

A NOTE ON TWO SPECIES OF MALAYSIAN KING-CRABS (*XIPHOSURA*)

By

J. C. VAN DER MEER MOHR

(Brastagi, Sumatra).

In a previous note (1, cf. reference list) I have drawn attention to some aberrations occurring in king-crabs, viz. *Tachypleus gigas* (MÜLLER). In the course of time other cases of malformation in *T. gigas* have come to my notice; these will be described hereafter. The material at my disposal has been used partly also for measurements, since it seemed to me that the specimens from Sumatra's Eastcoast do not reach such dimensions as recorded for specimens from other localities.

SMEDLEY (2a, p. 78) denies that *T. gigas* comes inshore to breed, i.e. to bury its eggs, as do the American and Chinese forms. In this respect I cannot agree with him, because I have been shown several "nests" of *T. gigas*, and in a few instances have, myself, caught females during or shortly after egg-laying. As a reasonable explanation for this controversy I venture to offer here the view that the females of *T. gigas* do indeed carry their eggs for a while before depositing them, and thus may be caught sometimes in the open with the eggs still attached to the body. The greenish or yellowish eggs were always buried rather superficially in the more or less sandy riverbanks near Telok Blanga; these banks become dry at ebb-tide. As to *Carcinoscorpius rotundicauda* (LATR.), this, in my opinion, is entirely an estuarine form. I have never found a single specimen of this species on the patches of sandy beach along the coast of Deli, nor in the catches of Malay or Chinese fishermen who were fishing at some distance off shore. I may add that, though *C. rotundicauda* is entirely estuarine, it nevertheless seems to be greatly outnumbered by *T. gigas* in the estuary of the Perbaengan-river. One may be tempted to regard this as a mere temporary or periodical phenomenon, but then the fact remains unexplained why I always got far more individuals of *T. gigas* than of *C. rotundicauda* each time I collected at Telok Blanga.

I regret that my notes referring to the relation of sexes in both species are too scanty to draw any reliable conclusion; I am inclined, however, to believe that, numerically, the males are in the majority.

Aberrations.

T. gigas, male. Carapace 159 mm, telson 173 mm.

The 6th prosomatic appendage on the right side bears 5 sclerites at the

apex of the penultimate segment. Three sclerites have a length of 13 mm, the other two are 10 mm long.

T. gigas, female. Carapace 183 mm, telson 193 mm.

The 6th prosomatic appendage on the right side bears 4 sclerites at the apex (the normal number), but two of these are very short, 3 mm and 4.5 mm only.

T. gigas, male. Carapace 147 mm, telson 166 mm.

The 6th prosomatic appendage on the right side has 4 sclerites, all differing in size; the shortest sclerite 9 mm, the longest 12 mm.

T. gigas, female. Carapace 195 mm, telson 192 mm.

The 6th prosomatic appendage on the left side is quite normal, save that the short chelate clasper at the apex of the penultimate segment is replaced by a small conical outgrowth resembling the hemichelate clasper of the male.

T. gigas, male. Carapace 149 mm, telson 172 mm.

The 6th prosomatic appendage on the left side has been regenerated. All segments are much smaller in comparison with those of the normal 6th prosomatic appendage on the right side. There are 4 sclerites, each 3 mm long; clasper broken off.

T. gigas, male. Carapace 152 mm, telson 144 mm.

On both sides the 6th prosomatic appendage bears 5 sclerites at the apex of the penultimate segment. Moreover, the whole left side and the posterior part of the right side of the opisthosoma have been affected in one way or the other. Along the healed margins the moveable spines are completely absent. A similar case is shown by an other male (carapace 158 mm, telson 166 mm), but here only the right side is devoid of moveable spines, whereas the left side of the opisthosoma is quite intact and provided with 6 moveable spines.

T. gigas, male. Carapace 146 mm, telson 160 mm.

The right side of the posterior part of the prosoma bears a short dentate projection.

T. gigas, male. Carapace 135 mm, telson 163 mm.

The left side of the prosoma shows a short dentate projection just before the angle. (Cf. also fig. 1, pl. 1, of my previous note (1)).

T. gigas, male. Carapace 135 mm, telson 150 mm.

In this specimen the telson is curved in the horizontal plane.

It is evident from the cases recorded in the present note and in my previous paper on *T. gigas* (1) that of all prosomatic appendages — whether in the male or female — the 6th appendage is most frequently affected. Cases of malformation whereby a more or less greater part of the margin of the opisthosoma is involved, resulting in a loss of moveable spines, are very common. Therefore, only some of the most characteristic cases have been recorded. Malformations of this kind may be due to attacks of predators or they may arise during the mating preludes.

With regard to *C. rotundicauda* I only found malformations of the opistho-

soma like those in *T. gigas* described above. Out of a number of at least 30 specimens of *C. rotundicauda* which I could examine, not a single case of aberration in the prosomatic appendages have been discovered.

Measurements.

As mentioned before, part of the material of *T. gigas* and of *C. rotundicauda* has been used for measurements. I now regret that I did not take measurements of all specimens that came to hand, especially so in the case of *C. rotundicauda*, of which species only 8 examples were measured. I think that all the measured king-crabs were adults, though in this respect there may still remain some doubt with regard to a few specimens. All measurements have been taken in the way as indicated by GRAVIER (3, p. 315). Making allowance for the rather small number of specimens examined, the following conclusions from the data recorded below may seem justified.

In *T. gigas* and *C. rotundicauda* the females are much larger than the males. Whereas the males of both species and the female of *C. rotundicauda* have a carapace which is slightly broader than long, the reverse is indicated in the female *gigas*-carapace. In the female *T. gigas* the telson is relatively somewhat shorter than in the male, in the female *C. rotundicauda* it is relatively just as long as in the male. With regard to absolute size (carapace + telson) the largest specimens (females) of both *T. gigas* and *C. rotundicauda* from Sumatra's Eastcoast do not reach the total dimensions as given by SMEDLEY (2a, p. 74 - 75). According to this author, *T. gigas* "growth to a length of about 500 mm", and "the total length of the adult [of *C. rotundicauda*] is about 335 mm". Now, the largest female *gigas*-specimen in my collection (no. 2, table II) does not exceed 414 mm, and since this female was an egg-bearing individual, we may assume that it was full-grown. An other egg-bearing female (no. 7, table II) measured 403 mm. The average size (carapace + telson) of the adult male of *T. gigas* is somewhat greater than that of the female *C. rotundicauda*; the extremes, however, are overlapping.

Table I.
Tachypleus gigas (MÜLLER)

Sex	Length of carapace in mm.	Width of carapace in mm.	Length of telson in mm.
Male	159	160	173
do.	158	151	166
do.	157	169	159
do.	153	160	179
do.	152	156	144
do.	151	154	162
do.	150	155	170
do.	149	154	172
do.	147	151	144

Sex	Length of carapace in mm.	Width of carapace in mm.	Length of telson in mm.
do.	146	145	172
do.	145	148	143
do.	144	152	161
do.	142	147	148
do.	141	159	173
do.	141	151	168
do.	136	140	154
do.	135	144	163
do.	135	142	150
Average	146.7	152.1	161.2

Relation L.C. : W.C. : L.T. = 1 : 1.037 : 1.098.

Table II.

Tachypleus gigas (MÜLLER)

Sex	Length of carapace in mm.	Width of carapace in mm.	Length of telson in mm.
Female	206	166	187
do.	203	206	211
do.	200	197	208
do.	198	196	200
do.	198	192	115 ¹⁾
do.	195	192	192
do.	194	188	209
do.	188	188	222
do.	183	181	193
do.	182	191	199
do.	177	187	215
do.	163	170	164
Average	190.6	187.8	200.0 ²⁾

Relation L.C. : W.C. : L.T. = 1 : 0.85 : 1.053 ³⁾.

¹⁾ Telson broken.

²⁾ Average length of telson of 11 specimens.

³⁾ For the computation of the relation L.C. : L.T. no. 5 has been omitted.

Table III.

Carcinoscorpius rotundicauda (LATR.)

Sex	Length of carapace in mm.	Width of carapace in mm.	Length of telson in mm.
Male	116	109	131
do.	113	110	133
do.	109	118	130
do.	98	117	122
do.	97	105	139
Average	106.6	111.8	131.0

Relation L.C. : W.C. : L.T. = 1 : 1.048 : 1.228.

Table IV.

Carcinoscorpius rotundicauda (LATR.)

Sex	Length of carapace in mm.	Width of carapace in mm.	Length of telson in mm.
Female	134	142	161
do.	130	136	160
do.	127	134	158
Average	130.3	137.3	159.6

Relation L.C. : W.C. : L.T. = 1 : 1.053 : 1.224.

References.

1. VAN DER MEER MOHR, Misc. Zool. Sum., LXXXVII, 1934.
- 2a. SMEDLEY, Bull. Raffles Mus., 2, 1929.
- 2b. SMEDLEY, Bull. Raffles Mus., 5, 1931.
3. GRAVIER, Bull. Mus. Nation. Hist. Nat., 2me sér., 1, 1929.