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6. On a new River-Crab of the Genus *Gecarcinucus* from New Guinea. By W. T. CALMAN, D.Sc., F.Z.S., British Museum (Natural History).

[Received November 8, 1908.]

(Plate LXVIII.*)

The genus *Gecarcinucus* was established in 1844 by H. Milne-Edwards † for a species, *G. jacquemontii*, which occurs in various localities in the neighbourhood of Bombay. Milne-Edwards referred the genus to the family Gecarcinidæ, and in this he was followed by Dana ‡, Wood-Mason §, and Ortmann ||. Alcock ¶, however, has pointed out that, in spite of its great resemblance to the Land-Crabs, the proper place of the genus is with the River-Crabs (Potamonidæ) and it is included by Miss Rathbun ** in her monograph of the latter family.

Sir William Ingram, B.A., F.Z.S., has recently presented to the Natural History Museum several specimens of a new Crab from New Guinea which I refer to the same genus and in which the Gecarcinoid facies is even more strongly marked than in the Indian species.

GEARCINUCUS INGRAMI, sp. n.

Carapace about three-fourths as long as broad, very deep, very convex antero-posteriorly, less so from side to side. Cervical groove strongly marked, its lateral limbs nearly longitudinal, becoming obscure just before reaching the antero-lateral margin. Cardiac region partly defined posteriorly. A transverse groove behind each branchial region. Mesogastric groove short, deep, not forked. Branchial regions strongly convex, the gastric and cardiac less so. Epigastric lobes prominent and rounded, separated from front by a transverse groove which runs behind the orbits; surface smooth, very faintly rugose near lateral margins.

Front generally a little less than one-fourth of width of carapace, nearly vertically deflexed, its margin smooth. Seen from above its outline is concave; from in front, its lower edge is slightly convex and its lateral margins convergent; in the middle it is strongly bent inwards, touching the epistome between the antennular fossæ. Orbits not entirely raised above lateral margin of carapace, roughly quadrilateral, wider than high. Seen from in front, they are inclined downwards and outwards, but are not produced at the outer-corner into a gutter-like sinus as in *G. jacquemontii*.

Outer orbital angle hardly dentiform as seen from above; a

* For explanation of the Plate see p. 963.

† Voyage dans l'Inde, par V. Jacquemont, Zool. Crustacés, p. 4, pl. i., 1844.

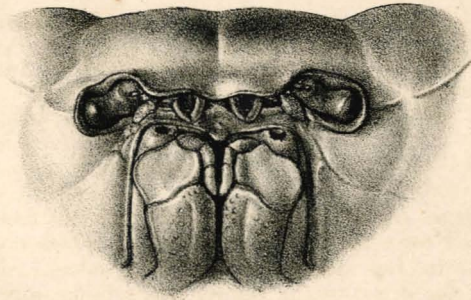
‡ U.S. Expl. Exp., Crust. i. p. 375, 1852.

§ Jour. Asiat. Soc. Bengal, xl. pt. 2, p. 190, 1871.

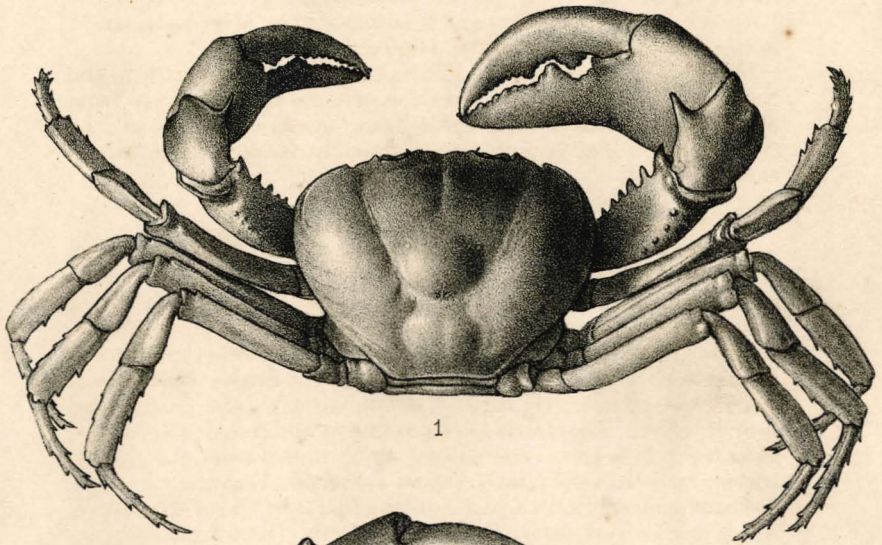
|| Zool. Jahrb., Abth. Syst. vii. p. 732, 1894; Bronn's Thierreich, Crust. p. 1178, 1899.

¶ Jour. Asiat. Soc. Bengal, lxxix. pt. 2, p. 279, 1900.

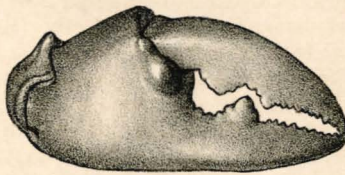
** Nouv. Arch. Mus. Paris, (4) viii. p. 66, 1906.



2



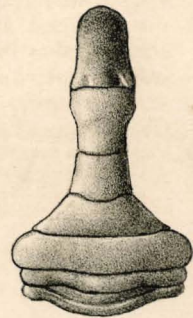
1



3



4



5

G. M. Woodward del. et lith.

West, Newman imp.

GEARCINUS INGRAMI.

slight ridge runs backwards from it along the antero-lateral margin, interrupted by the cervical groove and then forming a small epibranchial tooth; almost immediately behind this the ridge runs on to the dorsal surface of the branchial region and dies away at about the anterior third of the length of the carapace.

The lower margin of the orbit is concave as seen from below; it has no tooth at its inner angle, which is indistinctly separated from the inner suborbital lobe. On the lower surface of the carapace the pterygostomial groove is well-marked and a faint continuation of the cervical groove separates the sub-hepatic and sub-branchial regions.

The epistome has the middle lobe more rounded than in *G. jacquemontii* and the lateral portions less concave but more prominent anteriorly. The lobe of the first maxillipeds forming the floor of the branchial channel is considerably more exposed than in that species. The third maxillipeds have the ischium strongly grooved along its whole length, the merus broader than long, its anterior edge oblique and slightly concave; the exopodite extends a little way beyond the ischium.

Chelipeds very unequal, the larger one very massive in the male. Merus long, nearly the whole of it visible from above beyond the carapace, each of its three edges carrying a row of sharp spiniform teeth. Carpus with a strong spiniform tooth on the inner side, behind which the inner edge has, at most, one or two minute granules; the lower double tooth, present in *G. jacquemontii*, is here wanting. Chelæ smooth, with some faint rugosities on the outer surface; the upper and lower margins are rounded and there is a single blunt tooth at the proximal end of the lower edge. The palm of the larger chela is but little longer than high; between the bases of the fingers on the outer side is a large rounded or subconical tubercle. The fingers are strongly compressed and deep, equal to or shorter than the palm; there is one large serrated tooth on the immovable finger and two, smaller, on the dactylus. The palm of the smaller chela is much longer than high, the tubercle on the outer side is small, the fingers are more slender and their teeth are less prominent.

The walking-legs are very long and slender, the second pair the longest. The merus has a small subterminal tooth above; the propodus has a few spines on its lower, and some, more minute, on its upper edge; the dactylus has four rows of spines.

The abdomen of the male differs greatly from that of *G. jacquemontii*; it is strongly constricted a little way from the base, the narrowest part being at the junction of the fifth and sixth somites; the sixth somite is widened distally and the telson is linguiform. The anterior part of the thoracic sternal surface of the male is not setose as it is in *G. jacquemontii*.

Locality. "Madeu, St. Joseph River, British New Guinea, 2000-3000 feet, W. Stalker coll." Mr. Stalker informs me that the species probably burrows in swampy ground, although he did not actually see specimens taken from the burrows.

Measurements in millimetres:—

	♂.	♂.	♀.	♀.
Length of carapace.....	29	26	29	28
Breadth of carapace	39	34	37	35
do. front.....	9	8	8.5	9
do. fronto-orbital margin ...	18.5	18	18	19
Length of larger cheliped	76	60	63	...
do. second walking-leg	79	72
do. third walking-leg	75	63	...	68

For comparison I give the corresponding measurements of three specimens of *G. jacquemontii** in the Natural History Museum:—

	♂.	♂.	♀.
Length of carapace.....	33	30	31
Breadth of carapace	48	44	45
do. front.....	8.5	8	8
do. fronto-orbital margin ...	21	19	21
Length of larger cheliped	74	68	68
do. second walking-leg	68	63	67
do. third walking-leg	64	58	61

Remarks.—*G. ingrami* agrees with *G. jacquemontii* in the strongly inflated branchial regions and in the form of the efferent branchial orifices. The latter are bounded above by a prominent lip formed by the everted edge of the epistome and below by the enlarged terminal lobe of the first maxillipeds, which is left largely exposed when the third maxillipeds are closed. Whether these characters are adequate to justify the alliance in one genus of two species so widely separated geographically may perhaps be disputed when the systematic arrangement of the Potamonidæ comes to be more closely examined than it has hitherto been. For the present, the genus appears to be as well defined as are most of those forming the family. It seems to me doubtful, however, whether the subfamily Gecarcinucinae, formed for its reception by Miss Rathbun, can be sustained. The proportionate width of the front, selected by that author as the most important distinction in her key to the subfamilies and genera (Nouv. Arch. Mus. Paris, (4) vi. p. 247), does not hold good, as the measurements given above show, even for *G. jacquemontii*, and it is still less distinctive in the new species. On the other hand, it seems probable that there are still to be discovered among the Potamonidæ characters more trustworthy as indications of affinity than those hitherto employed. For example, the remarkable form of the mandibular palp, as figured by Milne-Edwards for *G. jacquemontii*, recurs not only in the species here described

* These specimens, presented by Mr. R. C. Wroughton, are from Kaman River, Bombay. As the measurements show, they are smaller than the type-specimens of Milne-Edwards redescribed by Miss Rathbun, and have the carapace relatively narrower, but in other respects they agree so closely with Milne-Edwards's figures as to leave no doubt that they belong to the same species.

but also in several other Oriental Potamonidae—I find it in *Potamon (Potamonautes) cunicularis* and in *P. (Parathelphusa) tridentatum*, but not in African species referred to these two subgenera,—and the clue thus afforded might, if followed up, lead to results important for the classification of the family.

EXPLANATION OF PLATE LXVIII.

- Fig. 1. *Gecarcinucius ingrani*, male, from above, natural size.
 2. " " " " anterior part of body, seen from front.
 3. " " " " larger chela, from the outer side.
 4. " " " " third maxilliped.
 5. " " " " abdomen.

7. The Duke of Bedford's Zoological Exploration in Eastern Asia.—XI. On Mammals from the Provinces of Shan-si and Shen-si, Northern China. By OLDFIELD THOMAS, F.R.S., F.Z.S.*

[Received December 15, 1908.]

The collection dealt with in the present paper is a continuation of that described in the last part (*suprà*, p. 635), which contained a certain number of Shan-si Mammals, collected up to February 1908. After despatching that series Mr. Anderson, now accompanied by Mr. A. de C. Sowerby, an English resident in Shan-si, commenced work again immediately after starting from Tai-Yuen-Fu, whence he moved westwards and southwards, across the Hoang-ho, down to Yen-an-fu, in Shen-si. He then turned northwards again, crossed the Great Wall at the south-eastern corner of the Ordos Desert, which I had asked him to visit, and from there worked back again to the centre of Shan-si, where, except for the interesting topotypical series of *Eutamias asiaticus senescens*, picked up on the way to Peking, the collecting of this set came to an end.

The collection as a whole is of extreme interest and value as being the first we have received from the far eastern edge of the inland desert area of Central Asia. It therefore gives us the exact Eastern limit on this latitude of certain of the Central Asian desert forms, such as *Meriones*, *Dipus*, and *Ochotona*, while in other cases it shows the effect that this raised desert area has on such forms as have penetrated to it from the lower country still further east to the coast. This effect is mainly in a general paling of colour, without alteration in structure, only one species †,

* [The complete account of the new species described in this communication appears here; but the names and preliminary diagnoses of those underlined were published in the 'Abstract,' No. 63 (Dec. 15, 1908).—EDITOR.]

† The Hedgehog.