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BEING A CONTINUATION OF THE 'ANNALS' COMBINED WITH LOUDON AND
CHARLESWORTH'S 'MAGAZINE OF NATURAL HISTORY.'

CONDUCTED BY
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my enquiries, has kindly informed me that the type is really a female. It bears two labels: on one there is only the name of the collector, "Lorquin"; on the other in red ink there is the name of the insect, reference to the plate in 'Reise Novara,' and the locality "Molluk?"; but he agrees with me that as Lorquin collected in the Celebes as well as in other places, the type probably came from that locality. It is citron-yellow above and below, and my females exactly resemble the figure; but the male is very differently coloured, it is ochreous brown above and black below, with yellow borders, like a large example of *T. nebulosa*, Butler, from India, but the sexes of that form are alike. There is also a citron-yellow form in India, common in the Khasia Hills, sexes also alike—*T. citrina*, Warren, Nov. Zool. i. p. 401.

Family Thyrididæ.

35. *Rhodoneura fallax*.

Pharambara fallax, Warren, Ann. & Mag. Nat. Hist. (6) xviii. p. 229 (1896).

Khasia Hills.

The type came from New Guinea. I have it also from the same locality. They are identical.

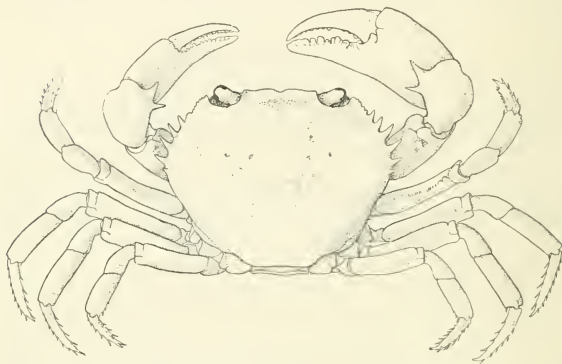
XVI.—*On a new Species of River-Crab from Yunnan.* By W. T. CALMAN, D.Sc., British-Museum (Natural History).

THE British Museum has recently received two specimens of a new species of river-crab collected by Mr. John Graham from the lake at Yunnan Fu. The species appears to be most nearly allied to the genus (or subgenus) *Parathelphusa*, though differing remarkably from any species hitherto described from Asia and resembling in some characters the African group of species forming the subgenus *Acanthothelphusa* of Ortmann. The lake from which the specimens were taken is situated at an altitude of 6000 feet above sea-level and drains into the Yang-tze river-system. No species of Potamonidæ appear to have been recorded from this part of Yunnan, although Wood-Mason described three species of *Potamon* from Western Yunnan, a district belonging to the river-system of the Irawady.

Parathelphusa spinescens, sp. n.

Carapace four fifths as long as broad, the greatest breadth a little in front of the middle, only slightly convex antero-posteriorly and from side to side. Surface smooth and polished, with very minute punctuations. The inter-regional grooves nearly obsolete, the median portion of the cervical groove not extending beyond the branchio-cardiac grooves on each side. The distance between the external orbital angles is a little less than two thirds of the greatest breadth. The front is rather steeply deflexed, with the margin slightly everted, extending a little in front of the external orbital

Fig. 1.

*Parathelphusa spinescens*, ♂. Nat. size.

angles as seen from above, with a distinct and moderately deep median notch. Seen from in front it is convex. The transverse diameter of the orbit is equal to half the width of the frontal margin. The frontal margin and the upper orbital margin are granulated. The lower orbital margin is more distinctly granulated than the upper; its inner angle is not produced, but there is a prominent, rounded, internal sub-orbital lobe. The postfrontal crest is nearly obsolete. It is only represented by the obscurely defined epigastric lobes, which are very slightly rugose in front and are separated by a shallow mesogastric furrow, showing only in one specimen a trace of bifurcation.

The antero-lateral margin is convex and is about as long

as the postero-lateral. The extra-orbital tooth is flattened, with a slightly convex and minutely serrate outer edge. It is followed by five or six teeth, which may be unsymmetrical on the two sides of the carapace. They are slender, spiniform, nearly straight, widely separate from each other, and standing nearly at right angles to the margin. The third or fourth is the longest, and the last is very small or may be absent on one side.

The lower surface of the carapace is nearly smooth and the hepatico-branchial groove is ill-defined.

Fig. 2.



Parathelphusa spinescens. a. Abdomen of male. b. Third maxilliped.

The ischium of the third maxillipeds (fig. 2b) has a well-marked longitudinal groove. The merus is distinctly broader than long, the antero-external angle rounded and the anterior margin slightly convex.

Abdomen of male (fig. 2a) with straight sides, converging but little to the base of telson, which has nearly the form of an equilateral triangle, the apex rounded and the sides concave.

Merus of chelipeds with a series of granules on its upper edge, leading to a subterminal spine; lower edge rounded off, with some obsolescent granules and a subterminal tubercle. Carpus bearing two stout unequal spines internally. The right chela of the male is quite smooth, its height equal to the length of the fingers and two thirds of its length. The dactylus is slightly arched, so that the fingers gape a little when closed, and is very obscurely furrowed. The left chela, like both chelæ of the female, has the dactylus nearly straight and the fingers about three fourths the length of the palm. The ambulatory legs are moderately long, the merus without a spine on the upper edge. The dactylus of the second pair is equal to the propodus, those of the other pairs are distinctly shorter, and all are strongly spinulose on the upper surface.

The carapace of the male specimen is 29.5 mm. in length and 37 mm. in breadth; that of the female is a little smaller.

The colour (in spirit) is yellowish, and the upper surface

of carapace, chelipeds, and legs is abundantly marbled with orange-red.

This species is distinguished from all the Asiatic representatives of the genus hitherto described by the possession of more than four antero-lateral teeth on the carapace and by having two spines instead of one on the carpus of the chelipeds. Further, the antero-lateral teeth are much more slender and spiniform and their number is variable, whereas Wood-Mason remarks that in this genus these teeth "in point of number and form are as constant for the several species as are those of the Portunidae" *. In all these points the new form approaches the African group of species referred to *Parathelphusa* by A. Milne-Edwards †, but regarded as forming a subgenus of *Potamon*, under the name *Acanthothelphusa*, by Ortmann ‡. But in some, if not all, of the African species the merus of the chelipeds has a spine on the anterior and none on the upper edge, and, further, most of them have a strong and continuous postfrontal crest. According to Ortmann's arrangement, the chief character separating *Parathelphusa* from *Potamon* (with its subgenus *Acanthothelphusa*) is the less deflexed front. This, however, is an ill-defined and variable character, and in some undoubted species of *Purathelphusa* (e. g. *P. Dayana*), as in the present form, the front is quite as much deflexed as in many species of *Potamon*.

Had the present species been found in Africa there can be little doubt that most carcinologists would have referred it to *Acanthothelphusa*. Nevertheless, I do not believe that it is necessary to assume any special relationship between it and the African species. The differences separating it from some of the other Asiatic species of *Parathelphusa* are comparatively small, and the distance is not great even to some of those species of *Potamon* in which the antero-lateral margin is coarsely granulated, as in *P. Atkinsonianum* and *P. denticulatum*. Throughout the whole family of the Potamonidae the generic and specific characters are often very elusive, phylogenetic conclusions are more than usually hazardous, and our knowledge of the group appears to be somewhat inadequate to bear the weight of the geographical speculations which Ortmann has recently based upon it.

* Wood-Mason, Ann. & Mag. Nat. Hist. (4) xvii. 1876, p. 120.

† A. Milne-Edwards, Bull. Soc. Philom. Paris, x. 1886, p. 148; and Ann. Sci. Nat. (7) iv. 1887, p. 140.

‡ Ortmann, Zool. Jahrb. Abth. f. Syst. x. 1898, p. 300. It is remarkable that not only in this, but also in a later paper (Proc. Amer. Phil. Soc. xli. 1902, p. 300), Ortmann appears to have overlooked the second of Milne-Edwards's papers quoted above, in which the African species are figured.