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On Three South Indian Crabs
(Decapoda, Brachyura) of
the Madras Museum.

By
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CALCUTTA:
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ON THREE SOUTH INDIAN CRABS (DECAPODA, BRACHYURA)
OF THE MADRAS MUSEUM.

By HEINRICH BALSS, *Munich*.

(Plate II)

Dr. B. Chopra of the Zoological Survey of India, Indian Museum, Calcutta, sent me a small collection of crabs belonging to the Madras Museum for identification. This collection contained a new species of the genus *Medaesus*, of which I had already an example from the collections of the Basel Museum, besides two other forms, the systematic position of which had not previously been understood correctly.

***Medaesus rouxi*, sp. nov.**

(Plate II, figs. 1 and 2.)

1 male, Pamban, Gulf of Manaar, Madras Presidency. F. Müller Coll. (*Mus. Basel*).

1 female, Krusadai Island, Gulf of Manaar (*Mus. Madras*).

I dedicate this new species to the distinguished Carcinologist Dr. Jean Roux, Custodian of the Natural History Museum of Basel.

Description. The carapace is slightly convex; its length is $\frac{5}{6}$ th its breadth. Its upper surface, which is divided by grooves, bears in certain regions clusters of small granules, while the grooves themselves appear only slightly roughened. Two very characteristic flat rounded efflorescences project from the hepatic region (one on either side) as lobe-shaped structures. There are also bundles of long hairs distributed on the front and on the median gastric region. The two median lobes of the front project forwards, and are separated from one another by a deep groove. The front towards the sides is slantingly truncate, and is separated from the upper border of the orbit by a deep groove, from which the two antennae project forwards. The two grooves on the upper margins of the orbits are distinct. The outer orbital tooth is well developed and is of the same shape as the three teeth following it along the margin of the carapace; all of these are very broad, project widely outwards, end in blunt points, and have strongly rounded posterior margins. The last tooth of the lateral border is somewhat smaller than the others. Between the outer orbital tooth and the 1st lateral tooth there is another tooth, the subhepatic, which is smaller but projects so far upwards as to be distinctly visible in dorsal view. The postero-lateral margin of the carapace runs obliquely in a straight line posteriorly. In reference to the ventral side of the carapace the following points may be noted:—the lateral wall, the third maxilliped and the sternum are strongly granulose; on the lower margin of the orbit there is a broadly rounded lobe, while the inner tooth which lies close to the base of the second antenna, is narrower, longer and more pointed. Between this and the front are situated the infra-orbital second antennae, of the three joints of which the first is the longest

and the third the shortest. The flagella are relatively long. The two chelipeds are symmetrical and of the type of the genus *Halimede*. They bear on the margin of the merus, which lies next to the carapace, on the carpus and on the upper margin of the chelae broad, rounded, granulose lobular efflorescences similar to the lobes on the hepatic region. From above one can distinguish on the carpus four such projections and a pointed spine on the inner side; further smaller ones are present near the junction of the carpus and the palm. The palm bears on the upper margin two rows, each consisting of four such projections; the outer surface and the inner are strongly granulose and the granules are arranged in straight rows. The fixed finger and the dactylus are arched inwards; the hook-shaped, pointed fingers cross each other, and on the cutting edge both have about five broad teeth. The upper border of the dactylus bears near its joint with the palm many rows of granules. The pereopods are long and narrow, the upper margins of some of the joints are sharp; the carpi show on the posterior side traces of a carina. The dactyli are only slightly shorter than the propodites, and have horny tips.

Measurements.

Length of carapace	5 mm.
Breadth of carapace	6 mm.
Length of palm	5 mm.
Length of 3rd pereopod	7.5 mm.
	(merus 3 mm.; carpus 1.5 mm.; propodus 1.5 mm.; dactylus 1.5 mm.).

The type of this species is deposited in the Basel Museum.

Systematic Position. In the lobular projections on the chelipeds and the hepatic region, this species comes very close to the genus *Halimede* (e.g., *H. tyche* of Herbst), but is distinguished by the oblique front (which in *Halimede* is transversely shortened), by its not greatly elongated and narrow abdomen of the male, which is characteristic of the genus *Halimede*; in our form, on the other hand, it has the usual Xanthid shape. I, therefore, assign this species provisionally to the genus *Medacus* Dana, in which, at least in *M. ornatus* Dana from Hawaii, the chelae have lobular teeth. *M. rouri* is distinguished from this species by the lobular projections on the hepatic region and the untoothed upper margins of the merus and the pereopods.

Sphaerozius nudus (A. Milne Edwards).

(Plate II, figs. 3 and 4.)

1867. *Actumnus nudus*, A. Milne Edwards, *Ann. Soc. Entomol. France* (4) VII, p. 265.
 1887. *Actumnus nudus*, de Man, *Journ. Linn. Soc. London* (Zool.) XXII, p. 49, pl. ii, figs. 4, 5 (not 2, 3 as indicated).
 1898. *Actumnus nudus*¹, Alcock, *Journ. As. Soc. Bengal* LXVII, p. 207.

1 female without eggs (carapace length 14.8 mm.; carapace breadth 18.8 mm.), Pamban, Gulf of Manaar, September, 1925.
 1 female with eggs (carapace length 9.4 mm.; carapace breadth 12 mm.)
 Krusadai Island, Gulf of Manaar, 16-22, September, 1925.

¹ *Nec A. nudus* Grant & McCulloch, *Proc. Linn. Soc. N. S. Wales* XXXI, p. 17 (1906), which is *Eurygarcinus maculatus*, *vide* McCulloch, *Rec. Austral. Mus.* VII, p. 57 (1908).

In the paper cited above de Man gave a detailed description of this species, and it is only necessary to supplement it with a description of the larger cheliped. This is distinctly larger than the other; its merus is short and stumpy, and reaches up to the antero-lateral border of the carapace; its upper margin is sharp and without teeth; its lateral surface is smooth. On the other hand the upper surface of the carpus is tuberculate, the tubercles increase in size anteriorly and appear pearl-shaped. Its inner surface is smooth, and is marked off from the upper by a row of small tubercles. An inner tooth is only slightly indicated. The palm is relatively broad, its margins are rounded, and its entire upper surface is beset with pearl-shaped tubercles, which are larger along the upper than along the lower margin. The entire inner surface is finely granular or almost smooth. The moveable finger is curved, hook-shaped, and near its point of articulation finely granular. Its cutting edge bears about 6 teeth: the proximal ones are pointed, while the distal is broader. The fixed finger, which lies in a straight line with the lower margin of the palm, proximally bears a strong, bifid tooth; distally also it has two smaller, bifid teeth. The finger is of a light-brown colour.

Systematic Position. Alcock remarked that this species does not belong to the genus *Actumnus*. It is certainly very closely allied to *Sphaerozium nitidus* Stimpson and *S. panope* (Herbst), particularly in (1) the form of the carapace which is strongly arched; (2) the broad triangular marginal teeth (*Actumnus* has pointed spines); (3) the form of the rostrum; (4) the form of the large chela with the broad tooth on the fixed finger, as is generally found in species of the genus *Sphaerozium*; and (5) the great difference in the two chelae (in *Actumnus* the chelae are more similar).

In view of the form of the "Ruten" (=Pleopods 1 and 2 of the male) I have assigned *Sphaerozium* to the Menippinae, while *Actumnus* belongs to the Pilumninae (see Balss, pp. 510-513). Unfortunately I have before me only young males of this species, but have no doubt that in this species also the form of the "Ruten" would correspond to that of the Menippinae.

The specific name *nidus* is unfortunate, as this form is distinguished from other species of the genus by its granulations.

Measurements of the larger chela of the larger female.

Length of carpus (inner margin)	7 mm.
Length of palm (upper margin)	5.7 mm.
Length of palm (lower margin including the fixed finger)	15 mm.
Breadth of palm	9.3 mm.

***Leipocten sordidulum* Kemp.**

1915. *Leipocten sordidulum*, Kemp, *Mem. Ind. Mus.* V, p. 244, pl. xii, fig. 8 text-figs. 16-20.

2 males, 3 females, Ennur Backwater, Madras.

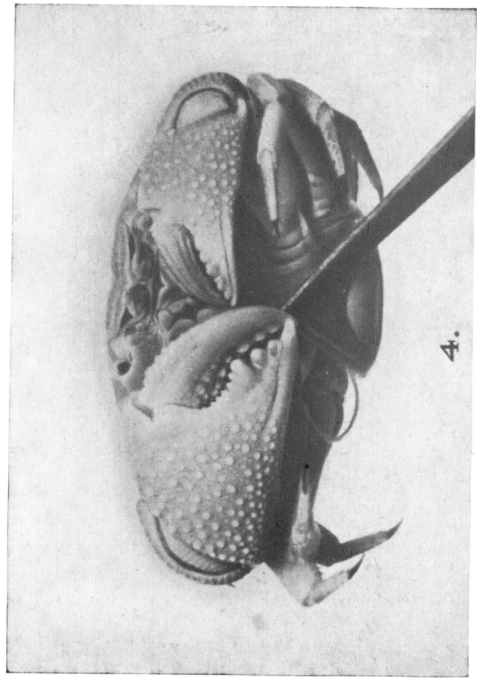
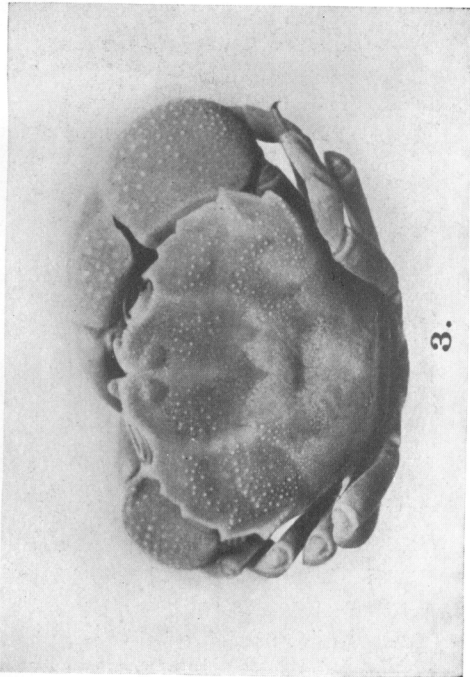
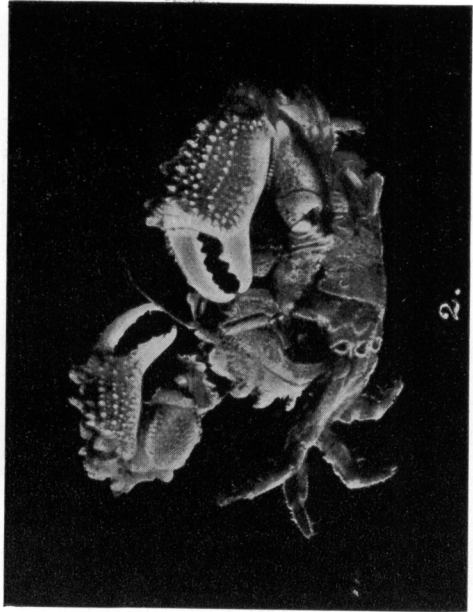
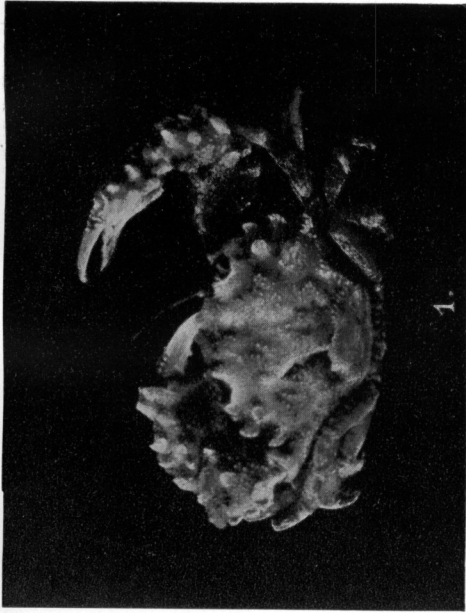
Systematic Position. In view of the form of its carapace Kemp included this small crab in the Xanthidae, but for the following reasons

I believe that it should be referred to the Macrophthalminae of the family Oeypodidae :

1. The chela of the male with a single tooth on the dactylus and the greatly curved finger has the form usually found in this subfamily.
2. The chela of the female is smaller and differs in shape from that of the male ; this is the case in the Macrophthalminae.
3. The form of the third maxilliped and the abdomen of the male resembles exactly that of *Paracleistostoma depressum* de Man.
4. The form of the buccal region and the palatal ridges is exactly similar to that of *Cleistostoma*.

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South Indian Crabs.

EXPLANATION OF PLATE II

Medaeus rouxi, sp. nov.

FIG. 1.—Dorsal view of specimen from Pamban : $\times ca. 5$

FIG. 2.—Ventral view of same : $\times ca. 5$.

Sphaerozius nudus (A. Milne-Edwards).

FIG. 3.—Dorsal view of specimen from Pamban : $\times 2.5$.

FIG. 4.—Ventral view of same : $\times 2.5$.