

**CARIDINA LUFENGENSIS, A NEW SPECIES OF SHRIMP  
(CRUSTACEA: DECAPODA: ATYIDAE) FROM YUNNAN,  
SOUTH-WESTERN CHINA**

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**ABSTRACT.** - A new species of atyid shrimp from Lufeng County of Yunnan Province, South-western China is reported. *Caridina lufengensis*, new species, characterised by the rostrum without teeth or with a limited number of small teeth, the long stylocerite which reaches the end of basal segment of antennular peduncle, and the slender endopod of male first pleopod with appendix interna distinctly reaching beyond the distal margin of the endopod.

**KEYWORDS.** - *Caridina lufengensis*, new species, Yunnan, China.

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INTRODUCTION

To date, the atyid shrimps of Yunnan Province is more diverse than any other part of China, with 14 species been reported (Kemp, 1923; Yu, 1938; Liang, Yan & Wang, 1984; Liang & Yan, 1985; Liang, Yan & Wang, 1987; Liang, 1989; Liang 1990; Cai, 1996).

A small collection of atyid shrimps, collected by the second author from Lufeng County of Yunnan Province, South-western China, is shown to be a new species of the genus *Caridina* and described in detail. Types are kept in the Institute of Zoology, Academia Sinica, Beijing, P. R. China (IZAS) and Zoological Reference Collection, Department of Biological Sciences, National University of Singapore, Singapore(ZRC).

**TAXONOMY**

**FAMILY ATYIDAE DE HAAN, 1849**

**Genus *Caridina* Milne-Edwards, 1837**

***Caridina lufengensis*, new species**

(Figs.1-3)

**Materials Examined.** - Holotype: male, total length(tl) 24.5mm, carapace length(cl) 6.0mm, pond near Sizhi Town, Lufeng County, Yunnan, China (25.07N, 102.10E), elevation 1800 m, coll. Yanxi Duan, 23 Feb. 1993 (IZAS);

Paratypes: one male, cl:4.0mm, 2 females, cl:5.9-6.7mm, data same as holotype (ZRC), 4 females, cl:5.0-7.0mm, data same as holotype(IZAS).

**Description.** - Rostrum short, reaching to middle of second segment of antennular peduncle or to end of this segment. Of the eight specimens, one with rostrum broken away, three with rostrum unarmed dorsally, three armed dorsally with a small tooth at middle of its length, and one with 9 small teeth; ventral margin with 0-3 very small teeth. Inferior orbital angle of carapace fused with antennal spine. Pterygostomial angle rectangular.

Abdomen with 6th somite about 1.4 times as long as 5th somite. Telson not including marginal spines slightly longer than 6th somite, armed at posterior two third with about 4 pairs of dorsal spinules and a pair of dorsolateral spines near distal end; telson tapering posteriorly, ending in a triangular median angle; distal margin with about 8 spinules preanal carina rounded, no spine.

Eyes well developed. Antennular peduncle slender, about two third of length of carapace. Stylocerite just reaching end of basal segment of antennular peduncle; basal segment about half of length of peduncle, with indistinct anterolateral angle; 3rd segment shorter than second segment. Antennal peduncle extending to middle of 2nd segment of antennular peduncle; scaphocerite reaching end of antennular peduncle, 3.5 times as long as broad,. Branchial formula normal.

Mouth parts as figured. Mandible with about 4 teeth at extremity of incisor process. Maxillula with simple palp, lower lacinia broadly rounded, upper lacinia broadly elongated, inner edge straight, with several rows of setae. Maxilla with slender palp, upper endite subdivided, scaphognathite tapering with numerous long simple setae at its end. Palp of first maxilliped with a finger-like protrusion at its distal end. Endopod of second maxilliped with ultimate segment fused with penultimate segment; exopod about twice as long as endopod. Third maxilliped extending to end of antennular peduncle, ending in single terminal claw; exopod reaching posterior one fourth length of penultimate segment; ultimate segment slightly shorter than penultimate segment.

First pereopod short, extending slightly short of end of basal segment of antennular peduncle; chela about 2.3 times as long as broad; fingers 1.5 times as long as palm; carpus slender, slightly shorter than chela, about twice as long as high. Second pereopod long and slender, reaching end of antennular peduncle; chela slightly curved inwards, about 3 times as long as broad, with fingers about 1.3 times as long as palm; carpus slightly longer than chela, about 5.6 times as long as high; merus about as long as carpus. Third pereopod reaching

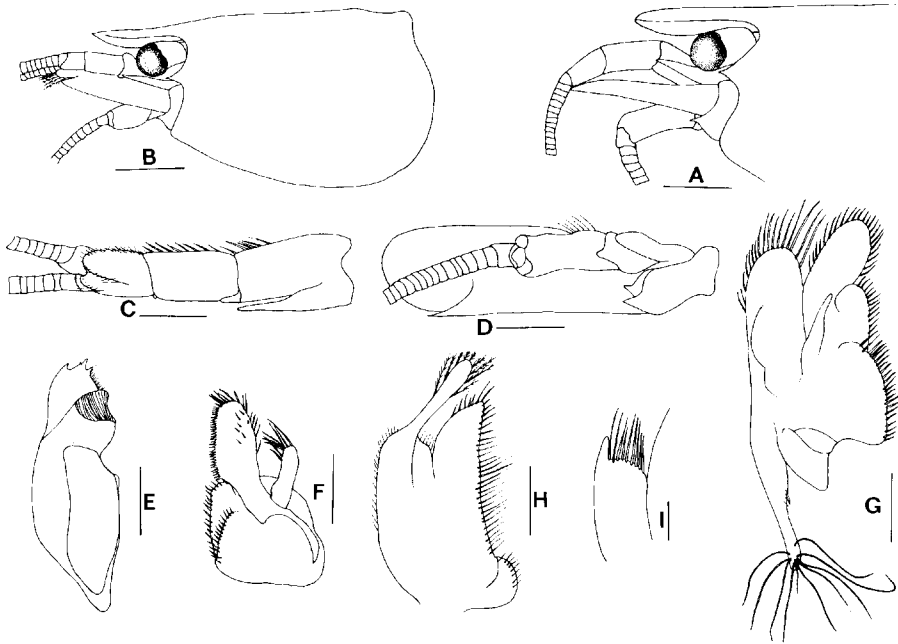


Fig. 1. *Caridina lufengensis*, new species, holotype (male, cl. 6.0mm). A. anterior portion of cephalothorax, B. (paratype, cl. 4.0mm) cephalothorax, C. antennular peduncle, D. scaphocerite, E. mandible, F. maxillula, G. maxilla, H. first maxilliped, I. distal part of palp of first maxilliped. Scale: A,B=2mm; C,D=1mm; E,F,G,H,I=0.2mm.

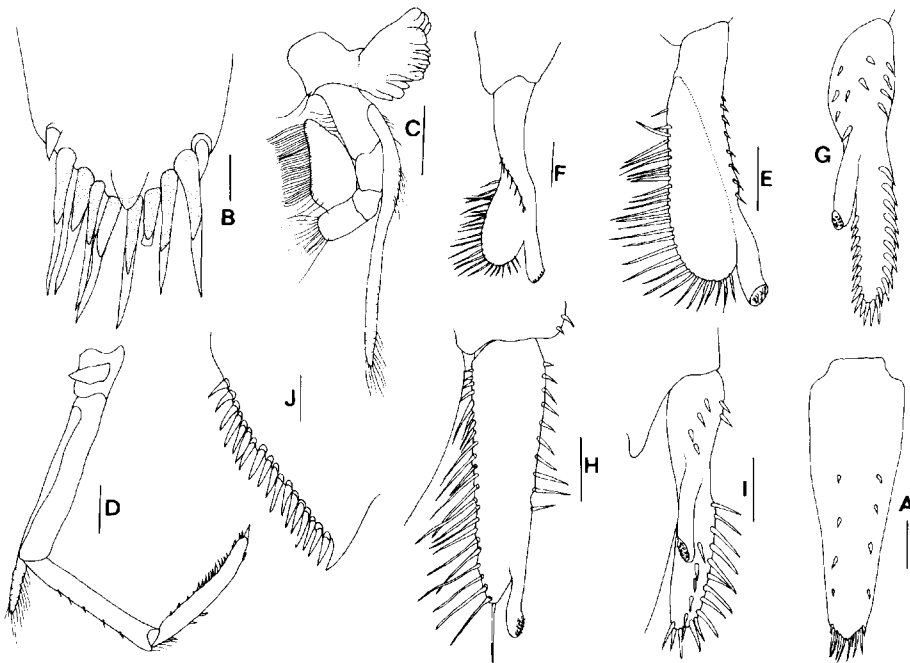


Fig. 2. *Caridina lufengensis*, new species, holotype (male, cl. 6.0mm). A. telson, B. distal part of telson, C. second maxilliped, D. third maxilliped, E, F. endopod of first pleopod, G. appendix masculina and appendix interna of second pleopod, H. endopod of fist pleopod (paratype, cl. 4.0mm), I. appendix masculina and appendix interna of second pleopod (paratype, cl. 4.0mm), J. uropodal diaeresis. Scale: A,C,D=1mm; B,J=0.2mm; E,F,G,H,I=0.5mm.

end of antennular peduncle; dactylus terminating in two spines, with about 4 to 6 accessory spines increasing in length and size distally on flexor margin; propodus 8 times as long as broad, about 4.5 times as long as dactylus, and twice as long as carpus; merus longer and stouter than propodus. Fourth pereopod extending to end of 2nd segment of antennular peduncle; its structure and form similar to 3rd pereopod. Fifth pereopod extending to end of 2nd segment of antennula peduncle; dactylus stout, armed on flexor margin with 42 to 50 denticulate spines; propodus slender, 11 times as long as broad, about 4 times as long as dactylus (terminal claw included), twice as long as carpus, with numerous spinules on its posterior margin.

Endopod of male 1st pleopod slender, 3.5 times as long as broad, extending to proximal two third length of exopod, triangular (young adult) or rounded (fully grown adult), appendix interna reaching beyond terminal margin by half length, with spinules increasing in length distally, denser and longer in inner margin than in outer margin. In fully grown individuals, endopod folded at distal region.

Appendix masculina of male 2nd pleopod extending to proximal three fifth length of endopod, with two rows of long spines at its distal half and some small irregular spines in proximal region; appendix interna measuring about one third of length of appendix masculina.

Uropodal diaeresis with about 15 to 18 spinules.

**Etymology.** - The new species is named after the type locality- Lufeng County.

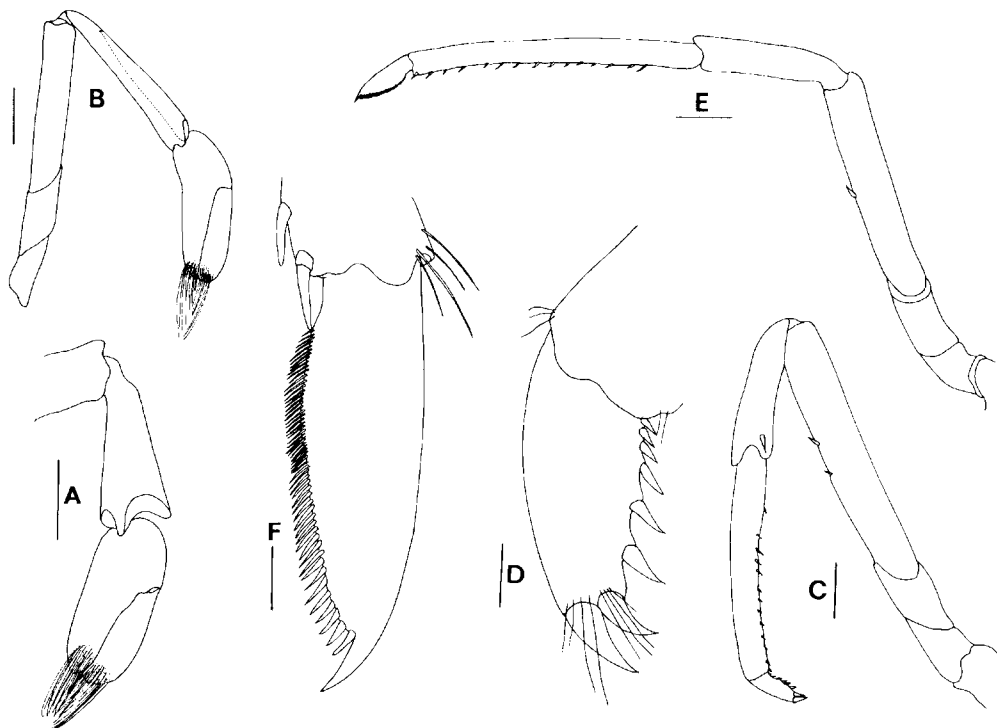


Fig. 3. *Caridina lufengensis*, new species, holotype (male, cl. 6.0mm), A. First pereopod, B. second pereopod, C. third pereopod, D. dactylus of third pereopod, E. fifth pereopod, F. dactylus of fifth pereopod. Scale: A,B,C,E=1mm; D, F=0.2mm.

**Habitat.** - *Caridina lufengensis*, new species, was caught from a pond with clear water at an elevation of 1800m above sea level.

**Remarks.** - *Caridina lufengensis*, new species is most similar to *C. disparidentata* Liang Yan & Wang, 1984 from Qiujin, eastern Yunnan, but differs from the latter by: 1. the form of rostrum which has rare teeth; 2. the longer stylocerite which reaches the end of basal segment of antennular peduncle ; and 3. the longer appendix interna of endopod of male first pleopod, which distinctly reaches beyond the distal margin of endopod by its half length. It also can be distinguished from *Caridina typus* Milne-Ewards, 1837 (fide. Bouvier, 1925; Holthuis, 1965) and its Chinese allied species, viz. *C. amoyensis* Liang & Yan, 1977, *C. bamaensis* Liang & Yan, 1983, *C. pingi jiangxiensis* Liang & Zhen, 1985, *C. brevispina* Liang & Yan, 1986, *C. hongyanensis* Cai & Yuan, 1996; *C. elliptica* Cai & Yuan, 1996, *C. medifolia* Cai & Yuan, 1996, *C. paracornuta* Cai & Yuan, 1996 and *C. sumatiana* Cai & Yuan, 1996, by the longer stylocerite and the form of sexual appendages.

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