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in the Indian Museum.**  
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Crabs from the Bay of Bengal.**

**By**  
**B. CHOPRA**

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FURTHER NOTES ON CRUSTACEA DECAPODA IN THE INDIAN  
MUSEUM.

IV. ON TWO NEW SPECIES OF OXYSTOMOUS CRABS FROM THE BAY OF  
BENGAL.

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(Plate III.)

While sorting out a miscellaneous unnamed collection of the Oxy-stomes in the course of my work on these crabs from the mouth of the Hughli River,<sup>1</sup> I came across a specimen of the interesting genus *Ixa*, that even on a superficial examination appeared to differ in several material respects from both the hitherto-known species of this genus. On a closer examination it has proved to represent an unknown species, and is described as new in the present paper. Even though I have had to base my description on a single example, the specimen shows so many important distinguishing characters that there cannot be any doubt that it represents a species hitherto unknown to science. The specimen is an ovigerous female. The second new species belongs to the genus *Raninoides* Milne-Edwards, of the family Raninidae. This species is also based on a single specimen. This particular example had been examined by Alcock, and named by him as a variety of *Raninoides personatus* White, Henderson. On a careful examination it has shown so many material differences from Henderson's species, as also from the other species of *Raninoides*, that I have no hesitation in describing it as new.

In his masterly account of the Raninidae, Bourne<sup>2</sup> has recently set up a new genus under the name of *Notosceles*, that according to him comes very close to *Raninoides* Milne-Edwards. Besides describing a new species (*N. chimmonis*), Bourne has included in this genus the form that Henderson<sup>3</sup> had described as *Raninoides serratifrons*. The new species described here shows a number of characters that suggest that it is intermediate between the typical species of *Raninoides* on the one hand, and forms like *Raninoides serratifrons* and *Notosceles chimmonis* on the other. Similarly in connection with the new species of *Ixa*, the question of the validity of *Ixoides* MacGilchrist<sup>4</sup> is discussed and it is shown that except for some differences in the external maxillipeds, the genus *Ixoides* so closely resembles *Ixa* Leach, that it can hardly be distinguished from it.

<sup>1</sup> Chopra, *Rec. Ind. Mus.* XXXV, pp. 25-52 (1933).

<sup>2</sup> Bourne, *Journ. Linn. Soc. London (Zool.)*, XXXV, pp. 25-79, pls. iv-vii (1922).

Henderson, *Trans. Linn. Soc., London (Zool.)*, V, pp. 406, 409, pl. xxxviii, figs. 10-12 (1893).

<sup>4</sup> MacGilchrist, *Ann. Mag. Nat. Hist.* (7) XV, pp. 255-257 (1905)

*Ixa investigatoris*, sp. nov.

(Plate III, figs. 4, 4a.)

The carapace is broadly hexagonal in shape, the breadth, excluding the lateral processes, somewhat exceeding the length. The surface of the carapace is thickly covered over with prominent raised tubercles, which are distinctly stalked on the lateral processes and the posterior half of the carapace. Between the tubercles the surface appears to be smooth. The margins of the carapace and the pterygostomial regions are also covered over with similar tubercles. On the surface of the carapace in addition to the ordinary raised and stalked tubercles there are several prominently raised areas, with secondary tubercles on them. There are three such prominences on the median part of the carapace—a small one on the gastric region, a somewhat larger one on the cardiac, and a very prominent double one on the intestinal region. There are three of these on each branchial region, and one on each hepatic region near the margin. Besides these there is a pair of small prominences, one on each side of the median gastric prominence. The grooves on the carapace, as compared with those of *I. cylindrus* are very indistinct and shallow but even in this species they separate off the median parts of the carapace from the branchial and the hepatic regions. There is a broad, transverse depression behind the frontal region, which has the effect of separating off the front from the rest of the carapace, more or less as in other species of *Ixa*.

The front is somewhat broad, and prominently bilobed, and projects almost as far as the salient edges of the afferent branchial channels. The orbits are small and rather deep and the granulation of the carapace on their edges conceals all traces of sutures. There is, however, a wide gap at the inner canthus, where the antennae are lodged. The antennules fold obliquely. The gap at the inner canthus of the orbits, and the antennae and the antennules are seen in figure 4a on plate III.

The antero-lateral border is not distinct, on account of the tubercles present all along the margin, but it is somewhat sinuous in outline. There is a marked prominence, covered over with raised tubercles, on this margin, a little in front of the lateral process. At the junction of the antero- and postero-lateral borders are the lateral processes—huge, spine-like structures, projecting transversely from the sides of the body. They are rather short, as compared with those of *I. cylindrus*, broad at the base and taper gradually towards the tip, which is bluntly pointed. They are thickly covered all round with raised and stalked tubercles. The postero-lateral borders are practically straight, and like the rest of the carapace are covered over with tubercles. A little above the base of the last walking leg there is on each margin a large petaloid process, covered with stalked tubercles. A similar and somewhat larger process is present at the junction of the posterior and postero-lateral borders. This process is also covered with stalked tubercles. The posterior border is very short and is partly hidden in a dorsal view by the large overhanging prominence on the intestinal region of the carapace. This border is straight, and carries a few small stalked tubercles on it.

The buccal cavern (Plate III, fig. 4a), though truncated anteriorly, is distinctly triangular in outline, and the external maxillipeds are not appreciably sunk below the level of its edges, which are not everted. The ischium is somewhat grooved along its inner half, but the outer half is strongly convex and is tuberculated. The merus, measured along the inner border, is about half as long as the ischium. It has the usual shape, has a more or less flat surface, with a few small tubercles on it and is somewhat rounded at the tip. The exognaths are also tuberculated, are convex towards their outer edges and only slightly fall short of the tip of the merus.

The chelipeds are considerably stouter than the walking legs, and are rather more than twice as long as the carapace. The long arm is cylindrical in shape, and is strongly granulated all round. The wrist is short, is somewhat dilated distally and is covered over with small granules. The palm is long, broad at the base and tapers markedly towards the tip. It is sharply granular on the outer margin. The fingers are thin and almost filiform, are about two-thirds as long as the palm, and open in a more or less vertical plane. They are somewhat hooked at the tip, and their inner margins are beset with a row of minute teeth, interspersed at irregular intervals with some larger ones.

The walking legs have the margins of their basal segments serrated. The surface of the segments, especially that of carpus and propodus, is finely granular, and the dactyli, which are almost straight, are fringed with hairs.

The thoracic sternites are strongly tuberculated, those at the base of the chelipeds being prominently raised.

The abdomen of the female consists of four pieces, the 3rd-6th somites being coalesced into a large piece. The first two segments are strongly tuberculated and the large third piece bears tubercles on the basal part and some near the apex also.

The colour in spirit is white, and there are no characteristic markings either on the carapace or on the legs. The prominently-stalked tubercles on the carapace have a superficial appearance of some Madreporian corals.

The single ovigerous female, that I have seen, has the following measurements :—

Length of carapace . . . . .	8.0 mm.
Breadth of carapace, including lateral processes . . . . .	14.8 mm.
Length of lateral process . . . . .	2.8 mm.
Length of palm . . . . .	4.6 mm.
Length of free finger . . . . .	3.3 mm.

*Type-specimen*.—C 1560/1, Zoological Survey of India (*Ind. Mus.*).

*Locality*.—The single specimen on which the present species is based was collected by Lt.-Col. R. B. Seymour Sewell on board the R. I. M. S. "Investigator" in the Mergui Archipelago, 12° 14' 30" N., 98° 15' 30" E., on 23rd October, 1913. The depth at this place, according to the "Investigator" Station Book, was 24 fathoms, and the bottom consisted of mud, sand and broken shells.

*Ica investigatoris* differs from both the hitherto known species of the genus chiefly in its small size, in having its surface closely covered with

raised and stalked tubercles, in the great reduction of the grooves on the surface of the carapace, in having rather short lateral processes and in having a pair of petaloid processes on the postero-lateral borders of the carapace, in addition to those on the posterior border. The three species of the genus *Ixa* may be distinguished from one another with the help of the following table:—

<i>I. Cylindrus</i> (FABR.).	<i>I. Inermis</i> LEACH, ALCOCK.	<i>I. Investigatoris</i> , SP. NOV.
1. Lateral processes very large, more or less uniformly thick throughout, or sometimes tapering from the base, but the tip always sharply pointed.	1. Lateral processes comparatively short, gradually tapering from a broad base to a pointed tip.	1. Lateral processes short, gradually tapering from a broad base to a bluntly pointed tip.
2. Grooves on the carapace as deep and broad channels.	2. Channels replaced by ordinarily shallow grooves without any definite margins.	2. Grooves only faintly indicated.
3. Carapace with minute vesiculous granules; surface between granules smooth.	3. Carapace with vesiculous granules; surface between granules rough.	3. Carapace thickly covered over with raised and stalked tubercles, looking like corals; surface between tubercles somewhat smooth.
4. No prominent convexities on the carapace, the gastric region raised and the intestinal region somewhat tumid.	4. Some prominent convexities on the gastric region and one blunt elongated tubercle on the tumid intestinal region.	4. A number of regularly arranged convexities on the carapace: three on the gastric region, one on the cardiac, a double one on the intestinal, three on each branchial and one on each hepatic region.
5. No processes on the margins of the carapace in addition to the large lateral processes.	5. One petaloid process on each end of the posterior border of the carapace.	5. One petaloid process on each end of the posterior border, a similar one on each postero-lateral border, and a small one on each antero-lateral border a little in advance of the lateral process.
6. Buccal frame, though truncated anteriorly, distinctly triangular in outline.	6. Buccal frame quadrangular.	6. Buccal frame, though truncated anteriorly, distinctly triangular in outline.
7. Exognath of external maxilliped concave along its inner border, and falling short of the anterior edge of the afferent branchial channel. The raised outer border of the ischium with a narrow band of vesiculous granules, wanting at the basal end.	7. Exognath of external maxilliped strongly convex, except for a small distal portion, closely covered over with pearly granules and extending up to almost the anterior edge of the afferent branchial channel. Ischium grooved along the inner border, rest of the surface strongly convex and covered over with pearly tubercles.	7. Exognath of external maxilliped convex, especially towards the outer border, tuberculated and hardly falling short of the front edge of the afferent branchial channel. Ischium grooved along its inner half, outer half strongly convex and tuberculated.

Besides comparing *I. investigatoris* with the other species of the genus *Ixa*, it may be useful to consider here the position of MacGilchrist's genus *Ixoides*.<sup>1</sup> According to MacGilchrist the genus *Ixoides* differs from *Ixa* Leach in the following characters:—"The fingers are two-thirds the length of the palm, or about half the combined lengths of wrist and palm; the sides of the carapace are produced into two stout, conical, horn-like processes, tapering from the base; carapace is globular and its median regions are not pronouncedly demarcated by channels or grooves; the merus of the external maxilliped has its outer edge cut away and bevelled, and this bevelled edge forms the inner wall of the afferent branchial canal; the front is moderately prominent, projecting about as far as the salient edges of the afferent branchial canal." The characters pertaining to the relative length of the fingers appear to be applicable to the male specimens only that MacGilchrist had examined; in a large female example in the Indian Museum collection the fingers are barely half the length of the palm. In *Ixa* on the other hand, the fingers are not always "hardly half the length of the hand" as mentioned by Alcock.<sup>2</sup> In *I. inermis*<sup>3</sup> Leach, as re-described by Alcock, the fingers are more than half the length of the hand, and the same is the case in the new species described in this paper. Conical, horn-like lateral processes are not characteristic of *Ixoides* only, but are commonly met with in the species of *Ixa* also.<sup>4</sup> In the absence of deep channels or grooves on the carapace *Ixoides cornutus*, the only species of MacGilchrist's genus, resembles *Ixa inermis* and *Ixa investigatoris*. The front is moderately bilobed in all the species of *Ixa* also, and projects about as far as the salient edges of the afferent branchial canal in at least one species—*I. investigatoris*. In the characters of the external maxillipeds, however, *Ixoides cornutus* differs markedly from all the species of *Ixa*, the merus, as mentioned by MacGilchrist, is of a peculiar shape, and the exogaath also differs materially from that of all the species of *Ixa*. It is thus seen that the only important character by which MacGilchrist's genus can be distinguished from *Ixa* is afforded by the external maxillipeds, and that in practically every other respect the two genera are almost indistinguishable. In view of this the advisability of regarding *Ixoides* as a distinct genus is open to doubt; in my opinion it should be merged in the synonymy of *Ixa*, or at best should be given a subgeneric rank.

#### *Raninoides hendersoni*, sp. nov.

(Plate III, figs. 1, 1a.)

The carapace is more or less barrel-shaped in outline, having its greatest breadth about the middle of the body; its greatest length is considerably less than twice of its maximum breadth. Its surface is

<sup>1</sup> MacGilchrist, *Ann. Mag. Nat. Hist.* (7) XV, pp. 255-257 (1905); *Illustr. Zool. Investigator*, pl. lxxiii, figs. 2, 2a, 2b (1905).

<sup>2</sup> Alcock, *Journ. As. Soc. Bengal* LXV, p. 271 (1896).

<sup>3</sup> I have discussed the question of the identity of this species in an earlier paper—*vide Rec. Ind. Mus.* XXXV, pp. 48-50 (1933).

<sup>4</sup> It has been shown that in *I. cylindrus* also the lateral processes are sometimes conical, horn-like and tapering—*vide Chopra, Rec. Ind. Mus.* XXXV, p. 46, 47 (1933).

smooth and polished, except for the anterior region behind the front, which is minutely punctate. The surface of the carapace adjoining the antero-lateral margins is also punctate. There is a distinct transverse line behind the front and the region between this line and the fronto-orbital margin of the carapace is covered with hairs and small squamiform granules; the area immediately behind this line is also granular. The carapace is markedly convex from side to side, and the regions are not indicated. The fronto-orbital margin is long, and is a little more than two-thirds the greatest breadth of the carapace. The rostrum is more or less like that of *R. personatus*<sup>1</sup>; it is prominent and entire, its apex is rounded, with a minute blunt process at the tip. There is a shallow groove running in a longitudinal direction from the tip of the rostrum to the transverse line behind the frontal region. On each side of the rostrum and continuous with it, is a large triangular lobe, more or less acutely pointed at the tip. A broad and deep fissure separates this lobe from a large and prominent tooth-like process, with a somewhat rounded apex, surmounted by a minute spine-like process at the tip. Another fissure, somewhat broader than the one described above, separates this large median process from the external orbital spine. This is broad at the base, and appears to be hollowed out anteriorly, where it terminates in two small spines: one, somewhat blunt, on the dorsal surface, and the other larger and more sharply pointed in a lateral position. The fissures on either side of the median process do not run to the transverse line behind the frontal region, mentioned above, but are continued backwards into shallow grooves partly covered over by long hairs. The fronto-orbital margin is strongly hairy, as also the lateral margins immediately behind the external-orbital lobes. The eye-stalks are long, broad and dilated at the base and taper towards the tip, where the cornea occupies practically the entire thickness of the stalk.

The lateral borders of the carapace are broadly arched. A little distance behind the external orbital process is a small and sharply-pointed spine. In the single specimen that I have examined the tip of this spine is broken on one side and thus appears to be blunt, but on the other side it is seen to be sharply pointed. A prominent line runs across the surface of the carapace joining these spines on the two sides. Near the lateral margins this line runs obliquely, inwards and forwards, but becomes transverse on the median region. The lateral margin, a little behind the spine, is defined by a raised and very finely milled line. The border anterior to the spine is markedly hairy, while that immediately behind it is finely crenulate and sparsely hairy.

The pterygostomian regions are puffed out and are densely hairy. In between the hairs the surface is seen to be somewhat granular.

The external maxillipeds are like those of *R. personatus*. They are long and narrow, and their terminal parts encroach on the epistomial region. The ischium is about one-third longer than the merus and both have a raised inner margin. The surface of the merus is granular and somewhat hairy, and there is a strong fringe of hairs along its outer

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<sup>1</sup> Henderson, *Challenger Anomura* (Zool. XXVII), pp. 27, 28, pl. ii, fig. 5 (1888).

margin, which is broadly rounded. The flagellum is short and is inserted opposite a slight depression along the inner edge of the merus near its tip. The exognath is short, and extends up to the end of the ischium only.

The chelipeds (Plate III, fig. 1a) are large and are considerably longer than half the length of the carapace. The ischium is small and has a minute spine on the anterior border near its distal end. The merus is large and dilated, and its outer surface is somewhat squamiform and the edges are faintly crenulate. The carpus is considerably shorter than the merus and has two small, more or less subequal, spines at its distal end, one on the dorsal and the other on the outer border. The upper and the outer surface of the carpus is covered with scale-like tubercles, interspersed with stiff hairs and the borders are markedly granular. The propodus is flattened and has a stout acutely-pointed spine about the middle of its outer border. There are three such spines on the inner border also. The outer and upper surfaces of the hand, like those of the wrist, are covered over with scaly tubercles and stiff hairs, and the outer border is also granular. The fixed finger forms an obtuse angle with the hand, and its base is only moderately flattened. Its cutting edge is sharply dentate almost up to the finely pointed tip. The dactylus is broadly arched; its cutting edge is totally unarmed, and ends in a blunt tip. The outer edge of the dactylus is somewhat crenulate near the base. The fingers leave a small gap when they meet, and the dactylus somewhat falls short of the tip of the fixed finger.

The first three walking legs progressively increase in size from before backwards, while the last legs, which are placed in advance of the penultimate pair in a dorsal position, are very much reduced. The legs are modified in the usual way, the distal segments being foliaceous. The dactyli of the first two pairs are acutely pointed, and the carpus is strongly carinate dorsally in the first three pairs. In the last pair the carpus and propodus are subequal, and the dactylus is distally broadened and rounded. All the legs have long hairs along their edges.

In the single female example that I have examined the abdominal segments are smooth and polished above and are ciliated laterally. The first segment is considerably shorter in breadth than the posterior breadth of the carapace, and the remaining segments diminish in size progressively from before backwards. The appendages are strongly ciliated.

The thoracic sternal shields are somewhat like those of *R. personatus*. The first element is broad, and thus separates widely the bases of the chelipeds; the second piece is more narrowed posteriorly than that of *R. personatus*, with the result that the bases of the first pair of walking legs are more approximated to the middle line than in the other species; the third piece is still more narrowed posteriorly, and the bases of the second pair of legs almost touch one another in the middle line. In this respect the sternal shields somewhat resemble those of *R. serratifrons* Henderson,<sup>1</sup> in which species there is a still further narrowing of the posterior ends of the second and third pieces. There is a groove running along the median line, almost from end to end, of the shield.

<sup>1</sup> Henderson, *Trans. Linn. Soc. London (Zool.)*, V, pp. 408, 409, pl. xxviii, figs. 10-12 (1893).

The process on each side between the basal joints of the chelipeds and the first pair of legs is distinctly seen in this species also, though it is not acutely pointed as in *R. personatus*.

In the single specimen that I have in the collection, the carapace, including the rostrum is 17 mm. long, while the greatest breadth is 10.1 mm.

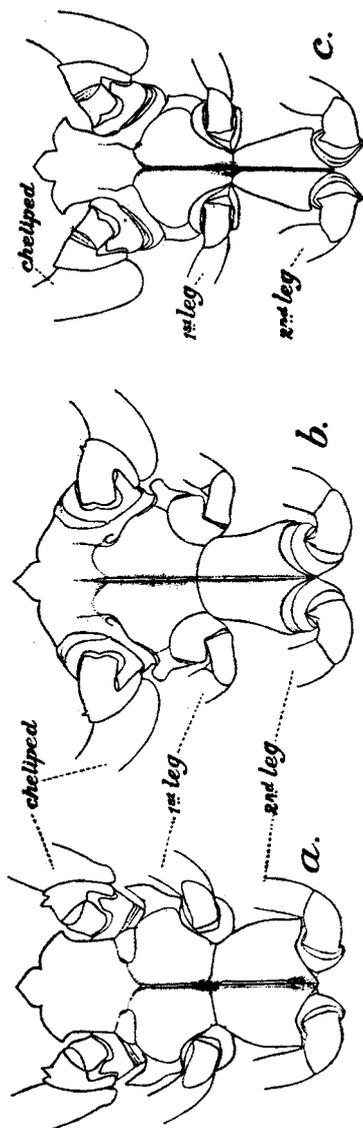
*Type-specimen*.—2640/10, Zoological Survey of India (*Ind. Mus.*).

*Locality*.—The single example on which the present species is based, was dredged in the Andaman Sea at 11° 49' 50" N., 92° 52' E. at a depth of 55 fathoms in April 1898, by the R. I. M. S. "Investigator". According to the "Investigator" station book the bottom at this place consists of sand and stones. This specimen had been entered up in the registers of the Indian Museum, probably in Alcock's hand, as "*Raninoides personatus* White, variety". It is in a fair state of preservation, but one cheliped and parts of some of the legs are missing. It is a female example, and does not carry eggs.

*Raninoides hendersoni* can be readily distinguished from the other species of the genus by a number of well-marked characters. The carapace is remarkably broad in the anterior half, with a distinct line behind the frontal region, the area between this line and the front being covered over with scaly tubercles and long hairs; there are two deep and broad fissures on each side of the frontal region, between the rostrum and the external orbital lobe, separating a large and prominent tooth-like process on the inner side of the orbit; there is a single spine on the lateral margin; the external orbital lobe is bidentate; the cheliped has the arm and wrist covered with squamiform granules on the outer aspect; and the hand has a single spine about the middle of its surface. The present species somewhat resembles *R. laevis*<sup>1</sup> (Lat.), and its variety *lamarcki* Bouvier,<sup>2</sup> in the shape of the fronto-orbital border, but the fissures in the present case are considerably broader. Further in *R. laevis* the spine on the lateral border of the carapace is very large; there is no line on the carapace connecting the lateral spines of the two sides; and the form of the hand is altogether different. In *R. nitidus* M.-Edwards,<sup>2</sup> there are two spines on each antero-lateral border; there is only one fissure on each side on the fronto-orbital border; the external orbital spine is very large; there are clear indications of the regions on the carapace; and the hand is very different in shape. In Milne-Edwards' *R. fossor*<sup>2</sup> the rostrum is somewhat serrated, and the fissures on the fronto-orbital border of the carapace appear as insignificant sutures only. The nearest ally of *R. hendersoni* seems to be *R. personatus* Henderson, but the two may be distinguished by the fact that in Henderson's species the carapace is proportionately longer than broad (Plate III, fig. 2), the frontal fissures are narrower, and the median lobe is squarish; there is no line behind the frontal region; the first abdominal somite is much narrower; the spine on the outer border of the hand is more terminal in position; and the fixed finger is more broadened out at the base (Plate III, fig. 2a).

<sup>1</sup> Milne-Edwards, *Hist. Nat. Crust.* II, pp. 197, 198 (1837); Desmarest, *Consider. Gén. Crust.*, pl. 19, fig. 2 (1825).

<sup>2</sup> Milne-Edwards and Bouvier, *Mem. Mus. Comp. Zool. Harvard* XLVII, pp. 298-300, pl. i, figs. 8-10, pl. ii, figs. 1-5, pl. iii, fig. 1 (1923).



TEXT-FIG. 1.

Sternal shield of a. *Ransinoidea personatus* Henderson, b. *Ransinoidea hendersoni*, sp. nov., and c. *Ransinoidea serratifrons* Henderson. All the figures are from female specimens, and are drawn to different magnifications but show the same length of the shield. In the narrowing of the posterior ends of the second and third pieces of the shield *R. hendersoni* (fig. b) shows an intermediate condition between *R. personatus* (fig. a) and *R. serratifrons* (fig. c)

The second species that Henderson described under the name of *Raninoides serratifrons*<sup>1</sup> (Plate III, figs. 3, 3a) has still to be considered. This species, according to Gilbert Bourne,<sup>2</sup> is not a member of *Raninoides* at all, but should be included in his new genus *Notosceles*. Bourne's new genus differs from *Raninoides* "in the proportions of the carapace, the shape of the rostrum, the lesser width of the fronto-orbital region, the larger corneae of the eyes, the proportions of the antennal peduncles, and in other characters, but especially in the relatively much greater width of the base of the abdomen, and the proportion and shape of the sternal shield." Another important character mentioned by Bourne is that in *Notosceles* the merus of the third maxilliped is little more than half as long as the ischium, while in *Raninoides* it is only a little shorter than the ischium. The difference in the sternal shield mentioned by Bourne lies in the fact that in *Notosceles* the second and the third pieces are narrowed posteriorly, so that the bases of the first and the second pereopods are approximated to the middle line; in *Raninoides* these pieces are broad posteriorly and, therefore, the bases of the two first legs, are placed far apart from the middle line. All these characters mentioned by Bourne are no doubt present in his species *Notosceles chimmonis*, but some of them do not appear to be applicable to Henderson's *R. serratifrons*. Further the new species described in this paper shows a number of characters that are clearly intermediate between those of *R. serratifrons* and of a typical *Raninoides*, like *R. personatus*. The proportion between the length of the carapace and its breadth is practically the same in *R. serratifrons* and *R. personatus*, and there is no material difference between the proportion of the merus and ischium of the third maxilliped either. The fronto-orbital border is no doubt shorter as compared with the breadth of the carapace in *R. serratifrons* than in the species of *Raninoides*, but the sutures and lobes, etc., on this margin are similar to those of *R. hendersoni*, and to some extent to those of *R. laevis*. Regarding the width of the base of the abdomen there is a very marked difference between *R. serratifrons* and *R. personatus*, but in this respect, as the accompanying illustrations (Plate III, figs. 1, 2 and 3) show, *R. hendersoni* appears to be clearly an intermediate form, and bridges very considerably the difference between the two. The one great difference between *R. serratifrons* and the other species of *Raninoides*, apart from the shorter fronto-orbital border, is in the sternal shield, but even in this character the new species shows signs of approximating towards the condition found in *R. serratifrons*. From the accompanying illustration (text-figure 1) it is clearly seen that in the narrowing of the second and the third pieces of the sternal shield *R. hendersoni* is an intermediate species between *R. serratifrons* (and possibly *Notosceles chimmonis* Bourne also) on the one hand, and the other typical species of *Raninoides*, like *R. personatus*, on the other. All these considerations have led me to the opinion that Henderson's *R. serratifrons* does not show sufficiently important differences from the other species of *Raninoides* to justify its separation into another genus, and that in all probabilities Bourne's *Notosceles* will have to be sunk in the synonymy of *Raninoides* Milne-Edwards.

<sup>1</sup> Henderson, *Journ. Linn. Soc. London (Zool.)*, V, pp. 408, 409, pl. xxxviii, figs. 10-12, (1893)

<sup>2</sup> Bourne, *Journ. Linn. Soc. London (Zool.)*, XXXV, pp. 73-75 (1922).

EXPLANATION OF PLATE III.

*Raninoides hendersoni*, sp. nov.

- FIG. 1.—Dorsal view of carapace and first abdominal somite :  $\times 4$ .  
FIG. 1a.—Right cheliped, further enlarged.

*Raninoides personatus* Henderson.

- FIG. 2.—Dorsal view of carapace and first abdominal somite :  $\times 4$ .  
FIG. 2a.—Right cheliped of another specimen, further enlarged.

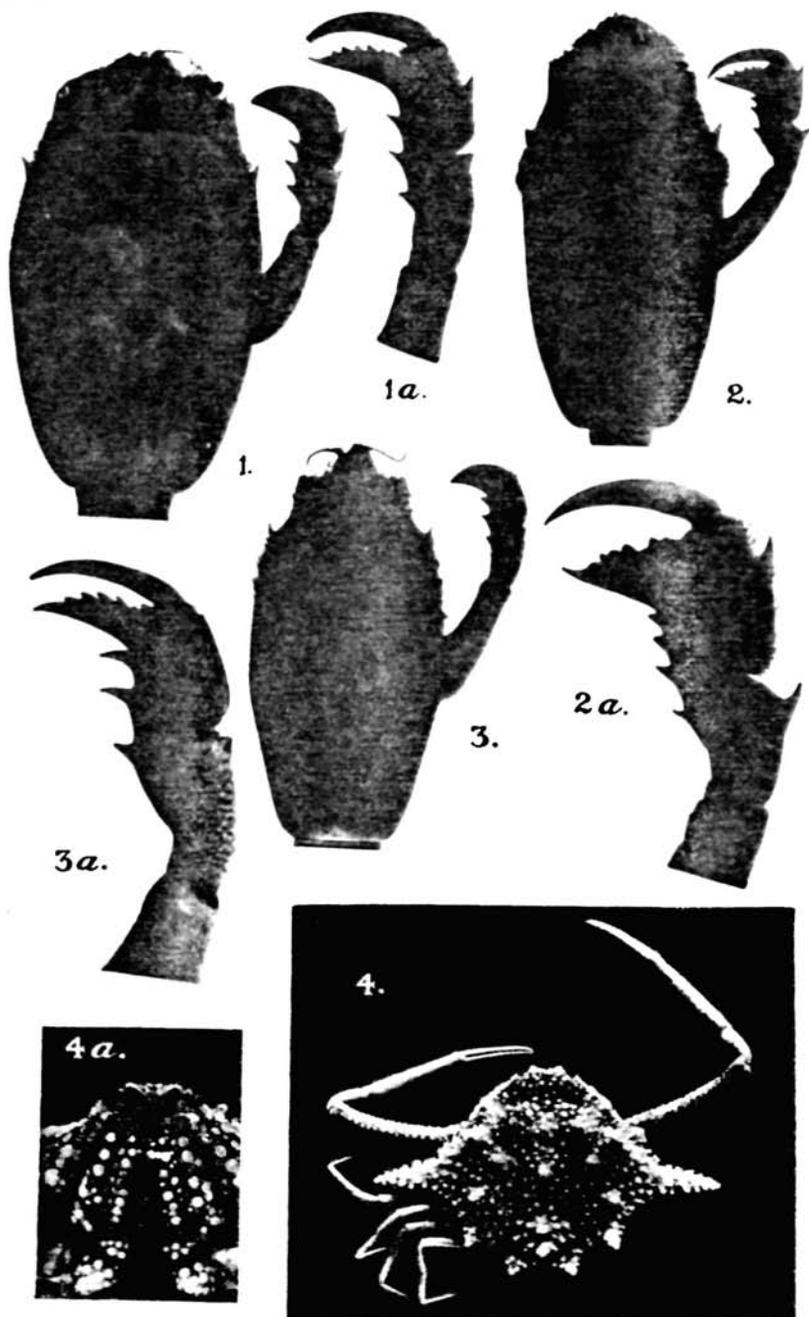
*Raninoides serratifrons* Henderson.

- FIG. 3.—Dorsal view of carapace and first abdominal somite :  $\times 4$ .  
FIG. 3a.—Right cheliped, further enlarged.

*Ixa investigatoris*, sp. nov.

- FIG. 4.—Dorsal view :  $\times 4$ .  
FIG. 4a.—Buccal cavern, further enlarged.





Sebold Photo.