

## THE OXYSTOMATOUS CRABS OF THE BARUNA EXPEDITION

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### INTISARI

Dari hasil koleksi Brachyura dari Ekspedisi BARUNA, Oxystomata merupakan golongan Jang paling sedikit dikumpulkan.

empatbelas species, diantaranya dua jang masih belum diketahui nama speciesnja, telah dipeladjari dan disusun dalam karangan ini.

Meskipun sedikit djumlah speciesnja tetapi ternjata banjak diantaranya jang perlu mendapat penelaahan jang lebih mendalam untuk menentukan kedudukan mereka jang tepat. dalam taksonomi.

### ABSTRACT

Oxystomata constitutes the smallest number of species among the Brachyura collected during the BARUNA EXPEDITION.

Fourteen species, among which of two the identification is doubtful, have been studied and included in this paper.

Though only few species recorded, many of them are to be more closely studied to ascertain their true position in taxonomy.

### INTRODUCTION

The records on the crabs of the eastern Indonesian waters have been published by many authors such as DEMAN (1902), BALSS (1910), IHLE (1918), GORDON (1934) BUITENDIJK (1939) and others, after which no other new records on the crabs of this area have been published.

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Oxystomata represent only a small group in the collection, of which 12 species and 2 doubtful ones are described. Many of them are interesting and need a special study to ascertain their correct names.

The illustration of the first male pleopods is made in two ways, i.e. by drawing straight under the lens and by pressing and preparing them before being drawn.

Tribe OXYSTOMATA de Haan.  
Family DORIPPIDAE Dana.  
Genus *Dorippe* Fabricius.  
*Dorippe dorsipes* (Linnaeus).

*Dorippe dorsipes*, Alcock, 1896, p.277; Rathbun, 1911, p.197; Ihle, 1918, p.148; Balss, 1922, p.119; Shen, 1931, p.98, text-figs 5 - 7, pl. 5 : figs 1 - 2.; Chopra, 1933, p.50; Sakai, 1937, p.73, pl. X, fig.4; Barnard, 1950, p.390, fig. 73, a - c.

Material : 1 ♀ S.E. coast of Komodo Isl, 28 - v - 1964; carapace 29,50 mm long and 22 mm wide.

Family CALAPPIDAE Dana,  
Genus *Calappa* Fabricius.  
*Calappa hepatica*. (Linnaeus).

*Calappa hepatica*, Alcock, 1896, p.142; de Man, 1902, p.687; Rathbun, 1911, p.197; Ihle, 1918, p.183, fig.80; Gordon, 1934, p.73; Sakai, 1937, p.89; pl. XII, fig.2; Buitendijk, 1939, p.230; Barnard, 1950, p.348, fig.66, a-d; Forest & Guinot, 1961, p.11, figs, 1a, 1b, 2.

This species is the commonest among the oxysiomatous crabs collected by the Baruna Expedition. It is also the commonest species in the genus In Indonesia.

Nineteen specimens were collected.

MATERIAL:	SEX	C.l. C.b.		Locality	Date
		In mm	In mm		
	♀	27	42	Saubi Isl.	13-v-1964
	♂	18	28	Sesiil Isl.	16-v-1964
	♀	38	60	S.E. coast Komodo Isl.	28-v-1964
	♂	32	54	S.E. coast Komodo Isl.	"
	♀	32	51	S.E. coast Komodo Isl.	"
	♀	33	52	S.E. coast Komodo Isl.	"
	♂	17	25	W. coast Djinatu Isl.	31-v-1964
	♂	24	35	W. coast Djinatu Isl.	"
	♀	21	35	W. coast Djinatu Isl.	"
	♂	32	50	Hoga Isl.	6-vi-1964
	♂	36	62	Hoga Isl.	"
	♀	40	61	Hoga Isl.	5-vi-1964
	♂	40	68	Oc.St.71:04°52' 00"S:135°25'00"E	28-vi-1964
	♂	36	58	Oc.St.71:04°52' 00"S:135°25'00"E	"
	♂	35	57	Oc.St.71:04°52' 00"S:135°25'00"E	"

MATERIAL:	SEX	C.l.	C.b.	Locality	Date
		In mm	In mm		
	♂	35	57	Oc.St.71:04°52' 00"S:135°25'00"E	"
	♀	32	47	Oc.St.71:04°52' 00"S:135°25'00"E	"
	♀	25	36	Oc.St.71:04°52' 00"S:135°25'00"E	"
	♀	32	50	Wokam Isl.	"
	♀	23	34	Wokam Isl.	"

c.l. = Carapace length; c.b. = Carapace breadth

#### Genus *Matuta* Fabricius,

*Matuta* is the common genus of the oxystomatous crabs in Indonesian waters, especially in the bottom fisheries regions. The segregation of the genus is still unsatisfactory and unanimous.

MIERS (1876), uses the sculpture of the hand and finger and the coloration of the carapace to separate *Matuta* into nine species whereas ALCOCK (1896) recognizes only three species, I am of course not in the position to decide, since our material is very insufficient.

Two good species and two more doubtful ones are recorded in the collection studied.

#### 1. *Matuta banksii* Leach ( Figure 1a and 2a )

*Matuta banksii*, Miers, 1876, p.245, pl.40, figs.1, 2 and 1880, p.315; de Man, 1888, p.389; Alcock, 1896, p.158; Ihle, 1918, p.185; Balss, 1922, p.125; Gordon, 1934, p.73; Sakai, 1937, p.98, pl.13, fig.2; Buitendijk, 1939, p.231; Barnard, 1950, p.359, fig.67, h - k.

*Matuta picta*, Miers, 1876, p.246, pl.40, fig. 5-7; de Man, 1902, p.685.

*Matuta obtusifrons*, Miers, 1876, p.247, pl.40, figs.8, 9.

First male pleopods are drawn for comparison.

MATERIAL:	SEX	C.l.	C.b.	l.l.s	Locality	Date
		In mm	In mm	In mm		
	♂	30	29	7	Vicinity of Sesiil Isl.	16- v- 1964
	♂	29	29	6	"	"
	♂	34	34	7	Bima Bay	24- v- 1964
	♂	29	28	6	"	"
	♂	19	19	4	"	"
	♂	31	30	9	Hoga Isl.	5- vi- 1964
	♂	35	33	7	Selu Isl.	15- vi- 1964
	♂	31	30	6	"	"
	♂	19	18	3	"	"
	♂	31	31	9	W Side of Selu Isl.	"
	♂	30	30	9	"	"
	♂	33	31	6	Wamar Isl.	30- vi- 1964
	♀	28	26	5	"	"
	♀	28	26	6	"	"
	♀	27	24	6	"	"

MATERIAL:	SEX	C.l.	C.b.	l.l.s	Locality	Date
		In mm	In mm	In mm		
	♂	25	23	5	"	"
	♂	24	22	5	"	"
	♂	24	22	6	"	"
	♀	27	25	5	"	"

Note : l.l.s. = Length of lateral spine

2. *Matuta lunaris* (Forsk.)  
(Figures 1b and 2b)

*Matuta maculata*, Miers, 1876, p.246, pl.40, figs,3 4,

*Matuta victor*, Alcock, 1896, p.160.

*Matuta lunaris*, Stebbing, 1908, p.54; Ihle, 1918, p.185;  
Balss, 1922, p.124; Sakai, 1937, p.100,  
pl.XIII, fig.3; Buitendijk, 1939, p.231;  
Barnard, 1950, p.358, fig.67, 1.

First male pleopod is drawn for comparison.

Material : 0 , 36 mm long, 34 mm broad, 7 mm of lateral  
spine length; Sesiil Isl. 16 - v - 1964,

3. *Matuta* spp.

As no literature is available, identification was  
not feasible. It is certain, however, that our specimens  
are rare ones and may have never been recorded before  
for Indonesia.

a. *Matuta* sp. I. (Plate I, A, B, C, and D)

The carapace is profusely granular on the branchial regions and along the regions parallel to the antero-lateral borders, less so proximally. The six tubercles are distinct, the one on the cardiac region is the most distinct. There are additional tubercles, each on the branchial region close to where usually the postero-lateral eminence is formed,

This tubercles are very minute but distinct on the male, and are very distinct on our small female.

The antero-lateral borders are minutely crenulate. The last three crenulations form three distinct teeth. The posterior and postero-lateral borders form a continuous granular slightly elevated ridge which stops at the place where the eminence is usually formed.

The lateral spine is rudimentary. The front is distinctly wider than the orbit and distinctly bilobed.

Hand with the upper border trilobed, the proximal one being the largest. The lower border dentate as far as the base of the Immobile finger. Below the crest, on the upper side of the hand there are two rows of granules. The upper row is irregular and the lower one is regular, consisting of 5 teeth or granules. Below this there is a strongly milled ridge extending from the proximal end to the middle of the base of the mobile finger. In the small female specimen this ridge is formed by 5 united teeth, the second from the proximal end being the largest. Below this two rows of molariform tubercles cover the rest of the outer surface to the lower border.

The carpus of the pinultimate legs are full and single-carinate.

The rudimentary lateral spine seems to connect this species with *M. enermis* Miers as mentioned by ALCOCK (1896) in his key of *Matuta*.

The first male pleopod (figures 1d and 2d) is similar in its cluster of hairs to that of *M. lunaris* but differs considerably in form from that species.

Material ; ♀ 20 mm long; 19 mm broad, 04°52'00"S,  
135°25'00"E, 28 - vi - 1964.  
♂ 30 mm long; 30 mm broad, 04°52'00"S,  
135°25'00"E, 28 - vi - 1964.  
♂ 32 mm long; 33 mm broad, 04°52'00"S,  
135°25'00"E, 28 - vi - 1964.

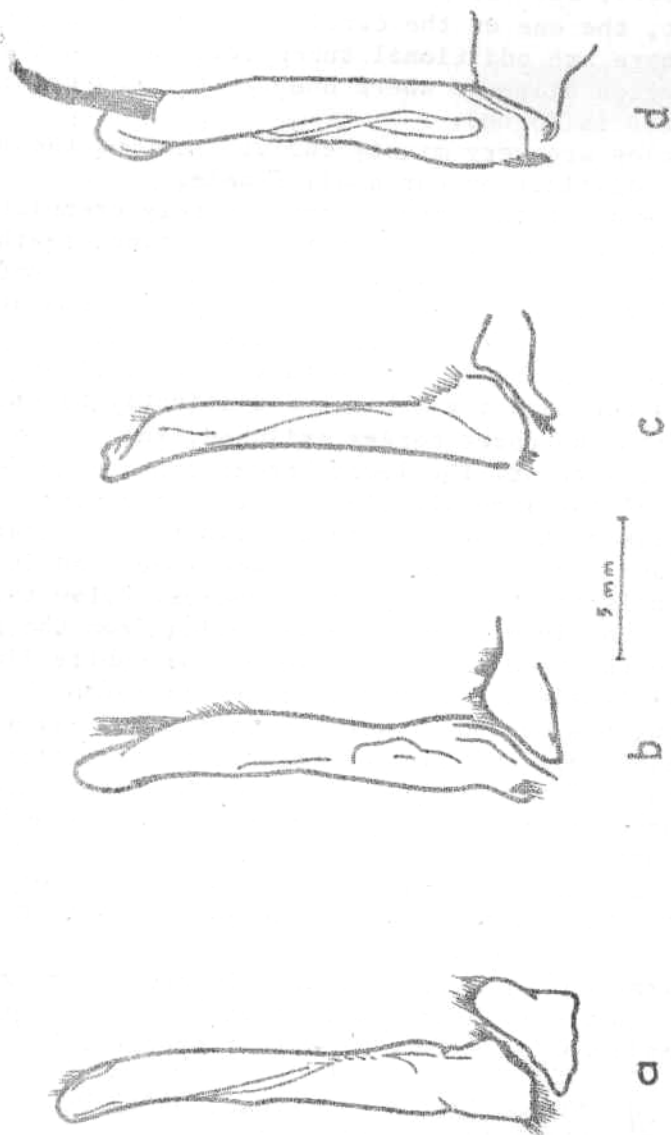


Figure I  
The right first male pleopods of  
a. *Matuta banksii*, b. *Matuta lunaris*,  
c. *Matuta sp. II*, d. *Matuta sp. I*.

b. *Matuta* sp. II. (Plate I, E and F).

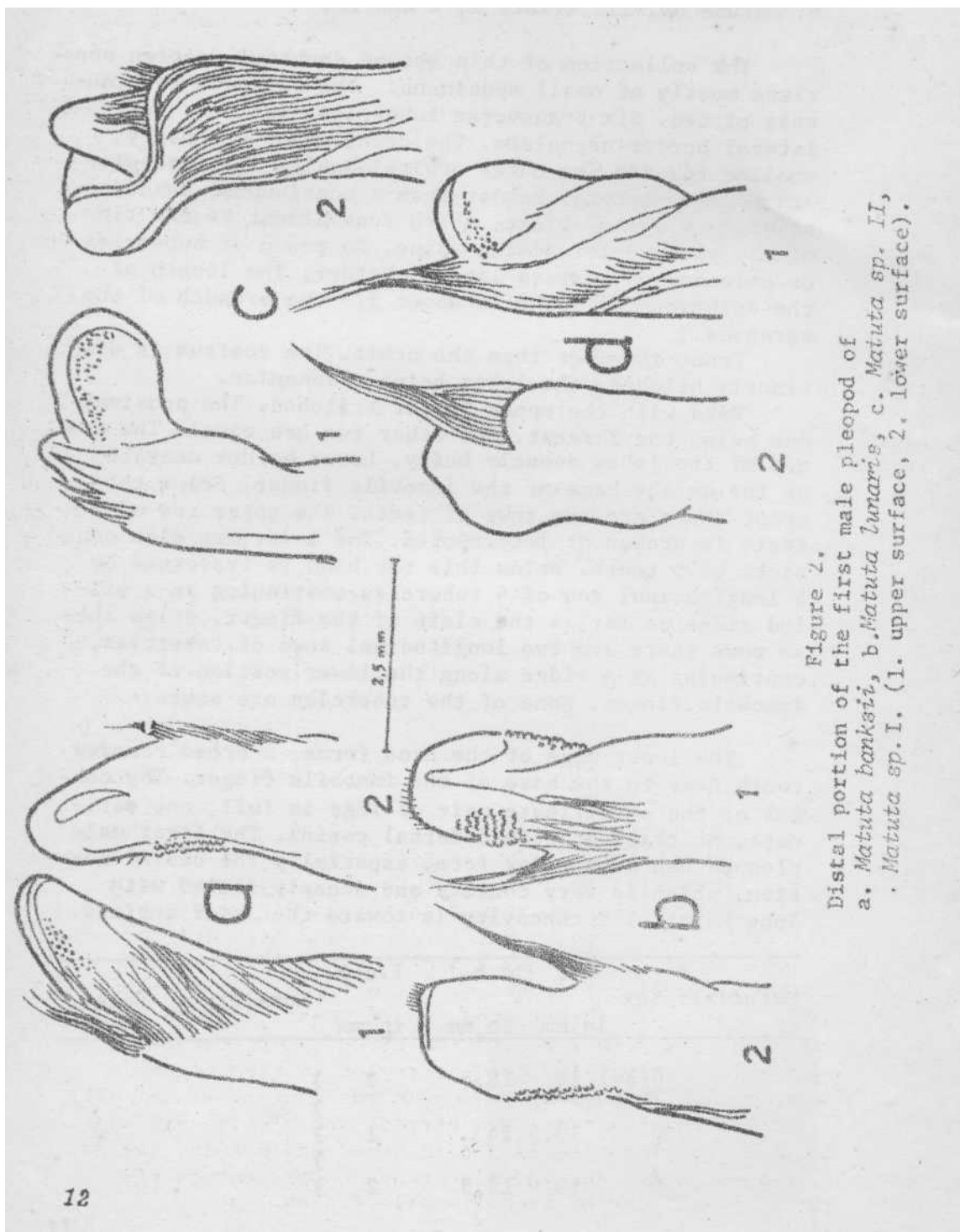
The collection of this second doubtful species consists mostly of small specimens. The carapace is minutely pitted. Six transverse tubercles distinct. Antero-lateral border crenulate. The crenulation gradually smaller towards the outer orbital angle. The posterior and postero-lateral border form a continuous, beaded, strongly elevated ridge, which runs almost to the tip of the small epibranchial spine. No trace of tubercles or eminence on portero-lateral border, The length of the epibranchial spine is about 1/9 the breadth of the carapace.

Front is wider than the orbit, The rostrum is distinctly bilobed, the lobes being triangular.

Hand with the upper border trilobed The proximal one being the largest. The other two are equal. The edges of the lobes densely hairy. Lower border dentate as far as the base of the immobile finger. Below the crest there are two rows of teeth. The upper row of 5 teeth is broken or interrupted. The lower one also consists of 5 teeth. Below this the hand is traversed by a longitudinal row of 4 tubercles continuing in a milled ridge as far as the cleft of the finger. Below these rows there are two longitudinal rows of tubercles, continuing as a ridge along the lower portion of the immobile finger. None of the tubercles are acute.

The lower edge of the hand forms a broad rounded tooth near to the base of the immobile finger. The carpus of the penultimate pair of legs is full, one carinate, no trace of second dorsal carina. The first male pleopod has a peculiar form, especially the distal portion, which is very concave and densely filled with long hairs. The concavity is toward the lower surface.

Material	Sex	c.l.	c.b.	l.s.l	Locality	Date
		In mm	In mm	In mm		
	♀(ov)	18	18.5	2 )		
	♀	13.5	14	1 )		
	♂	19	19.5	2 )		



Material	Sex	c.l.	c.b.	l.s.l	Locality	Date
		In mm	In mm	In mm		
	♀	17	17.5	2	04°52'00"S; 135°25'00"E 70 m deep	28-vi-1964
	♂	24	24.5	2		
	♂	13	14.5	1.5		
	♀	13	13.5	1.5		
	♂	20	21	2		
	♂	23	24	2.5		

Family LEUCOSIIDAE Dana.

Genus *Oreophorus* Ruppell

Subgenus *Oreophorus* Ruppell

*Oreophorus (Oreophorus) rugosus* Stimpson. (Plate II figure A).

*Oreophorus (Oreophorus) rugosus*, Ihle, 1918, p.212, fig. 121; Sakai, 1937, p.117; Serene, 1954, p. p.468, fig.3 :2, 3, 4 and fig.4 : a, b, pl.8

Carapace transversely subelliptical, broader than long, the length-width proportion being 1 : 1.33. The upper surface is rugose and eroded, covered with mushroom like granules appearing to the naked eye as the surface of rough rocky coral. Along and parallel to the antero-lateral border is a broken and eroded groove. Along and parallel to the postero-lateral border is a more broken and interrupted groove separating the cardiac and intestinal regions on either side from the branchial region. The cardiac region is strongly convex, but the branchial region is the most convex of all.

The chelipeds are symmetrical and also tugosa and eroded. The immobile finger is broad and bending inward. A line of close-set and flat granules present on the inner lower edge of each immobile finger.

The dactylus is slender and curved. The ambulatory legs have a coarse surface, similar to that of the others.

The female abdominal formula is 2 + 3 + R + T. The first segment being concealed. There are two rows of interrupted shallow grooves along the middle line continuing into lateral edges of the last abdominal segment.

IHLE (1918) has given a detailed description of the adult specimen of this species in comparison with the young one.

SERENE's excellent figure (1954, fig. 3 : 4, p.472) is identical with our specimen.

Material : ♀ 9 mm long; 12 mm broad, North-West coast of Larat Island, 22 - vi - 1964.

Genus *Arcania* Leach.

1. *Arcania undecimspinosa* de Haan  
(Plate II figure B).

*Arcania undecimspinosa*, Bell, 1855, p.309; Alcock, 1896, p.266; Balss, 1922, p.132; Shen, 1931, p.107, pl.10, fig. 1; Sakai, 1937, p.133, pl.XIV, fig.2.

Carapace distinctly longer than broad. Surface evenly and distinctly granulated, the granules sharpish. Eleven spines present on various parts of the body, arranged as follows: one on each pterygostomial region, three on each branchial margin, two on the posterior margin and one on the intestinal region. The anterior spine on the branchial margin is the smallest of all.

Front with two spinous lobes.

In many cases the description of ALCOCK (1896) agrees with the specimen. The granules extend to the spines and the most anterior spines are not the smallest of all.

In some points (carapace measurement and first male pleopod) the specimens agree with *Arcania undecimspinosa* var. *elongata* Yokoya, but in other points they agree more with *A. undecimspinosa* (figure.3,)

The inclusion of our specimens into var. *elongata* needs confirmation.

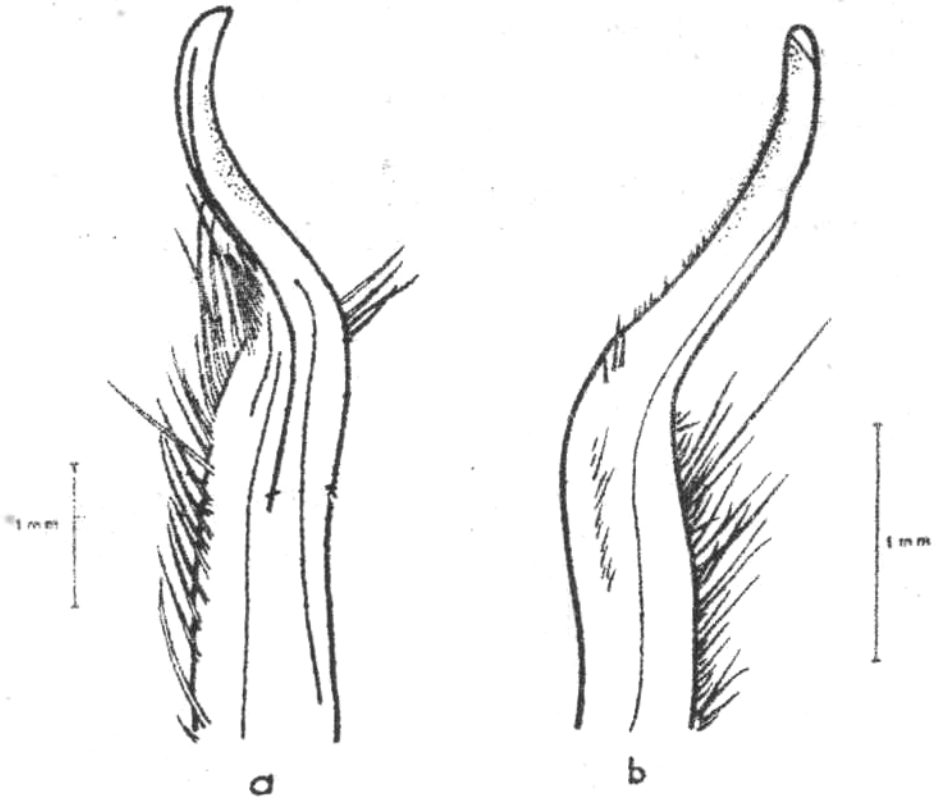


Figure 3.

The first male pleopod of *A. undecemspinosa* as compared to that of *A. undecemspinosa* var. *elongata* of Sakai (1937).

Material : 2 ♂♂ 21 mm long; 19 mm broad, 04°52'00"S; 135°25'00"E at a depth of 70 m., 28-vi-1964. 19 mm long; 15 mm broad, 04°52'00"S; 135°25'00"E at a depth of 70 m. 28 - vi - 1964.

3. *Arcania erinaceus*  
(Fabricus)

( Plate II figure C ).

*Arcania erinaceus*, Bell, 1855, p.309; Alcock, 1896, p.268; Balss, 1922, p.133; Chopra, 1933, p.44; Sakai, p.126.

Two specimens are damaged due to mishandling, for-

tunately after being identified and photographed.

Material : 2 ♀♀ unmeasured, 04°52'00"S; 135°25'00"E at 70 m deep, 28 - vi - 1964.

Genus *Pandalia* Stimpson.

*Randalia eburnea* Alcock.

*Randalid eburnea*, Alcock, 1896; p.197; Ihle, 1918, p.246; Sakai, 1937, p.132, fig.22,

Two full-grown male specimens agree completely with the description of SAKAI (1937). The length of the chelipeds being: more than three times as long as the carapace as stated by the original author.

One of the specimens has the distal part of the exopodite of the external maxillipeds pubescent.

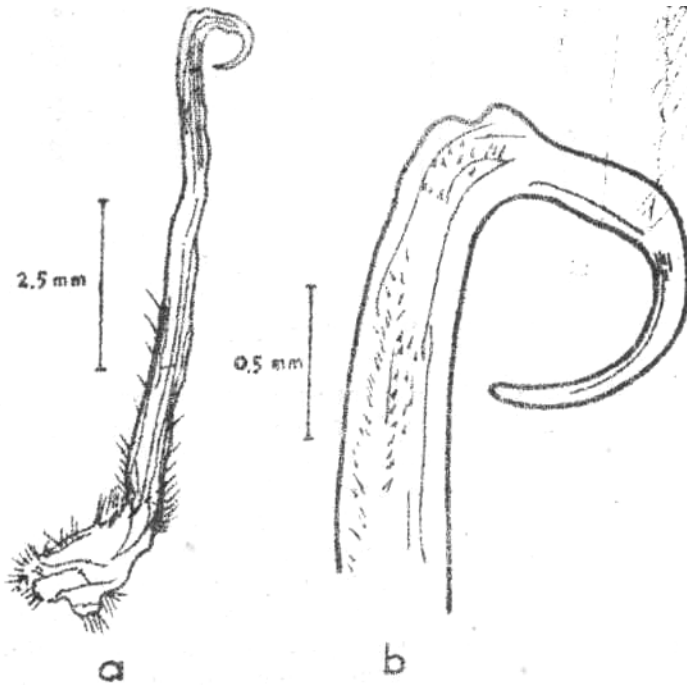


Figure 4.

The first male pleopod of *Randalia eburnea* Alcock.  
a. left pleopod, b. distal portion.

The first male pleopod of this species has a specific form. The distal portion being markedly bent and hooked ( fig. 4 ).

Material : 2 ♂♂ : 17.5 mm long; 18 mm broad, length of cheliped 59 mm; 04°52'00"S; 135°25'00"E, 70 m deep, 28 - vi - 1964. 16 mm long; 16.5 mm broad, length of cheliped 51 mm; 04°52'00"S: 135°25'00"E, 70 m deep, 28 - vi - 1964.

Genus *Myra* Leach

1. *Myra fugax* (Fabricius).

(Plate 2, figure C ).

*Myra fugax*, Bell, 1855, p.296; Miers, 1884, p.13; Alcock, 1896, p.202; Ihle, 1918, p.256; Balss, 1922, p.127; Calman, 1926, p.212; Shen, 1931, p.108 pl.10 fig.2; Chepra, 1933, p.39, fig. 3; Sakai, 1937, p.134, pl.XIV, fig.5; Buitendijk, 1939, p.229; Barnard, 1950, p.373, fig.71 d.3; Serene, 1955, p.182, fig.7 : 1, 2, 3, 4, 5, 6..

*Myra carinata*, Bell, 1855, p.297. pl.XXXII, fig.3; Miers, 1880, p.316.

*Myra punctata*, de Man, 1888, p.205.

*Myra penthacantha*, Alcock, 1896, p.204; Serene, 1955, p.189, fig.7 :4, 5; pl.10, fig,2

*Persephona fugax*, Rathbun, 1911, p.201; Laurie, 1915, p. 428.

Among the specimens examined there are two which are included into young *Myra fugax*. Those specimens conform with Alcock's (1896) description of *W. penthacantha*. Though he identified his specimens as young *Myra fugax*, but SERENE (1955) keeps his specimens as a separate species under *Myra penthacantha*.

Compared to SERENE's figure (fig. 7 : 5, p. 191) we consider that our specimens belong to young *Myra penthacantha*. But the first male pleopods of all the specimens examined do not conform with our consideration. Enough material is needed to confirm the position of the species.

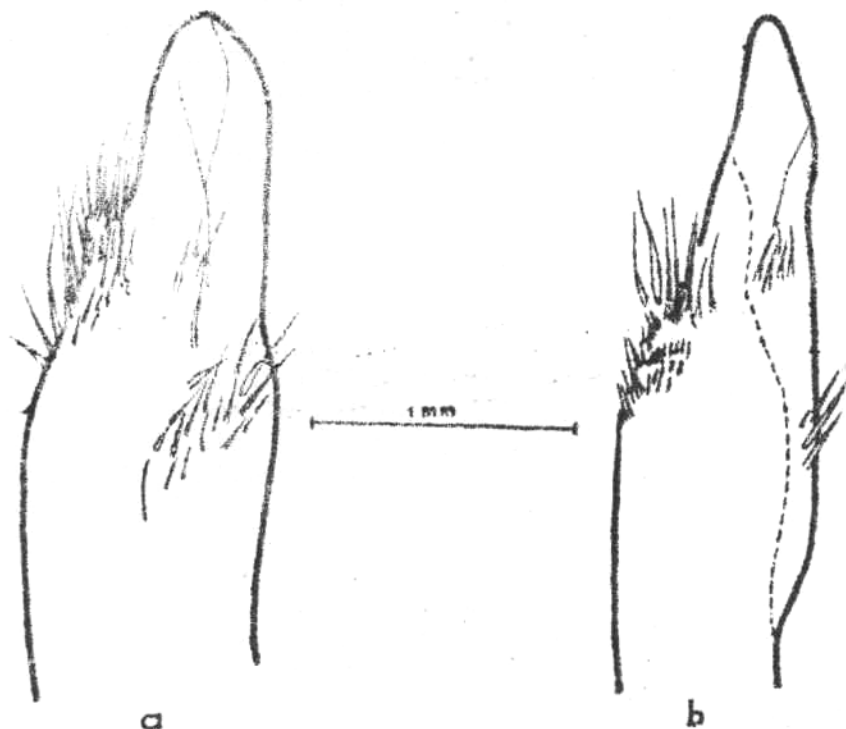


Figure 5.

The first male pleopods of *Myra fugax* Leach and their distal portions; a.adult,b.young.

Fringes of hairs along the Inner part of the opposed edges of the external maxillipeds are present in our specimens, as was the case with the specimens of IHLE(1918), CHOPRA (1933) and BUITENDIJK (1939).

Material : ♂ : 23 mm long, 18 mm broad; 04°52'00"S,  
135°25'00"E, 70 m deep,  
28 - vi - 1964.

16 mm long, 15 mm broad; 04°52'00"S;

- 135°25'00"E, 70 m deep,  
28 - vi - 1964.
- 15 mm long, 14 mm broad; 04°52'00"S;  
135°25'00"E, 70 m deep,  
28 - vi - 1964.
- 19 mm long, 16 mm broad; 04°52'00"S;  
135°25'00"E, 70 m deep,  
28 - vi - 1964.
- ♀ : 21 mm long, 18 mm broad; 04°52'00"S;  
135°25'00"E, 70 m deep,  
28 - vi - 1964.
- 21 mm long, 17 mm broad ; 04°52'00"S;  
135°25'00"E, 70 m deep,  
28 - vi - 1964,
- 19 mm long, 15 mm broad ; 04°52'00"S;  
135°25'00"E, 70 m deep  
28 - vi - 1964
- 17 mm long, 15 mm broad; 05°49'30"S;  
137°07'30"E, 47.5 m deep,  
28 - vi - 1964.(young).

2. *Myra kessleri* (Paulson),  
(plate 2 figure D).

*Myra darnleyensis*, Alcock, 1896 p.207.

*Persephona darnleyensis*, Rathbun, 1911, p.201.

*Myra kessleri*, Ihle, 1918, p.260, fig,139: Buitendijk,  
.1939, p,228; Serene, 1955, p.192,fig.8,  
pls, 10: 3 and 11 : 1, 2, 3, 4,

Ihle (1918) describes (a large and full-grown female specimen, 17 mm long, without median spine) the three lobes of the posterior border as follows:

" Jeder seitliche Fortsatz am hinteren Rand 1st stumpfwinklig mit abgerundeter Spitze. Der mediane Fortsatz (zur intestinal Region gehorend) ist schmaler als die seitlichen Fortsatze und ungefahr rechtwinklig mit kaum abgerundeter Spitz".

lie further says for his young specimens, that: the form of the bind lobes rather differs from the description of *M darnleyensis*. The side lobes of the female specimen from station 313 examined by IHLE (1918) are

Half-cruciform, while the median remains short but more spine-like. He places the specimen as Intermediate form between var. *acutidens* (the specimen from station 260) and the typical form. Our single female specimen does not conform with Ihle's material, but It conforms with the description of ALCOCK (1896), like the two specimens of SERENE (1955),

The three petaloid lobes of the posterior border are almost in the same level (fig.6).

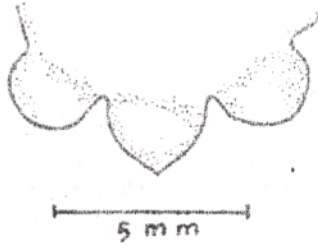


Figure 6. Hind lobes of *M. kessleri* ( Paulson ).

They are flat, semicircular or feebly triangular. The median lobe is a little larger and more triangular than the two side lobes.

Material : ♀ 20 mm broad, 19 mm long without median lobe; 04°52'00"S, 135°25'00"E; 70 m deep, 28 - vi - 1964.

Genus *Ixoides* McGilchrist,

*Ixodes cornutus* McGilchrist

( Plate 3, figure A ).

*Ixodes cornutus*, Ihle, 1918, p.314 (list only); Gordon, 1931, p.530, fig.7; Sakai, 1937, p.137, pl.XIX, figs, 1-4.

It conforms with the description of SAKAI (1937) except that the exognath of our specimen is not very small, but rather moderately sized.

The tubercle on the middle of the convex intestinal region is very prominent.

The length of the lateral spines is more than 1/4 the breadth of the carapace, they are patent and taper into acute points.

The granulations, except those described by SAKAI (1937), are present on the distal border of the frontal lobes, on the border of the outer wall of the branchial channels and on the base of the lateral spines; the granules are close-set.



The first male pleopod is slender and of good length with its tip cut open (see GORDON 1931, fig. 7, p. 530).

Figure 7.  
Right first male pleopod of  
*Ixoides cornutus* McGilchrist.

Material: ♂ 22 mm long, 26 mm broad; length of lateral spine 9 mm; 04°52'00"S, 135°25'00"E, 90 m deep, 28 - vi - 1964.

### Genus *Leucosia* Fabricius.

*Leucosia longifrons* de Haan  
(Plate 3, figure B, C and D).

*leucosia urania*, Bell, 1855, p.283; de Man, 1888,p.197,  
*Leucosia longifrons*, Bell, 1855, p.284; Alcock,  
1896,p.217; Balss, 1922, p.128;  
Sakai, 1937, p.142, pl. XV,  
fig,1.

The descriptions of ALCOCK (1896) and SAKAI (1937) fit our specimens. But there is a row of brown hairs along the border of each ischium continuous halfway to each merus of the external maxilliped, in our two female specimens. This is not mentioned by both authors. SAKAI (1937), however, in the description of his new species, *L. formosensis* Sakai, mentions the above character besides the presence of tubercle or tooth on each, ischium which is mentioned also by ALCOCK (1896),

In many aspects our female specimens agree with *L. formosensis* Sakai, especially that of the granulation. But the front, the distal portion of the arm (as represented in plate XV, fig.2 and not in text-fig. 27) and the coloration are different.

SAKAI (1937) compares the species with *L.haswelli*, Miers, but it is believed that *L.formosensis* is closer to *L. longifrons*. Unfortunately his type specimen is female and there has been no other confirmation of SAKAI. (1937) to strengthen his new species. Dimorphism and form variation in *L.longifrons* may be responsible for Sakai's new species.

Material : ♂ 20 mm long, 16 mm broad; S. part of  
Satengar Isl. 20 - v - 1964.  
♂ 17 mm long, 25 mm broad.; S. part of  
Satengar Isl. 20 - v - 1964.  
♀ 21 mm long, 19 mm broad; S.E. part of  
Komodo Isl. 21 - vi - 1964,  
♀ 20 mm long, 18 mm broad; N. part of Larat  
Isl, 21 - vi - 1964  
♂ 1.9 mm long, 15 mm broad; N. part of Larat  
Isl. 21 - vi - 1964

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