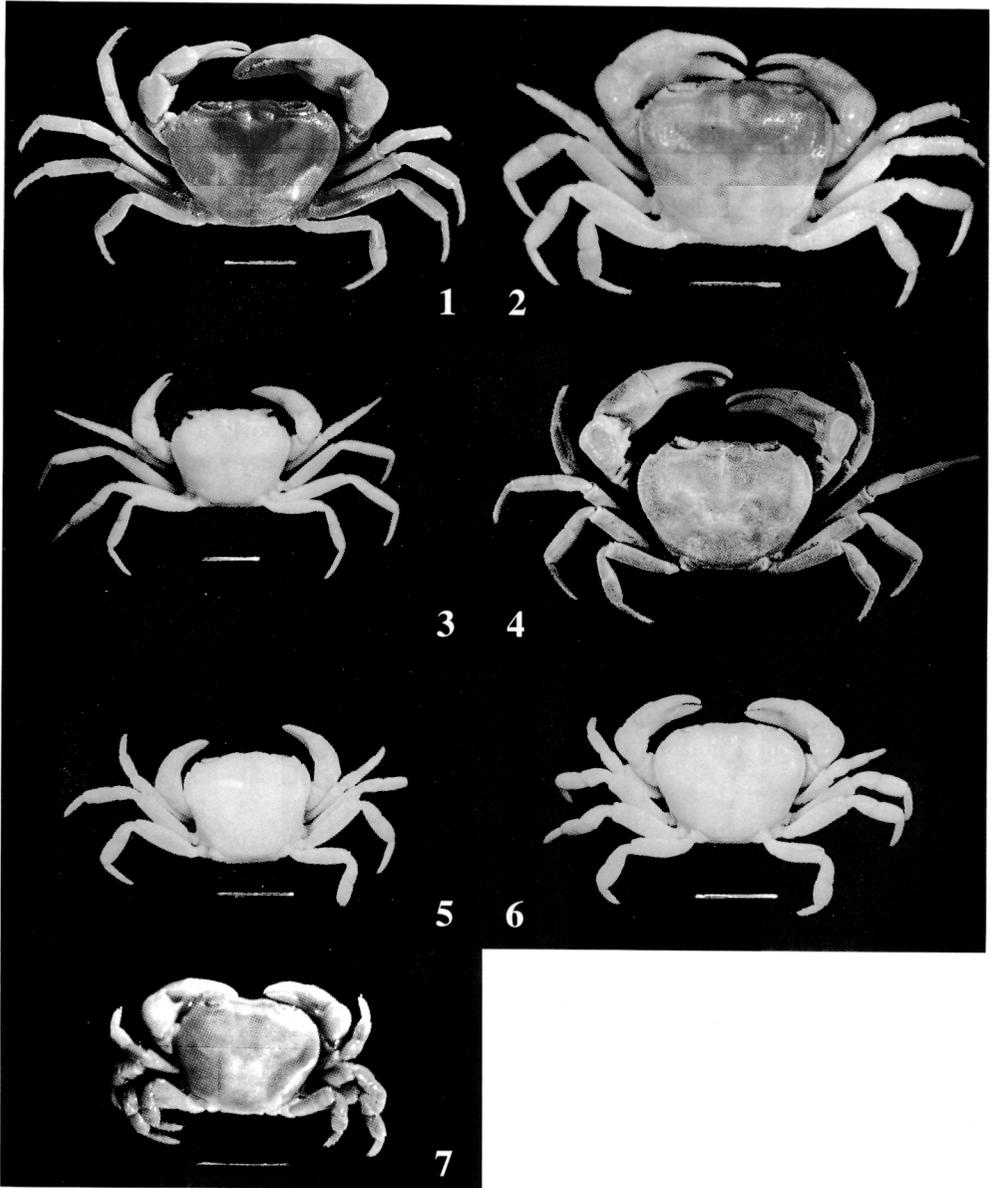


Fig 11. *Latopotamon obtortum* (Dai et al., 1984). 1-6, male. 1. Third maxilliped; 2. Male abdomen; 3. Male first pleopod, in situ; 4. Male first pleopod; 5. Male first pleopod, distal segment; 6. Male second pleopod.



Pl. II. 1. *Yarepotamon aflagellum*; 2. *Yarepotamon breviflagellum*, 3. *Yarepotamon gracillipa* ; 4. *Yarepotamon guangdongense*; 5. *Minpotamon nasicum*; 6. *Vadosapotamon sheni*; 7. *Latopotamon obtortum*. The scale bar represents 10 mm.

Male first pleopod reaching abdominal locking tubercle of fifth sternite. Subterminal segment about 2.6 times as long as terminal segment which turning outwards and with terminal end truncate. Groove for male second pleopod turning dorsally on distal portion of subterminal segment of male first pleopod and along entire terminal segment. Male second pleopod with subdistal segment about 2.2 times as long as distal segment.

Carapace length of male 13.6 mm, breadth 15.8 mm.

Distribution. - Guizhou Province.

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