Marine Inv.



Crusta. Alcock, Alfred

"Investigator"

Illustrations of the Zoology of

pt. 1. pl. 1-5.

# EXPLANATION OF PLATES.

---

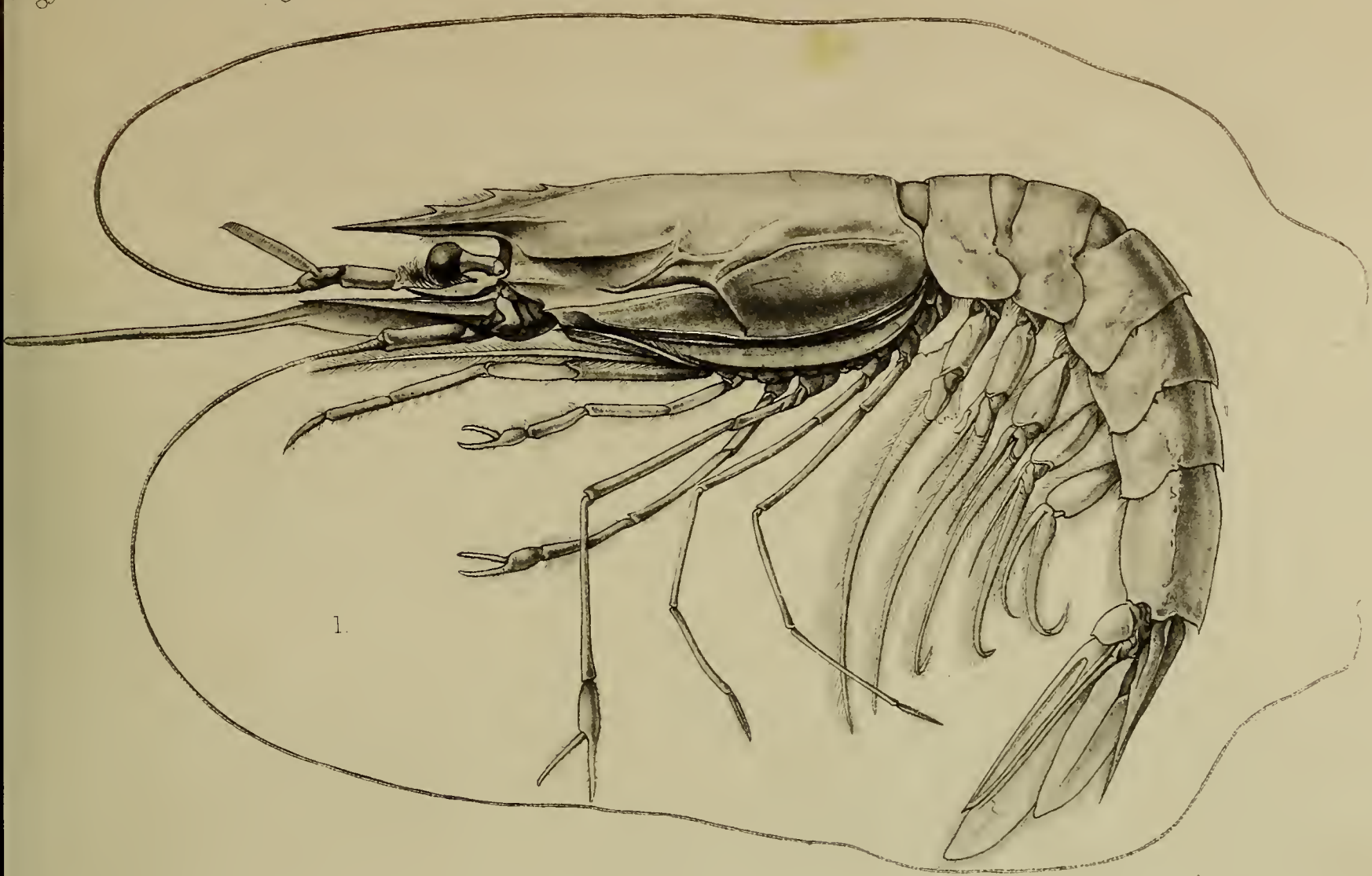
## CRUSTACEA,

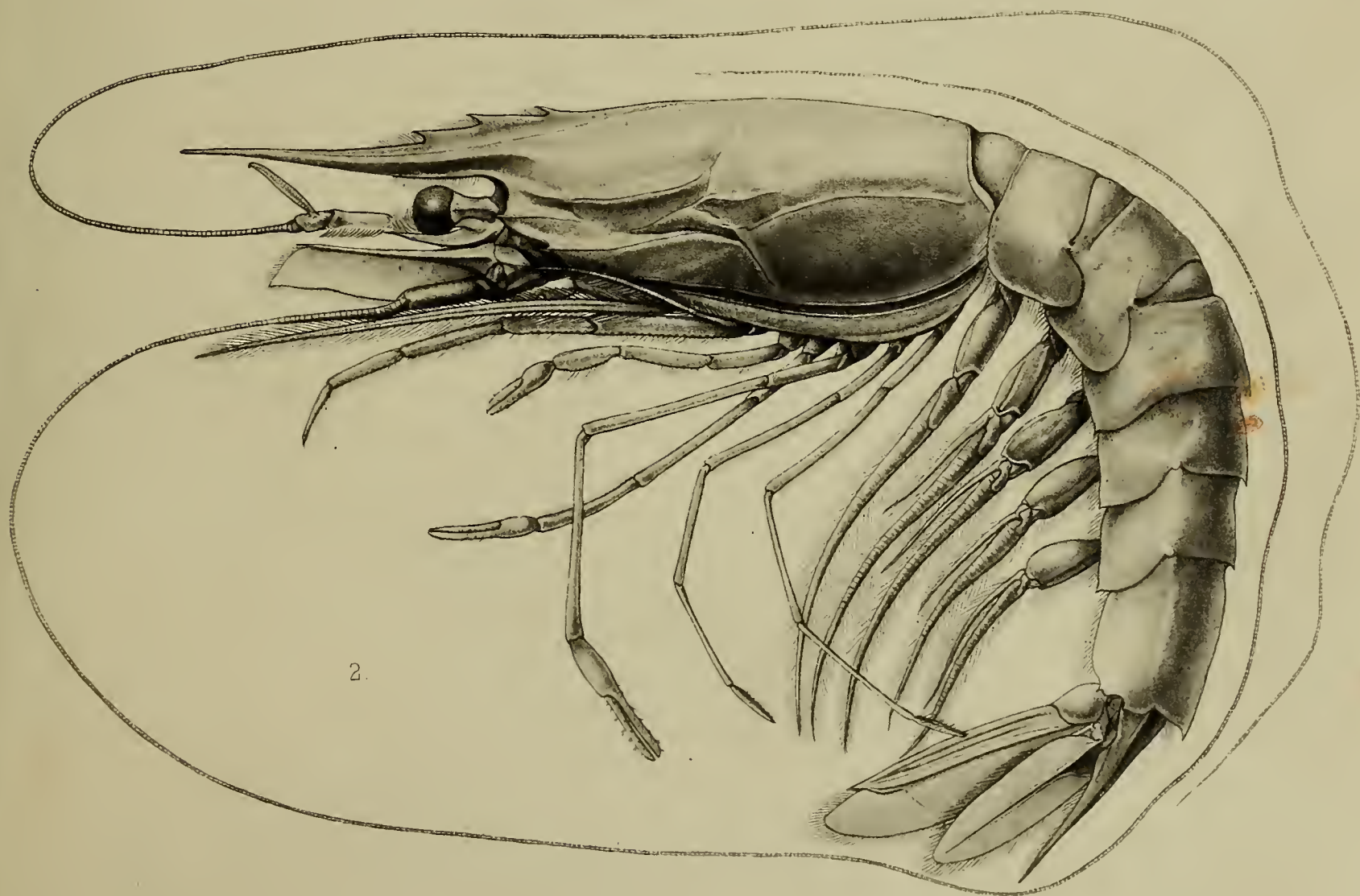
[UNDER THE DIRECTION of J. WOOD-MASON.]

### PLATE I.

***Fig. 1.***—*Aristæopsis Edwardsiana*, (Johnson), ♂.

***Fig. 2.***—*Aristæopsis Edwardsiana*, (Johnson), ♀, Annals and Magazine of Natural History, October, 1891, pp. 283 to 285.




1. Aristæopsis Edwardsiana, (Johnson.) ♂.
2. " " " ♀.

A.C.Chowdhary, del.

Photo-etching from the original drawings - Survey of India Offices, Calcutta, August 1892.

## EXPLANATION OF PLATES.

---

# CRUSTACEA,

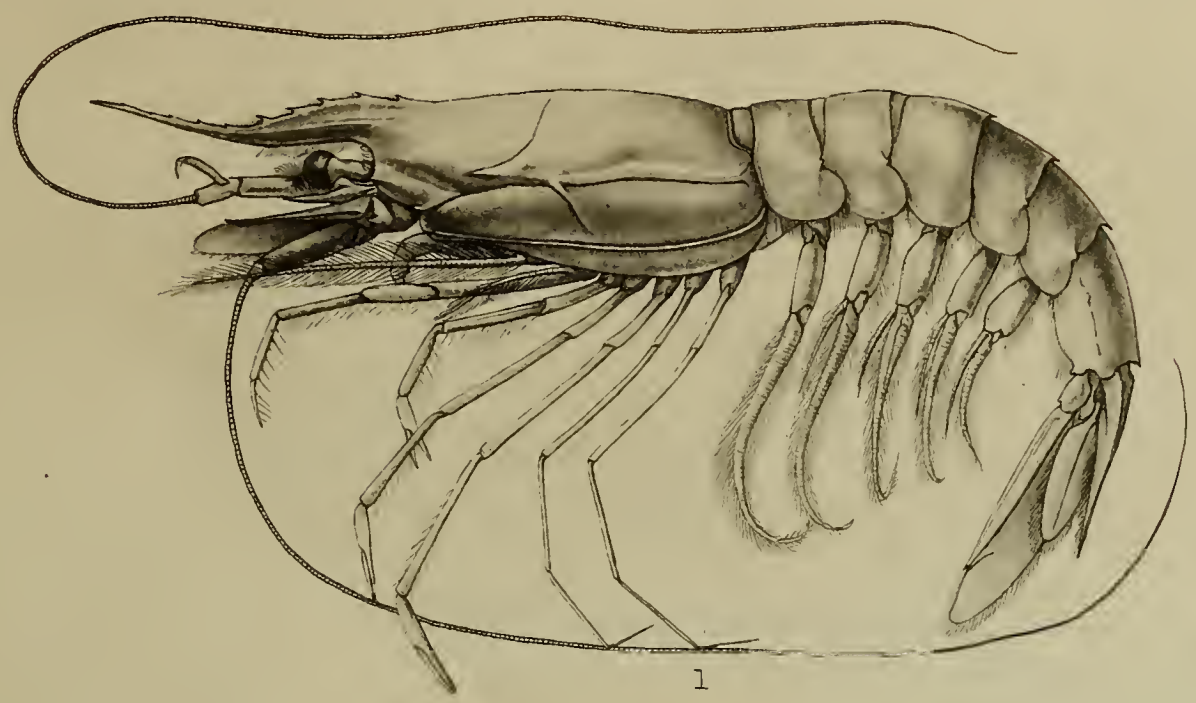
[UNDER THE DIRECTION of J. WOOD-MASON.]

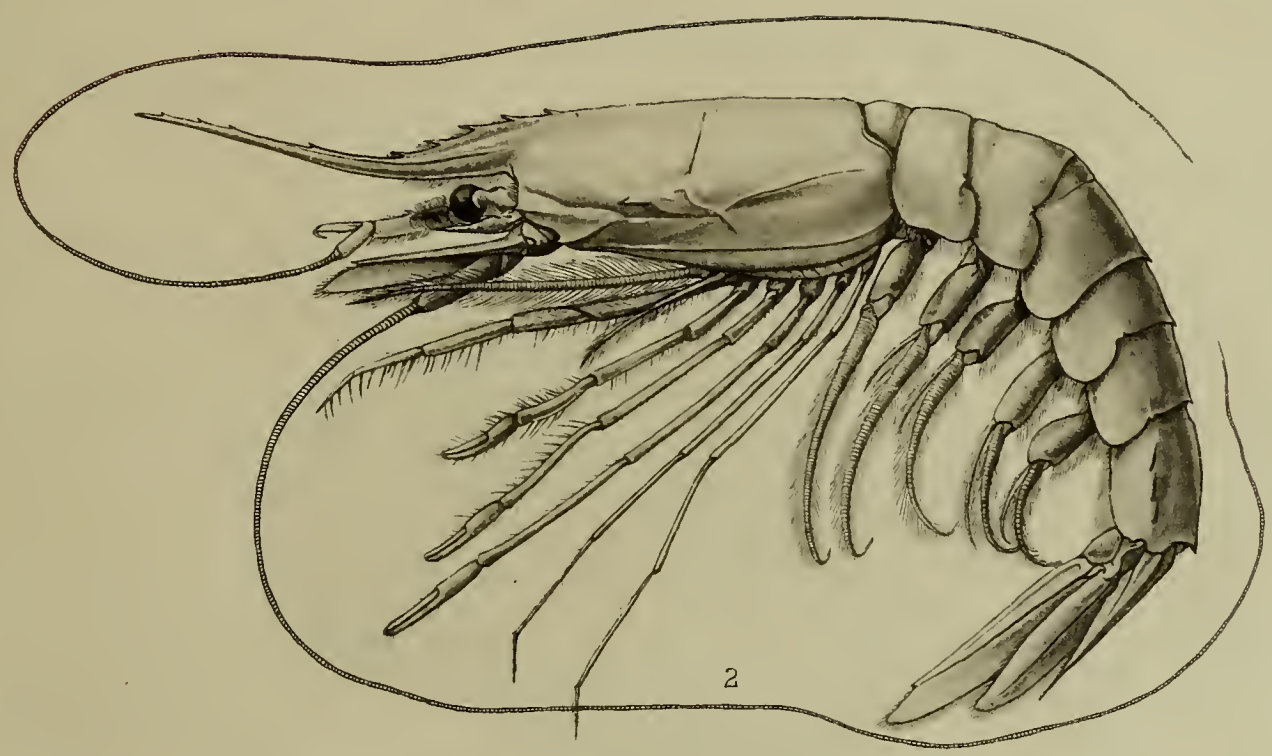
### PLATE II.

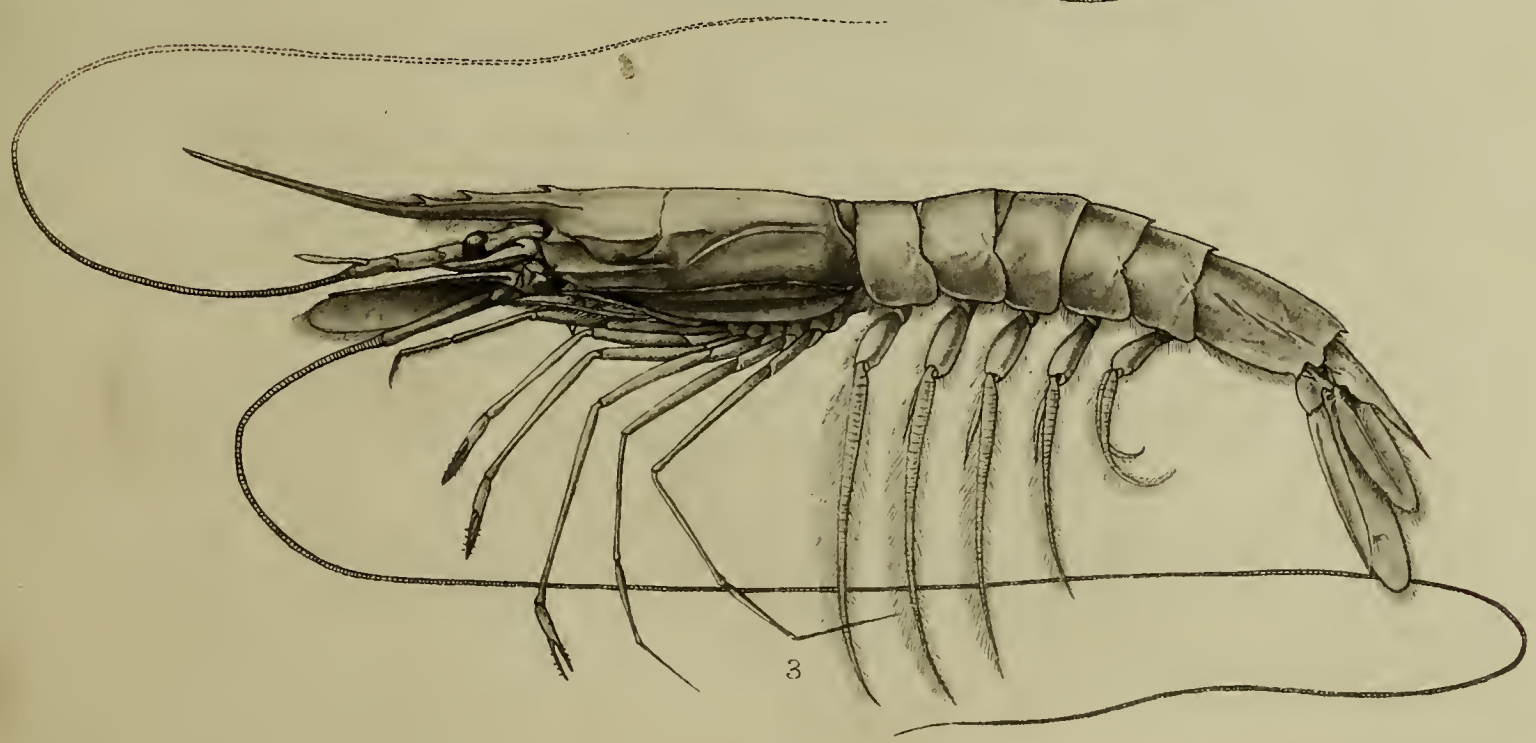
***Fig. 1.***—*Aristæomorpha rostridentata*, (S. Bate), ♀, Annals and Magazine of Natural History, October, 1891, p. 286.

***Fig. 2.***—*Aristæomorpha Giglioliana*, W.-M., ♀.

***Fig. 3.***—*Aristæus coruscans*, W.-M., ♀, Annals and Magazine of Natural History, October, 1891, pp. 280 and 281.




1. Aristæomorpha rostridentata, (S. Bate), ♀. 2. Aristæomorpha Giglioliana, W. M., ♀ 3. Aristæus coruscans, W. M., ♀.

A.C. Chowdhary, del. Photo-etching from the original drawings Survey of India Offices, Calcutta. August 1892.

## EXPLANATION OF PLATES.

---

# CRUSTACEA,

[UNDER THE DIRECTION of J. WOOD-MASON.]

### PLATE III.

***Fig. 1.***—*Acanthephyra armata*, A. M.-E., var. ♂, Annals and Magazine of Natural History, May, 1892, pp. 359 to 361.

***Fig. 2.***—*Acanthephyra brachytelsonis*, Bate, ♂, Annals and Magazine of Natural History, May, 1892, pp. 362 to 364.

***Fig. 3.***—*Acanthephyra sanguinea*, W.-M., ♀, Annals and Magazine of Natural History, May, 1892, pp. 358 and 359.

***Fig. 4.***—*Acanthephyra curtirostris*, W.-M., ♀, Annals and Magazine of Natural History, February, 1891, p. 195, and May, 1892, pp. 364 and 365.

***Fig. 5.***—*Pasiphaë (Phye) Alcocki*, W.-M., ♂, Annals and Magazine of Natural History, February, 1891, pp. 196 and 197.

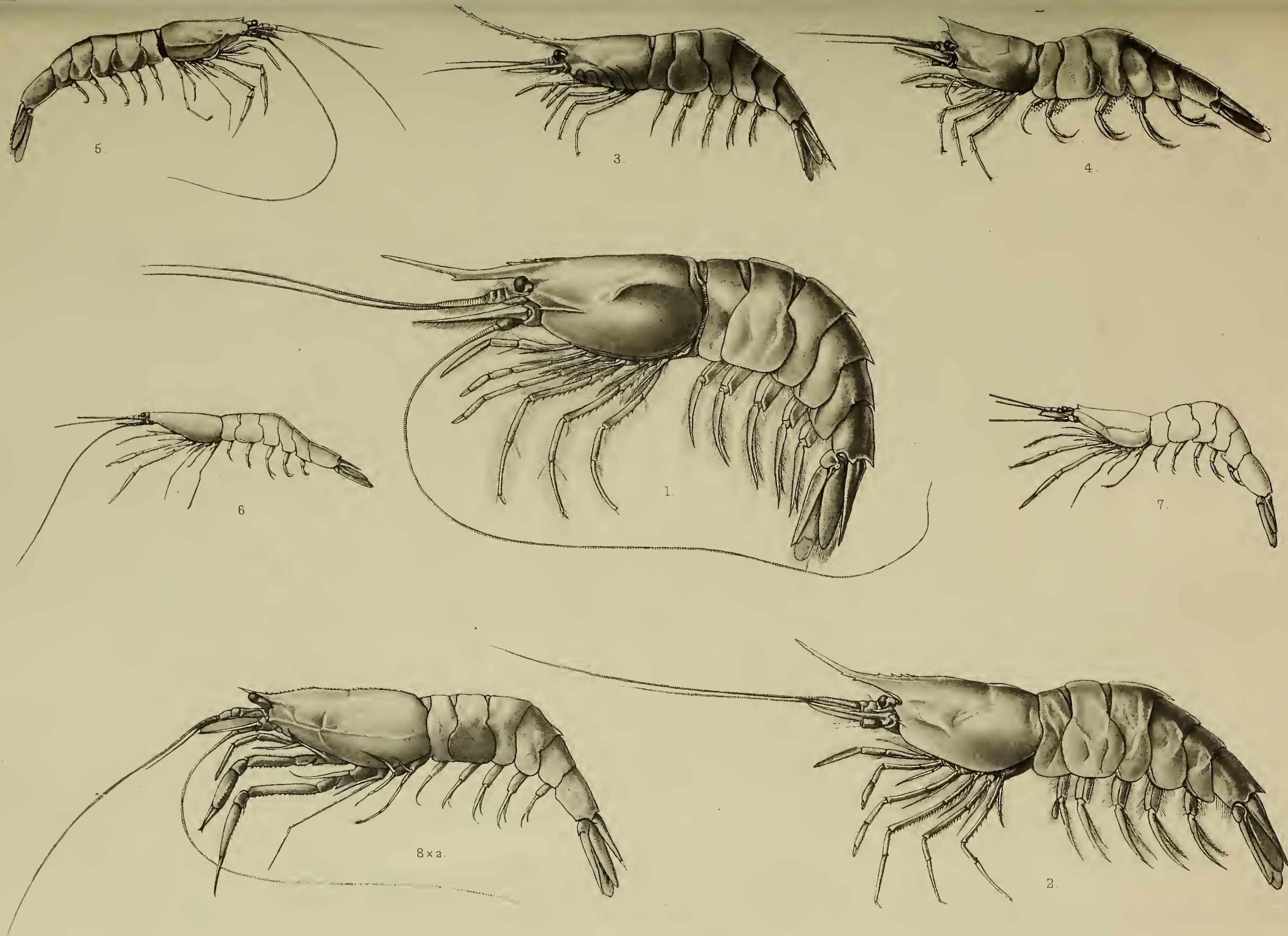
***Fig. 6.***—*Pasiphaë sivado*, (Risso),* ♂.

***Fig. 7.***—*Pasiphaë unispinosa*,* W.-M., ♀.

***Fig. 8.***—*Parapasihaë Gilesii*,* W.-M., ♀.

---

* About to be described in the "Annals and Magazine of Natural History."




1. Acanthephyra armata, A.M-E., var, ♂. 2. A. brachytelsonis, Bate, ♂. 3. A. sanguinea, W-M., ♀. 4. A. curtirostris, W-M., ♀. 5. Pasiphaë (Phye) Alcocki, W-M., ♂. 6. Pasiphaë sivado, (Risso,) ♂. 7. P. unispinosa, W-M., ♀. 8. Parapasiphaë Gilesii, W-M. ♀.

A.C. Chowdhary, del.

Photo-etching from the original drawings-Survey of India Offices, Calcutta, September 1892.

# EXPLANATION OF PLATES.

---

## CRUSTACEA,

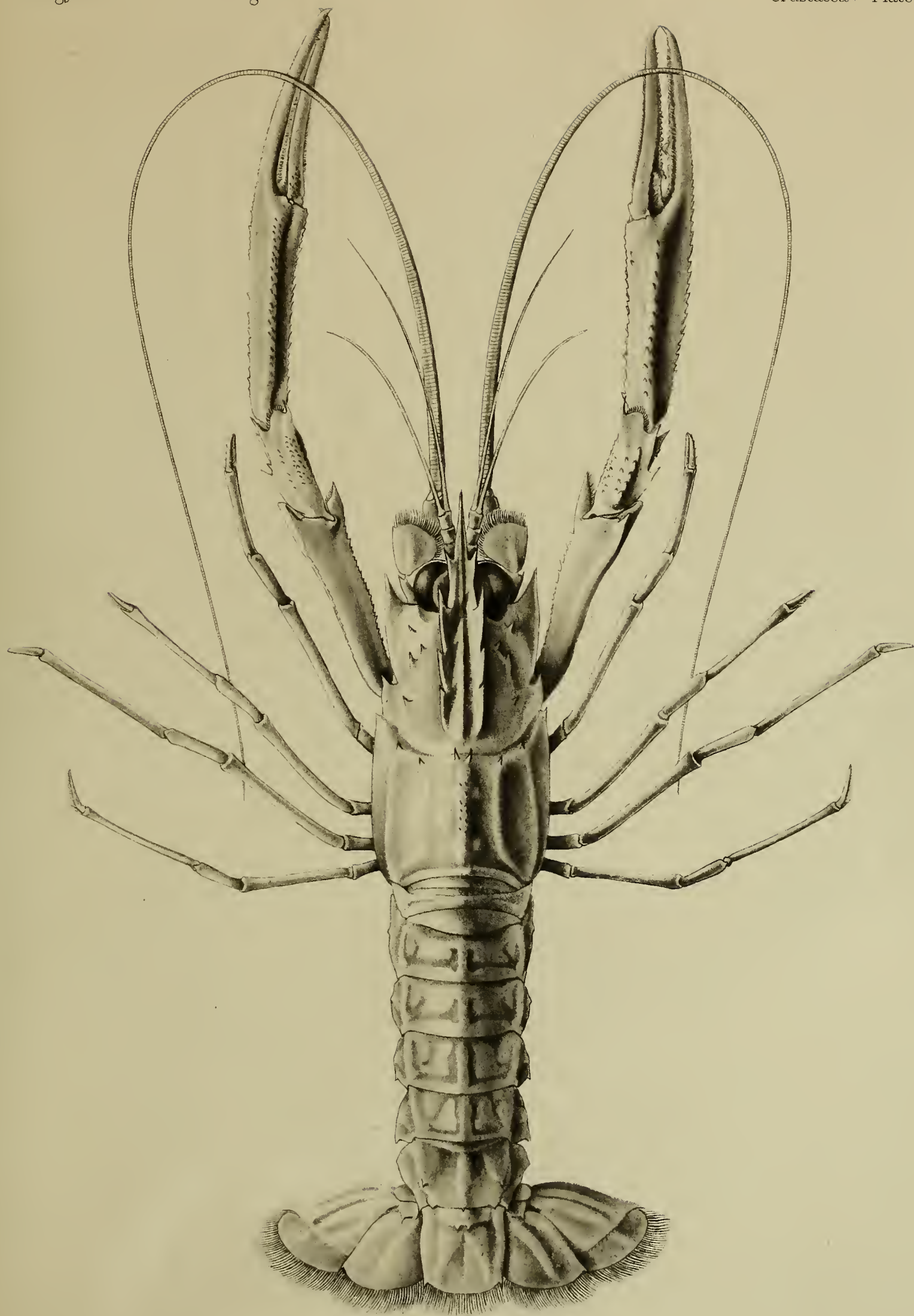
[UNDER THE DIRECTION of J. WOOD-MASON.]

### PLATE IV.

*Nephrops andamanicus*,* W.-M., ♂.

---

* About to be described in the "Annals and Magazine of Natural History."



Nephrops Andamanicus, W.-M., ♂.

B. L. Das, del.

Photo-etching from the original drawing-Survey of India Offices, Calcutta, July 1892.

## EXPLANATION OF PLATES.

---

# CRUSTACEA,

[UNDER THE DIRECTION of J. WOOD-MASON.]

### PLATE V.

***Fig. 1.***—*Psopheticus stridulans*,* W.-M., ♂.

***Fig. 2.***—*Sphenomerus trapezioides*, W.-M., ♀, Annals and Magazine of Natural History, March, 1891, p. 263.

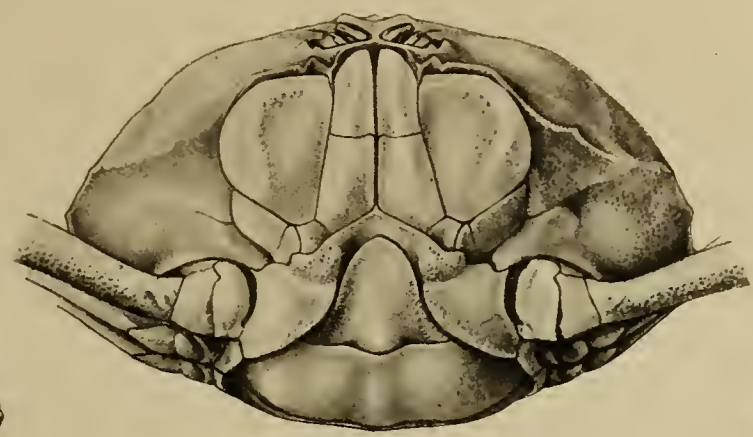
***Figs. 3, 3a.***—*Parilia Alcocki*, W.-M., ♀, Annals and Magazine of Natural History, March, 1891, pp. 264 to 266.

***Fig. 4.***—*Randallia pustulosa*, W.-M., ♀, Annals and Magazine of Natural History, March, 1891, pp. 266 and 267.

***Figs. 5, 5a, 5b.***—*Randallia lamellidentata*,* W.-M., ♂.

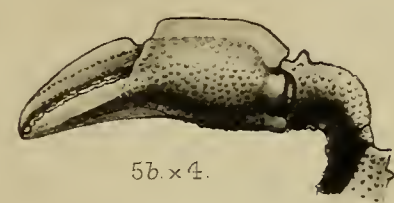
---

* About to be described in the "Annals and Magazine of Natural History."

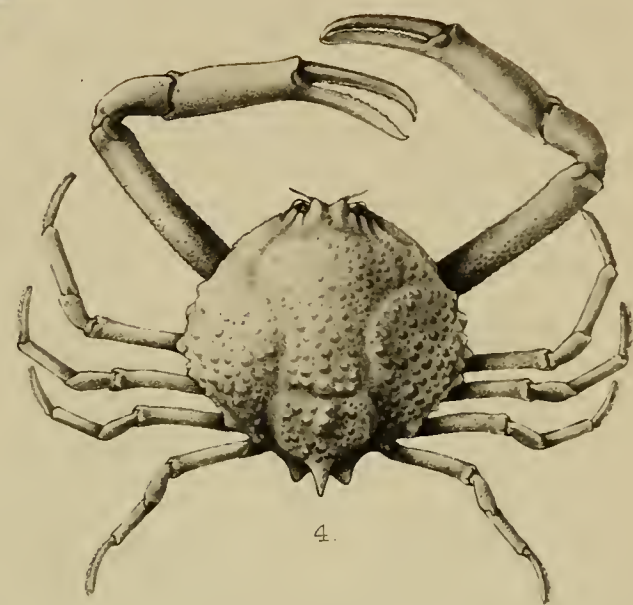


3a.×2.

3.

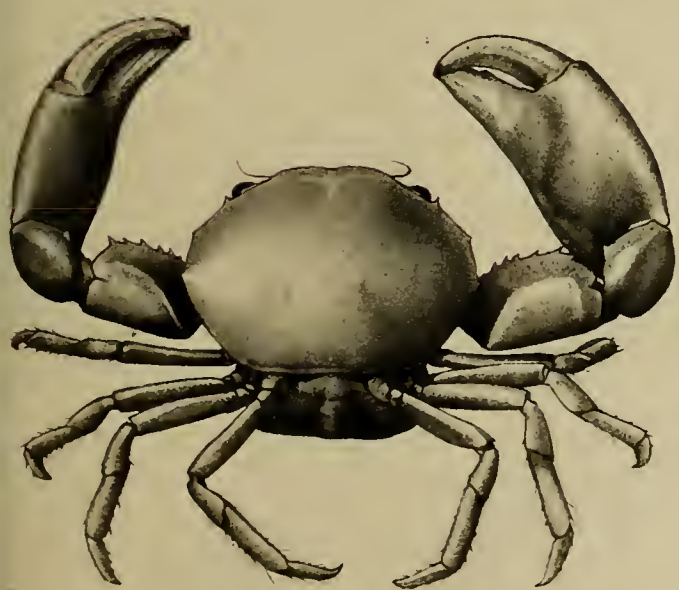


5b.×4.



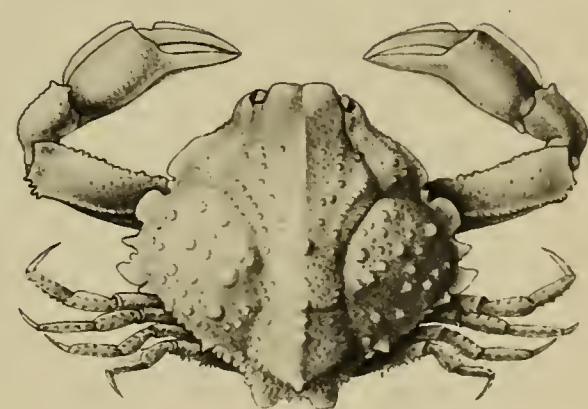
4.

1×2.5.



2×3.

5a.×4.



5×3

1. Psopheticus stridulans, W.-M., ♂. 2. Sphenomerus trapezoides, W.-M., ♀. 3. Parilia Alcocki W.-M., ♀
4. Randallia pustulosa, W.-M., ♀. 5. Randallia lamellidentata, W.-M., ♂.

B.L.Das & A.C.Chowdhary del.

Photo-etching from the original drawings Survey of India Offices, Calcutta, August 1892

4

Investigator

Illustrations of the zoology of

pt. 2 pl. 6-8

# EXPLANATION OF PLATES.

# CRUSTACEA.

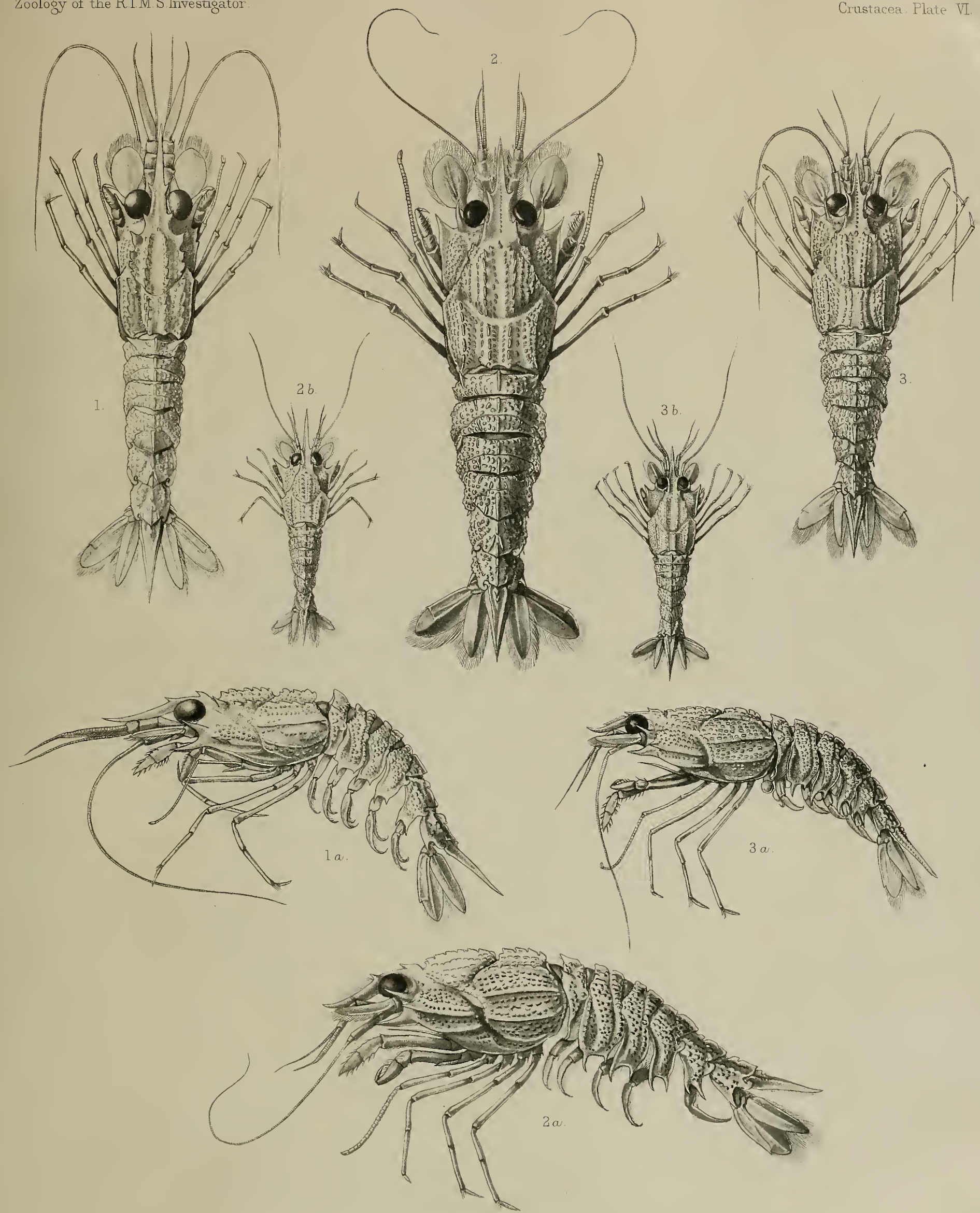
[UNDER THE DIRECTION OF THE LATE J. WOOD-MASON AND OF A. ALCOCK.]

## PLATE VI.

***Figs. 1, 1a.***—*Glyphocrangon prionono ta*, ♂, Annals and Magazine of Natural History, February, 1891, p. 192.

***Figs. 2, 2a, 2b.***—*Glyphocrangon investigatoris*, var. *andamanensis*, ♀, Annals and Magazine of Natural History, November, 1891, pp. 356 and 357.

***Figs. 3, 3a, 3b.***—*Glyphocrangon investigatoris*, ♀, Annals and Magazine of Natural History, February, 1891, p. 191.




1, 1 a, Glyphocrangon prionotota, ♂. 2, 2 a, Glyphocrangon investigatoris, var. andamanensis, ♀. 2 b, Juv. ♀.
3, 3 a, Glyphocrangon investigatoris, ♀. 3 b. Juv. ♀.

C. Chowdhary del.
to-etching

Survey of India Offices, Calcutta, March 1894

# EXPLANATION OF PLATES.

# CRUSTACEA.

[UNDER THE DIRECTION OF THE LATE J. WOOD-MASON AND OF A. ALCOCK.]

## PLATE VII.

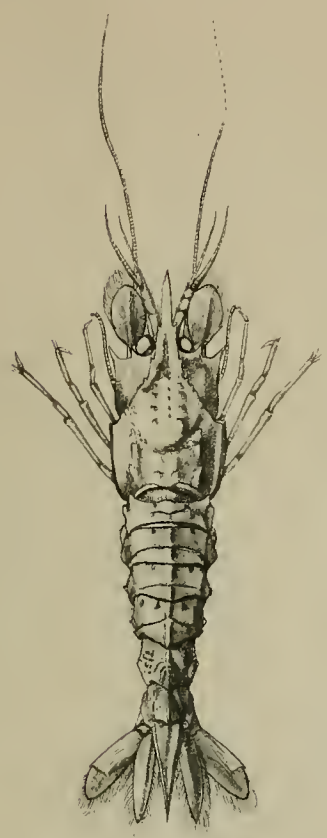
***Figs. 1, 1a.***—*Glyphocrangon cæca*, ♀, Annals and Magazine of Natural History, November, 1891, pp. 357 and 358.

***Figs. 2, 2a.***—*Glyphocrangon unguiculata*, ♀, Annals and Magazine of Natural History, February, 1891, pp. 193 and 194.

***Figs. 3, 3a.***—*Glyphocrangon smithii*, ♂, Annals and Magazine of Natural History, November, 1891, p. 357.

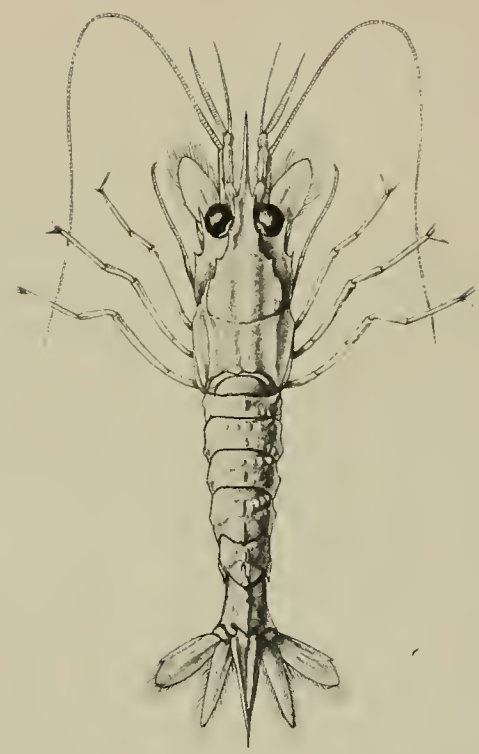
***Figs. 4, 4a.***—*Glyphocrangon gilesii*, ♀, Annals and Magazine of Natural History, February, 1891, p. 193.

***Figs. 5, 5a.***—*Glyphocrangon cæcescens*, ♂, Annals and Magazine of Natural History, November, 1891, pp. 357 and 358.

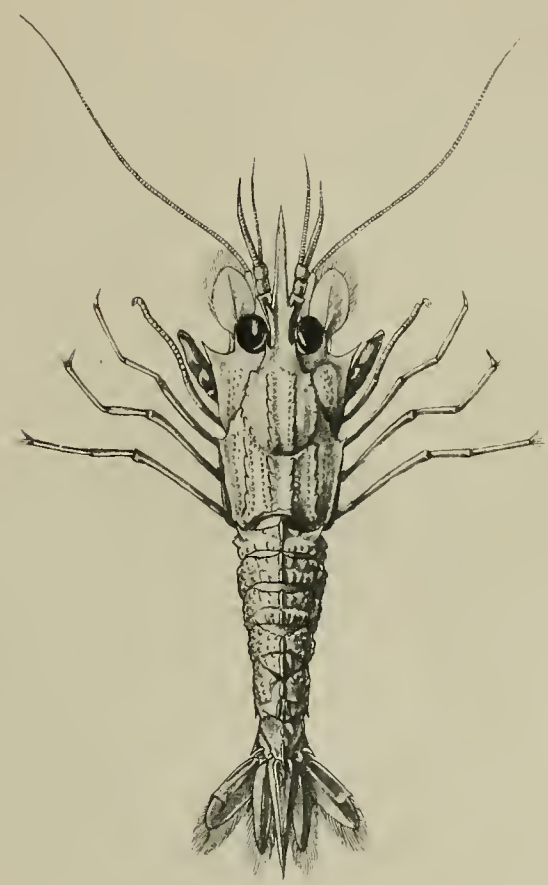


1.

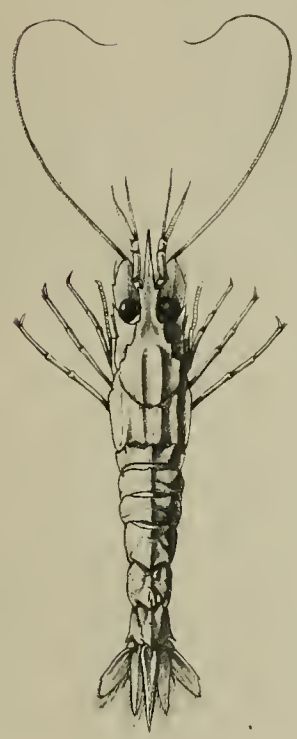
1a.



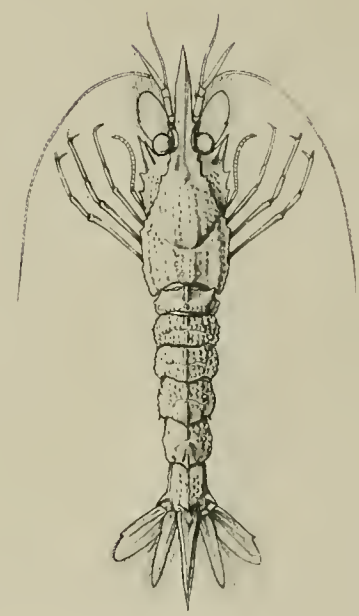
2.



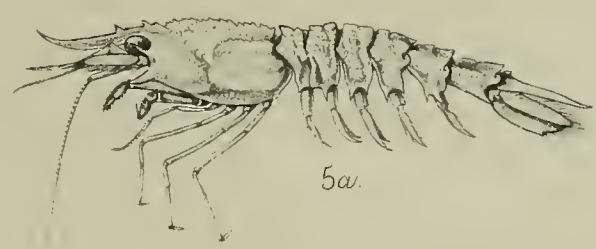
3.



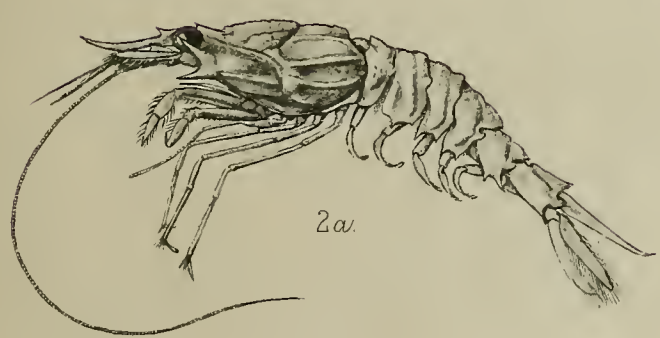
4.



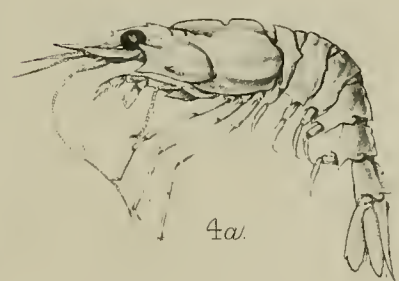
5.



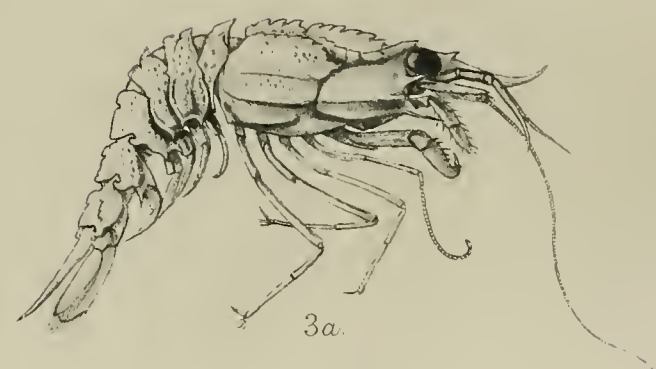
5a.



2a.



4a.



3a.

1. 1a, Glyphocrangon cæca, ♀. 2. 2 a, Glyphocrangon unguiculata, ♀. 3. 3 a, Glyphocrangon smithii, ♂.
4. 4 a, Glyphocrangon gilesii, ♀. 5. 5a. Glyphocrangon cæcescens, ♂.

A. C. Chowdhary, del.

Photo-etching-Survey of India Offices, Calcutta, April 1894.

# EXPLANATION OF PLATES.

# CRUSTACEA.

[UNDER THE DIRECTION OF A. ALCOCK.]

## PLATE VIII.

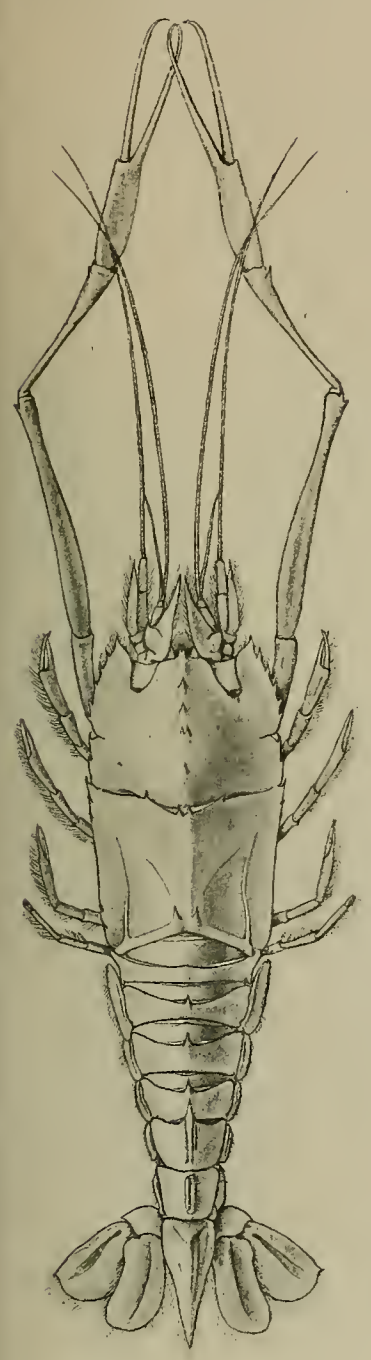
***Figs. 1, 1a.***—*Pentacheles cerata*, ♀, Annals and Magazine of Natural History, March, 1894, pp. 241 and 242.

***Fig. 2.***—*Pentacheles phosphorus*, ♀, Annals and Magazine of Natural History, March, 1894, pp. 240 and 241.

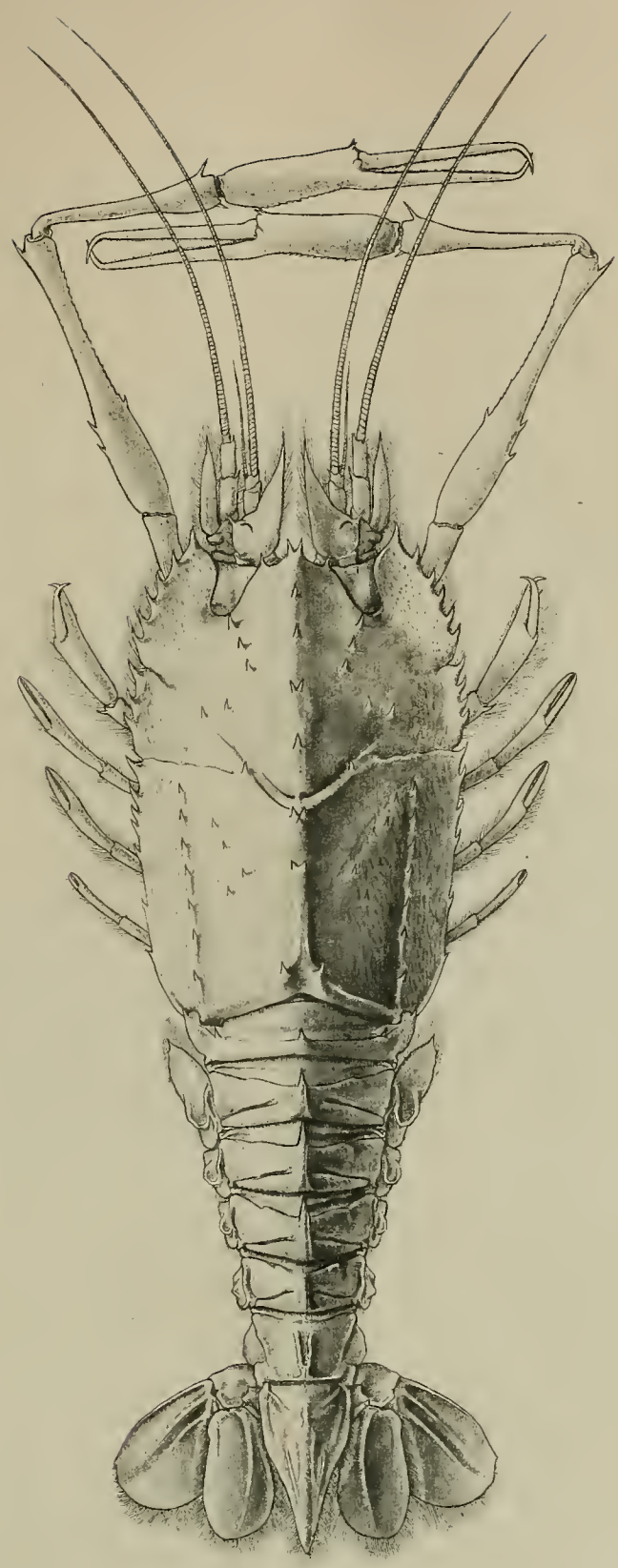
***Fig. 3.***—*Pentacheles beaumontii*, ♂, Annals and Magazine of Natural History, March 1894, pp. 236 and 237.

***Figs. 4, 4a.***—*Pentacheles gibba*, ♂, Annals and Magazine of Natural History, March, 1894, pp. 234 and 235.

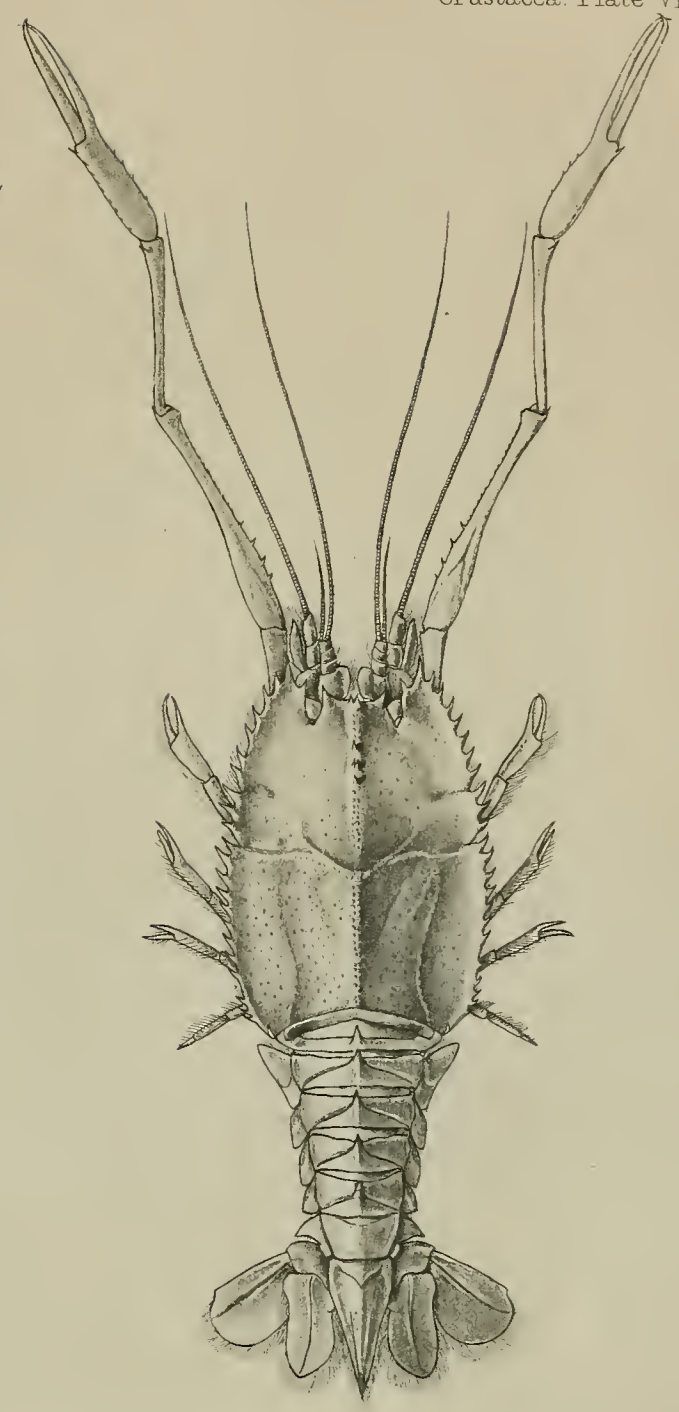
***Fig. 5.***—*Nephrops andamanicus*, ♂, Annals and Magazine of Natural History, March, 1894, pp. 226 to 230.



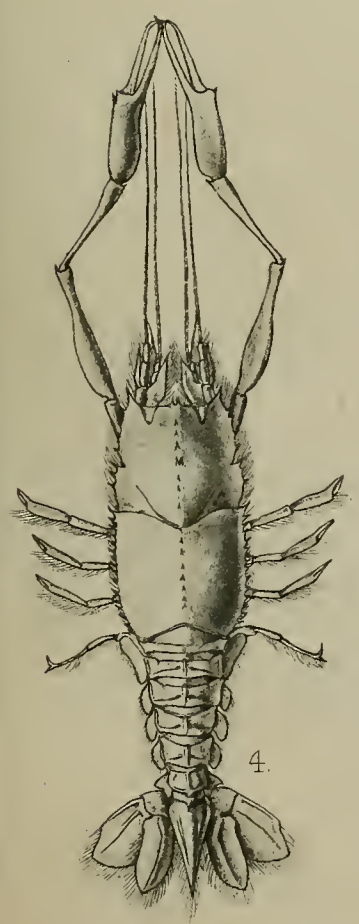
1.



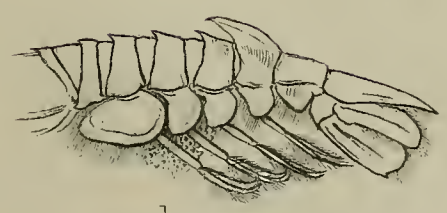
2.



3.

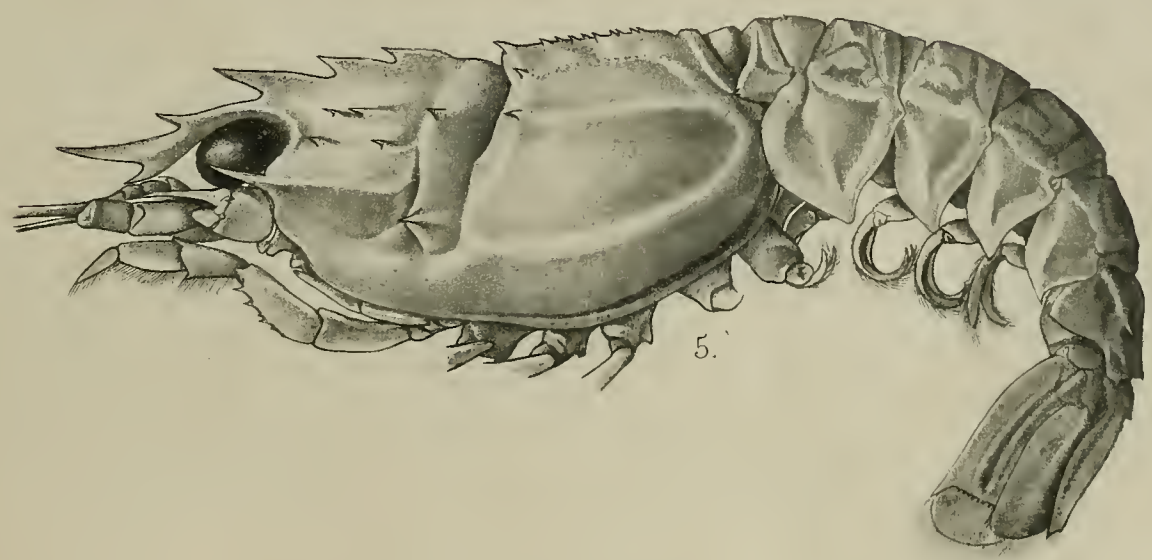


4.



1a.

4a.



5.

1. Pentacheles cerata, ♀. 2. Pentacheles phosphorus, ♀. 3. Pentacheles beaumontii, ♂.

4. Pentacheles filhol, ♂. 5. Nephropsis andamanicus, ♂. Photo-etching, Survey of India Offices, Calcutta, April 1894.

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

ROYAL INDIAN MARINE SURVEYING STEAMER

# INVESTIGATOR,

UNDER THE COMMAND OF

COMMANDER A. CARPENTER, R.N., D.S.O.,

OF

THE LATE COMMANDER R. F. HOSKYN, R.N.,

AND OF

COMMANDER C. F. OLDHAM, R.N.

---

## CRUSTACEA.

Part III, Plates IX—XV.



Published under the Authority of Captain J. Pert, R.N., C.I.E.,
Director of the Royal Indian Marine.

CALCUTTA:
PRINTED AND SOLD BY THE SUPERINTENDENT OF GOVERNMENT PRINTING.
1895.

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

ROYAL INDIAN MARINE SURVEYING STEAMER

# INVESTIGATOR,

UNDER THE COMMAND OF

COMMANDER A. CARPENTER, R.N., D.S.O.,

OF

THE LATE COMMANDER R. F. HOSKYN, R.N.,

AND OF

COMMANDER C. F. OLDHAM, R.N.

---

## CRUSTACEA.

Part III, Plates IX—XV.

Published under the Authority of Captain J. Hext, R.N., C.I.E.,
Director of the Royal Indian Marine.

CALCUTTA:
PRINTED AND SOLD BY THE SUPERINTENDENT OF GOVERNMENT PRINTING.
1895.

# EXPLANATION OF PLATES.

## CRUSTACEA.

[By A. ALCOCK and A. R. S. ANDERSON.]

### PLATE IX.

***Figs. 1, 1a.***—*Crangon bengalensis*, Wood-Mason, ♀. Annals and Magazine of Natural History, November, 1891, p. 360.

***Figs. 2, 2a.***—*Crangon andamanensis*, Wood-Mason, ♀. Annals and Magazine of Natural History, November, 1891, pp. 360, 361.

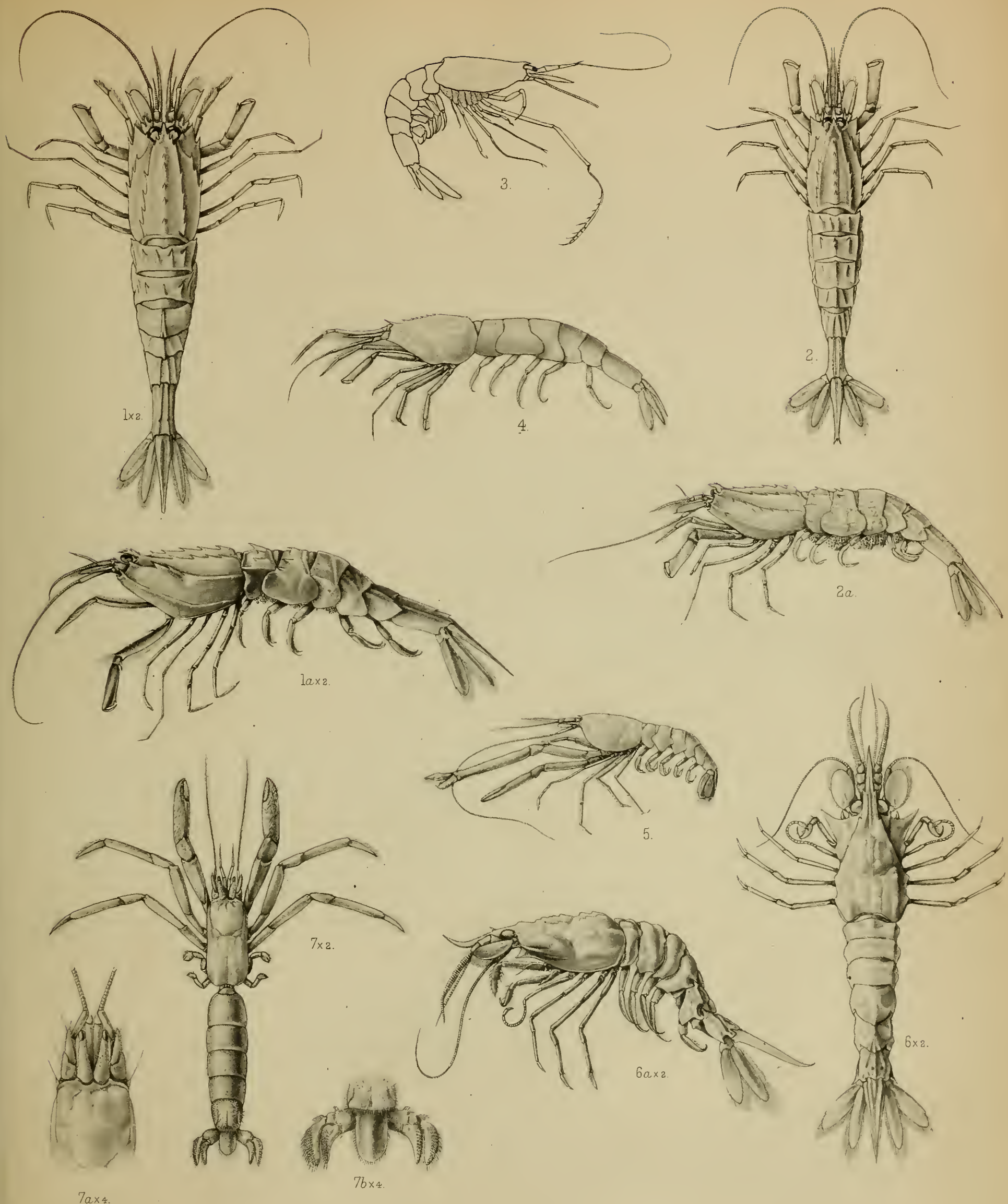
***Fig. 3.***—*Sergestes hamifer*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 148, 149.

***Fig. 4.***—*Prionocrangon ommatosteres*, Wood-Mason, ♀. Annals and Magazine of Natural History, November, 1891, p. 362; and Alcock and Anderson, Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 152, 153.

***Fig. 5.***—*Alpheus macrosceles*, Alcock and Anderson, ♂. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 153, 154.

***Figs. 6, 6a.***—*Glyphocrangon cerea*, Alcock and Anderson, ♂. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 151, 152.

***Fig. 7.***—*Pylocheles scorpio*, Alcock, ♀. Annals and Magazine of Natural History, March, 1894, pp. 244, 245.




1. 1*a*. Crangon bengalensis.♀. x2. 2. 2*a*. Crangon andamanensis.♀. 3. Sergestes hamifer. 4. Prionocrangon ommatosteres.♀. 5. Alpheus macrosceles. 6. 6*a*. Glyphocrangon cerea. x2. 7. Pylocheles scorpio. x2.

A. C. Chowdhary, del

Photo-etching.–Survey of India Offices, Calcutta, September 1895.

# EXPLANATION OF PLATES.

## CRUSTACEA.

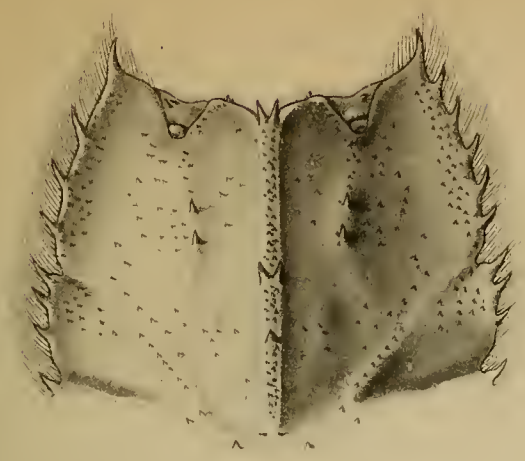
[By A. ALCOCK and A. R. S. ANDERSON.]

### PLATE X.

***Figs. 1, 1a, 1b, 1c.***—*Pentacheles carpenteri*, Alcock, ♀. Annals and Magazine of Natural History, March, 1894, pp. 235, 236.

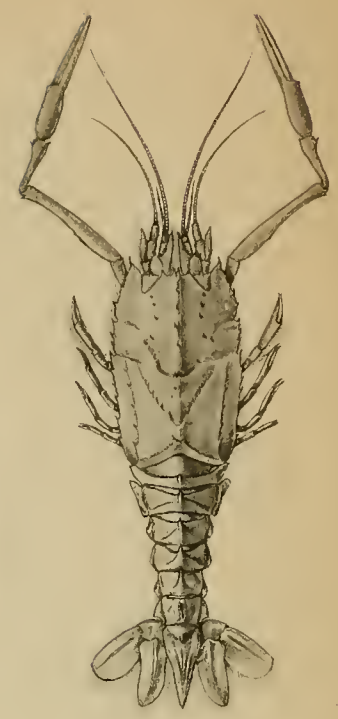
***Figs. 2, 2a, 2b, 2c.***—*Pentacheles hextii*, Alcock, ♂. Annals and Magazine of Natural History, March, 1894, pp. 237–239.

***Figs. 3, 3a, 3b, 3c.***—*Pentacheles andamanensis*, Alcock, ♀. Annals and Magazine of Natural History, March, 1894, pp. 239, 240.



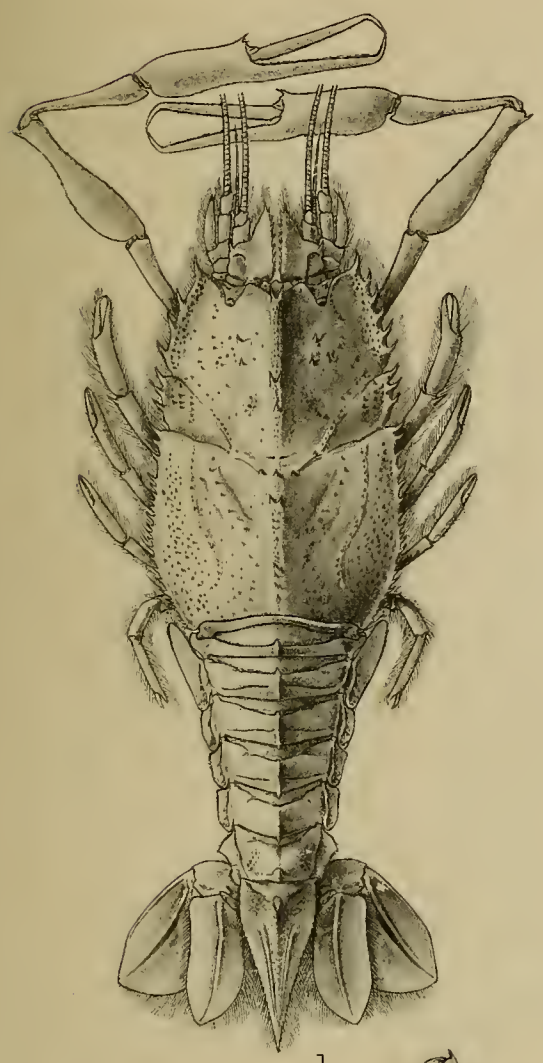
1b x 2.

2b x 2.

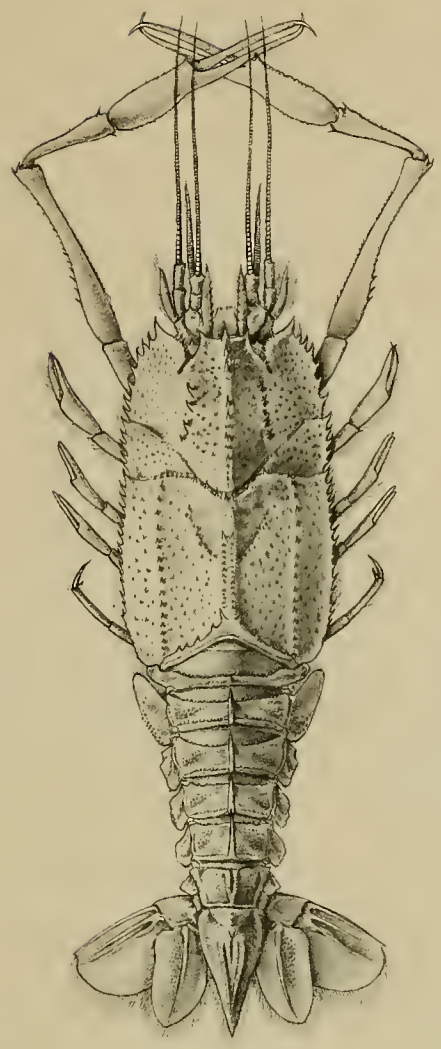


3.

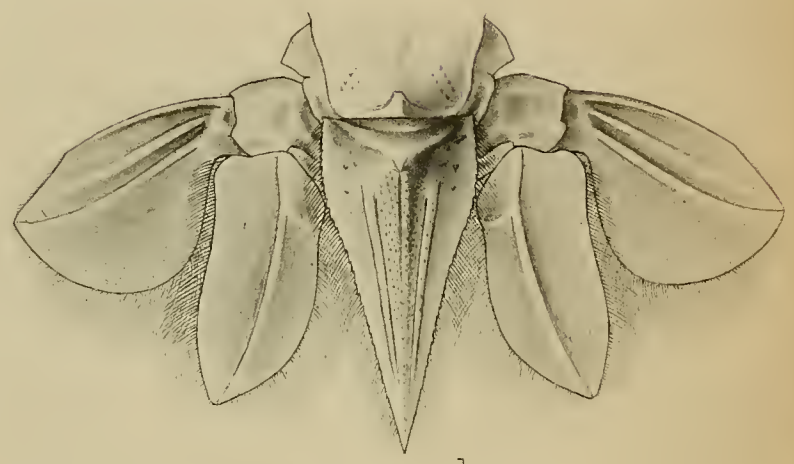
3b x 2.



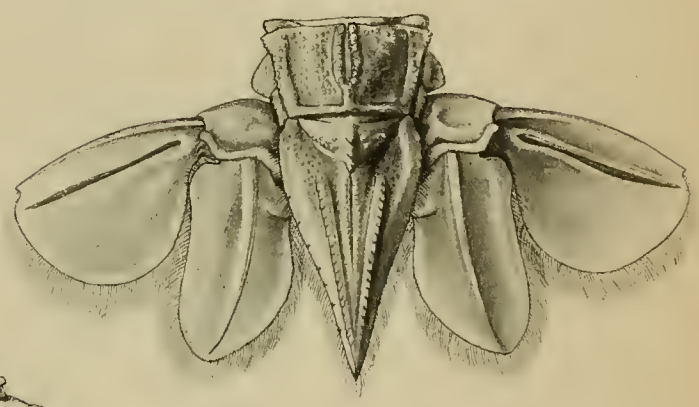
1.



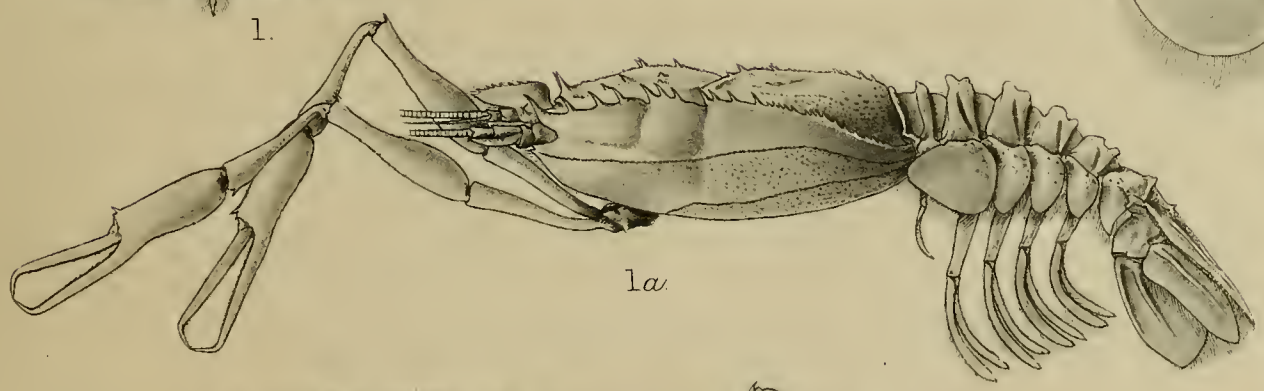
2.



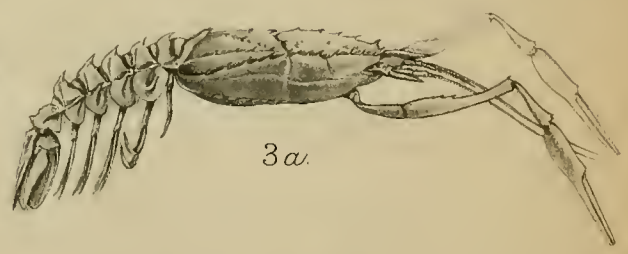
1c x 2.



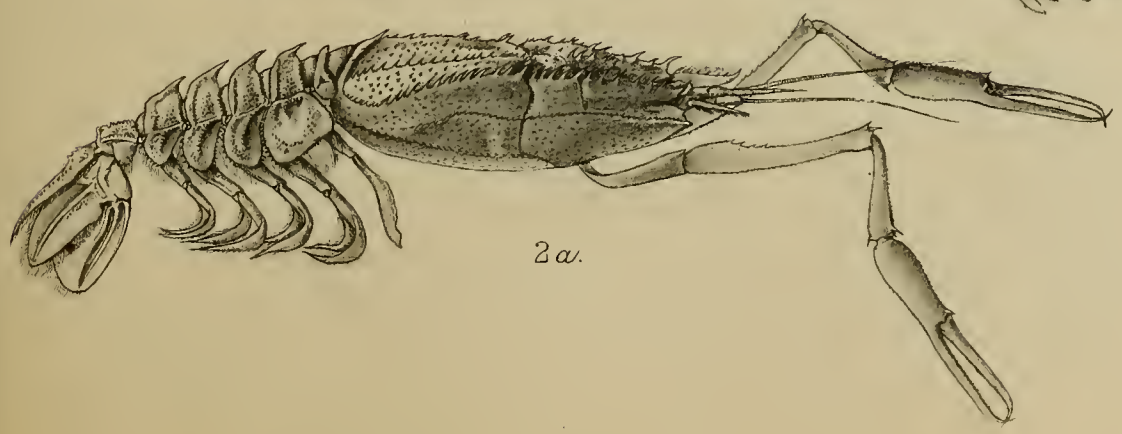
2c x 2.



1a.



3a.



2a.

3c x 2.

1. Pentacheles carpenteri, ♀. 2. Pentacheles hextii, ♂. 3. Pentacheles andamanensis, ♀.

A.C Chowdhary, & S.C. Mondul, del. Photo-etching-Survey of India Offices, Calcutta, May 1895.

# EXPLANATION OF PLATES.

## CRUSTACEA.

[By A. ALCOCK and A. R. S. ANDERSON.]

### PLATE XI.

***Fig. 1.***—*Munidopsis regia*, Alcock and Anderson, ♂. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 168, 169.

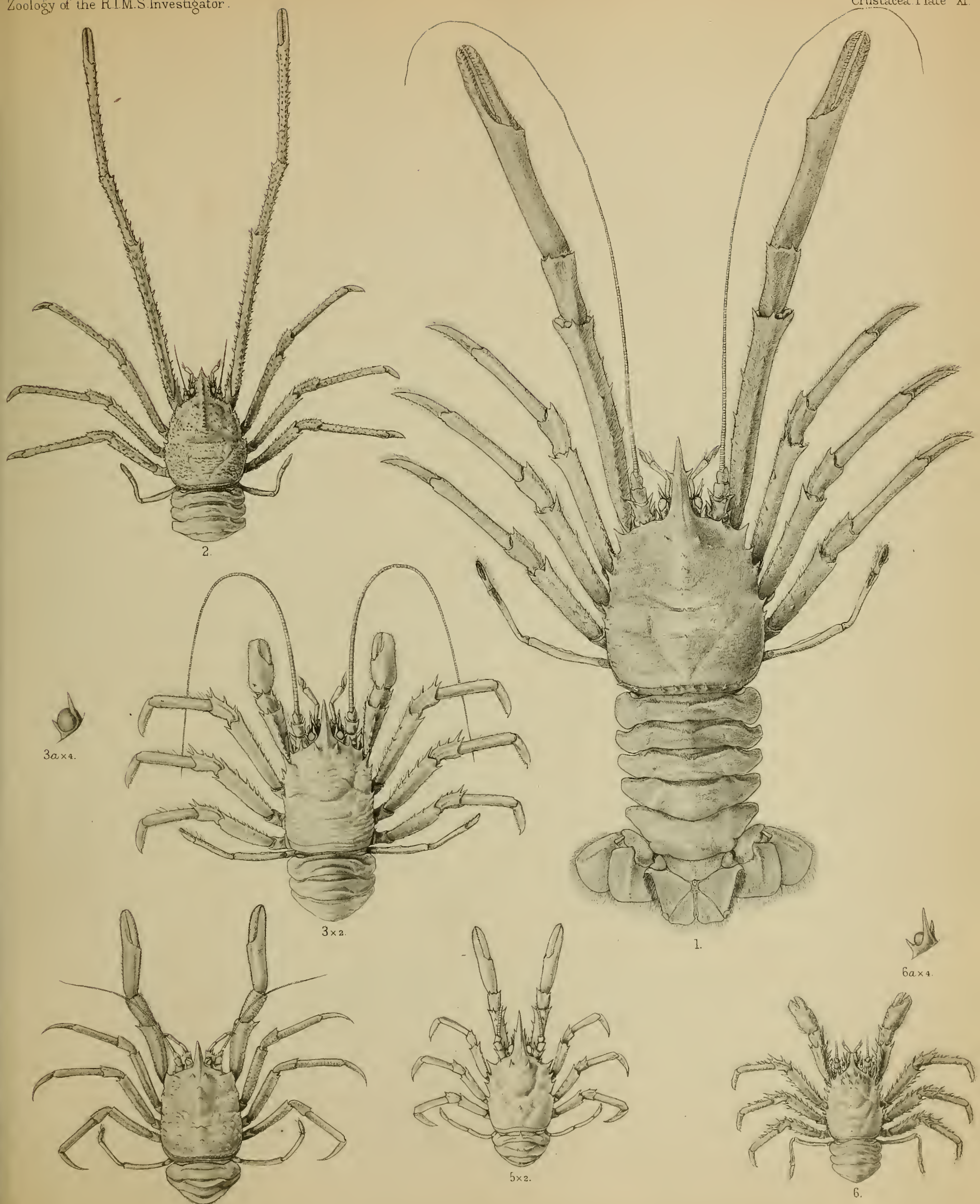
***Fig. 2.***—*Munidopsis trachypus*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt 2, No. 3, 1894, pp. 169, 170.

***Figs. 3, 3a.***—*Munidopsis ciliata*, Wood-Mason, ♂. Annals and Magazine of Natural History, February, 1891, pp. 200, 201.

***Fig. 4.***—*Munidopsis unguifera*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, p. 172.

***Fig. 5.***—*Munidopsis triæna*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, p. 168.

***Figs. 6, 6a.***—*Munidopsis centrina*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 170, 171.




1. Munidopsis regia, ♂. 2. Munidopsis trachypus, ♀. 3. Munidopsis cilhata, ♂.
4. Munidopsis unguifera, ♀. 5. Munidopsis triæna, ♀. 6. Munidopsis centrina, ♀.

# EXPLANATION OF PLATES.

## CRUSTACEA.

[By A. ALCOCK and A. R. S. ANDERSON.]

### PLATE XII.

***Fig. 1.***—*Munida tricarinata*, Alcock, ♀. Annals and Magazine of Natural History, April, 1894, pp. 324–326.

***Fig. 2.***—*Munidopsis poseidonia*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 167, 168.

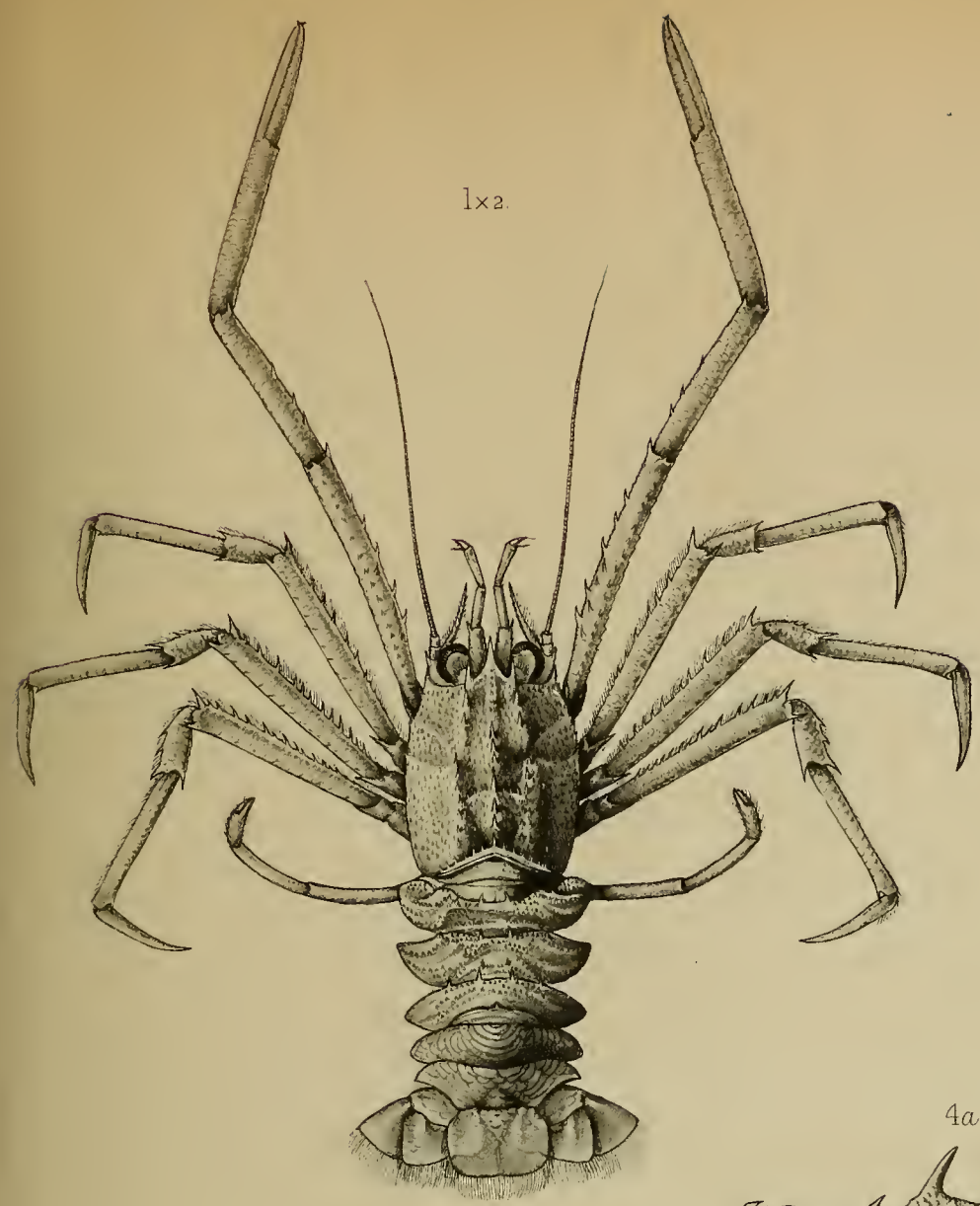
***Fig. 3.***—*Munidopsis arietina*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 171, 172.

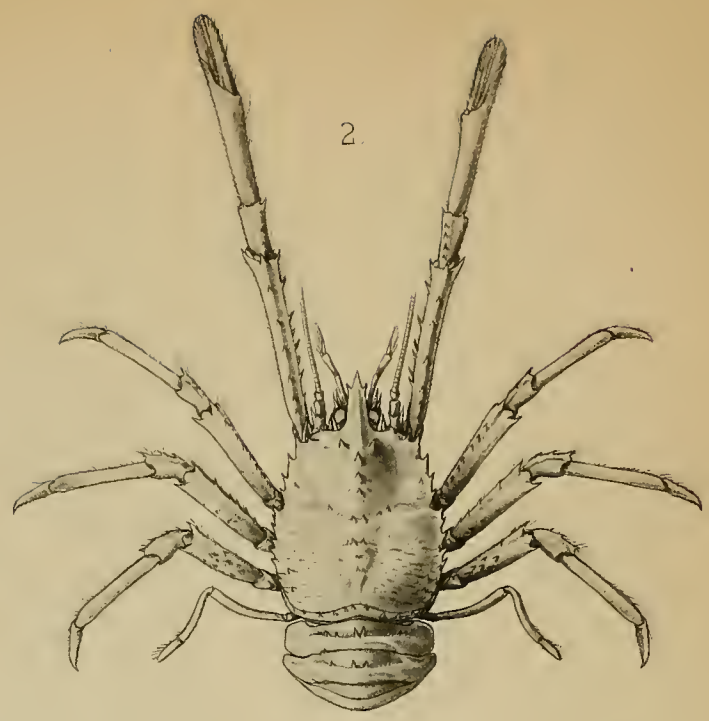
***Figs. 4, 4a.***—*Galacantha investigatoris*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, p. 173.

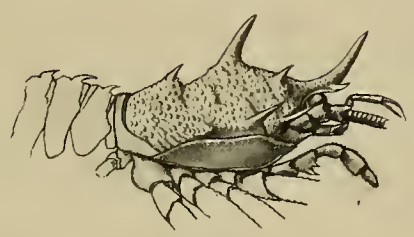
***Fig. 5.***—*Psathyrocaris plumosa*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, p. 159.

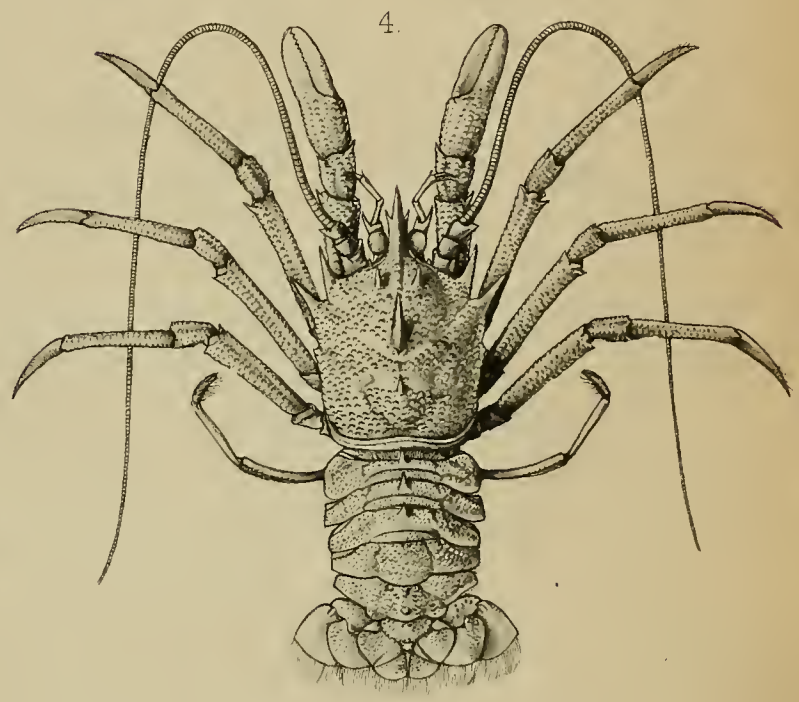
***Fig. 6.***—*Psathyrocaris platyophthalmus*, Alcock and Anderson, ♀. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, p. 158.

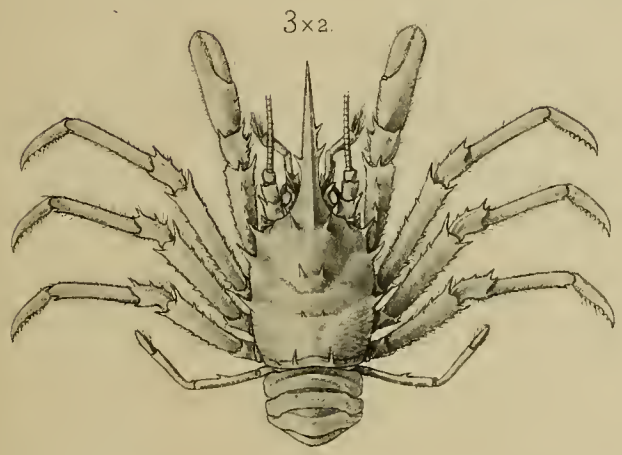
***Fig. 7.***—*Psathyrocaris infirma*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 159, 160.

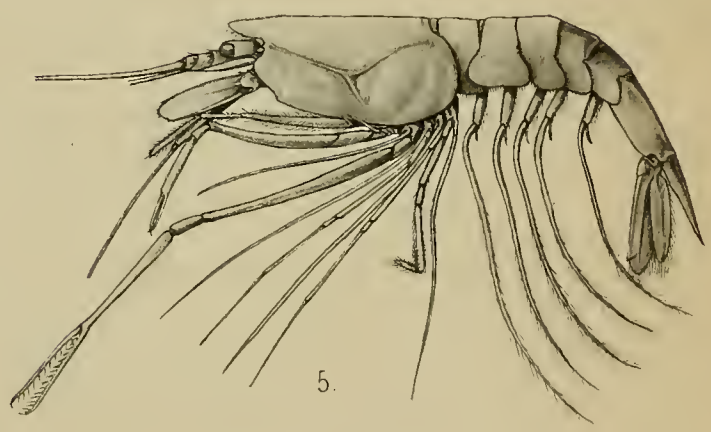


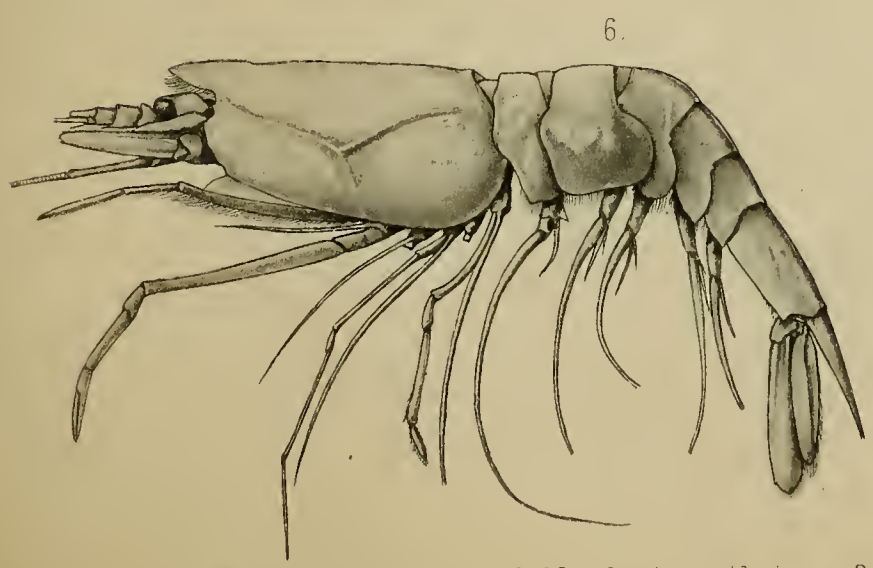



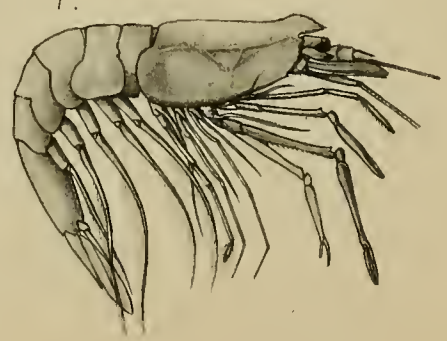




1. Munida tricarinata, ♀, ×2. 2. Munidopsis poseidonia, ♀. 3. Munidopsis arietina, ♀, ×2. 4. Galacantha investigatoris, ♀.
5. Psathyrocaris plumosa. 6. Psathyrocaris platyophthalmus. 7. Psathyrocaris infirma.

Photo-etchnê - Survey of India Offices, Calcutta, August 1895.

# EXPLANATION OF PLATES.

## CRUSTACEA.

[By A. ALCOCK and A. R. S. ANDERSON.]

### PLATE XIII.

***Fig. 1.***—*Munidopsis scobina*, Alcock, ♂. Annals and Magazine of Natural History, April, 1894, pp. 330, 331.

***Fig. 2.***—*Munida militaris*, Hend., var. *andamanica*, Alcock, ♂. Annals and Magazine of Natural History, April, 1894, pp. 321, 322.

***Fig. 3.***—*Munida squamosa*, Hend., var. *prolixa*, Alcock, ♂. Annals and Magazine of Natural History, April, 1894, pp. 322–324.

***Fig. 4.***—*Elasmonotus cylindrophthalmus*, Alcock, ♀. Annals and Magazine of Natural History, April, 1894, pp. 333, 334.

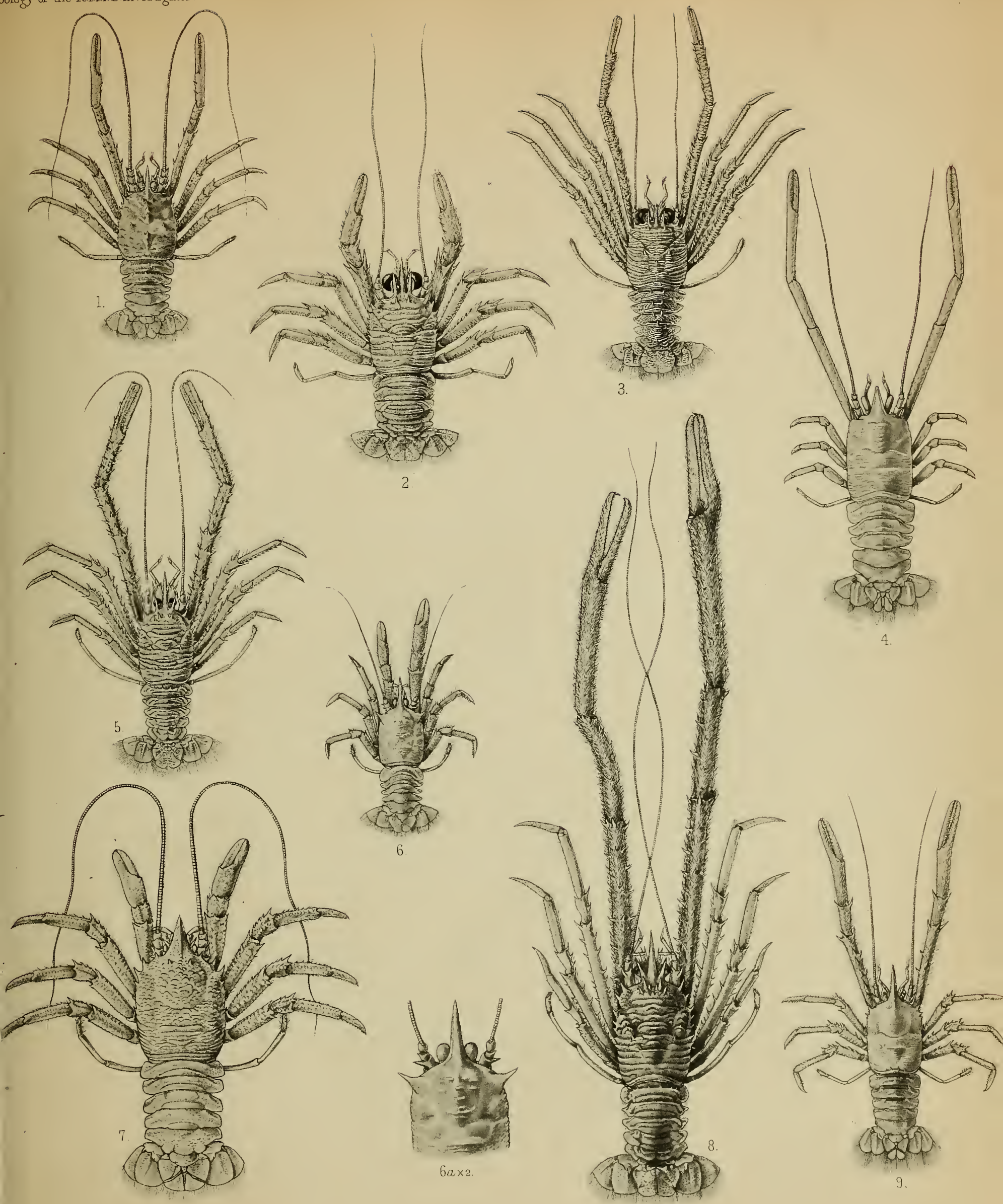
***Fig. 5.***—*Munida microps*, Alcock, ♂. Annals and Magazine of Natural History, April, 1894, pp. 326, 327.

***Figs. 6, 6a.***—*Munidopsis stylirostris*, Wood-Mason, ♂. Annals and Magazine of Natural History, February, 1891, p. 201; and Alcock, Annals and Magazine of Natural History, April, 1894, pp. 328, 329.

***Fig. 7.***—*Munidopsis subsquamosa*, Hend., var. *pallida*, Alcock, ♂. Annals and Magazine of Natural History, April, 1894, pp. 331–333.

***Fig. 8.***—*Munida lasiocheles*, Alcock, ♂. Annals and Magazine of Natural History, April, 1894, pp. 327, 328.

***Fig. 9.***—*Munidopsis dasypus*, Alcock, ♀. Annals and Magazine of Natural History, April, 1894, pp. 329, 330.




1. Munidopsis scobina, ♂. 2. Munida militaris, Hend. Var. andamanica, ♂. 3. Munida squamosa, Hend. Var. prolixa, ♂. 4. Elasmonotus cylindrophthalmus, ♀×2.
5. Munida microps, ♂. 6. Munidopsis stylirostris, ♂. 7. Munidopsis subsquamosa, Hend. Var. pallida, ♂. 8. Munida lasiocheles, ♂. 9. Munidopsis dasypus, ♀.

.C. Chowdhary & S.C. Mondul, del. Photo-etching - Survey of India Offices, Calcutta, August 189

# EXPLANATION OF PLATES.

## CRUSTACEA.

[By A. ALCOCK and A. R. S. ANDERSON.]

### PLATE XIV.

***Figs. 1, 1a.***—*Homola megalops*, Alcock, ♂. Annals and Magazine of Natural History, May, 1894, pp. 408, 409.

***Fig. 2.***—*Aethusa indica*, Alcock, ♀. Annals and Magazine of Natural History, May, 1894, pp. 405, 406.

***Fig. 3.***—*Scyramathia livermorii** (Wood-Mason), ♀. Annals and Magazine of Natural History, March, 1891, p. 260.

***Figs. 4, 4a.***—*Hypsophrys superciliosa*, Wood-Mason, ♀. Annals and Magazine of Natural History, March, 1891, pp. 269, 270.

***Fig. 5.***—*Aethusa pygmæa*, Alcock, ♀. Annals and Magazine of Natural History, May, 1894, p. 406.

***Fig. 6.***—*Platypilumnus gracilipes*, Wood-Mason, ♀. Alcock, Annals and Magazine of Natural History, May, 1894, pp. 401, 402.

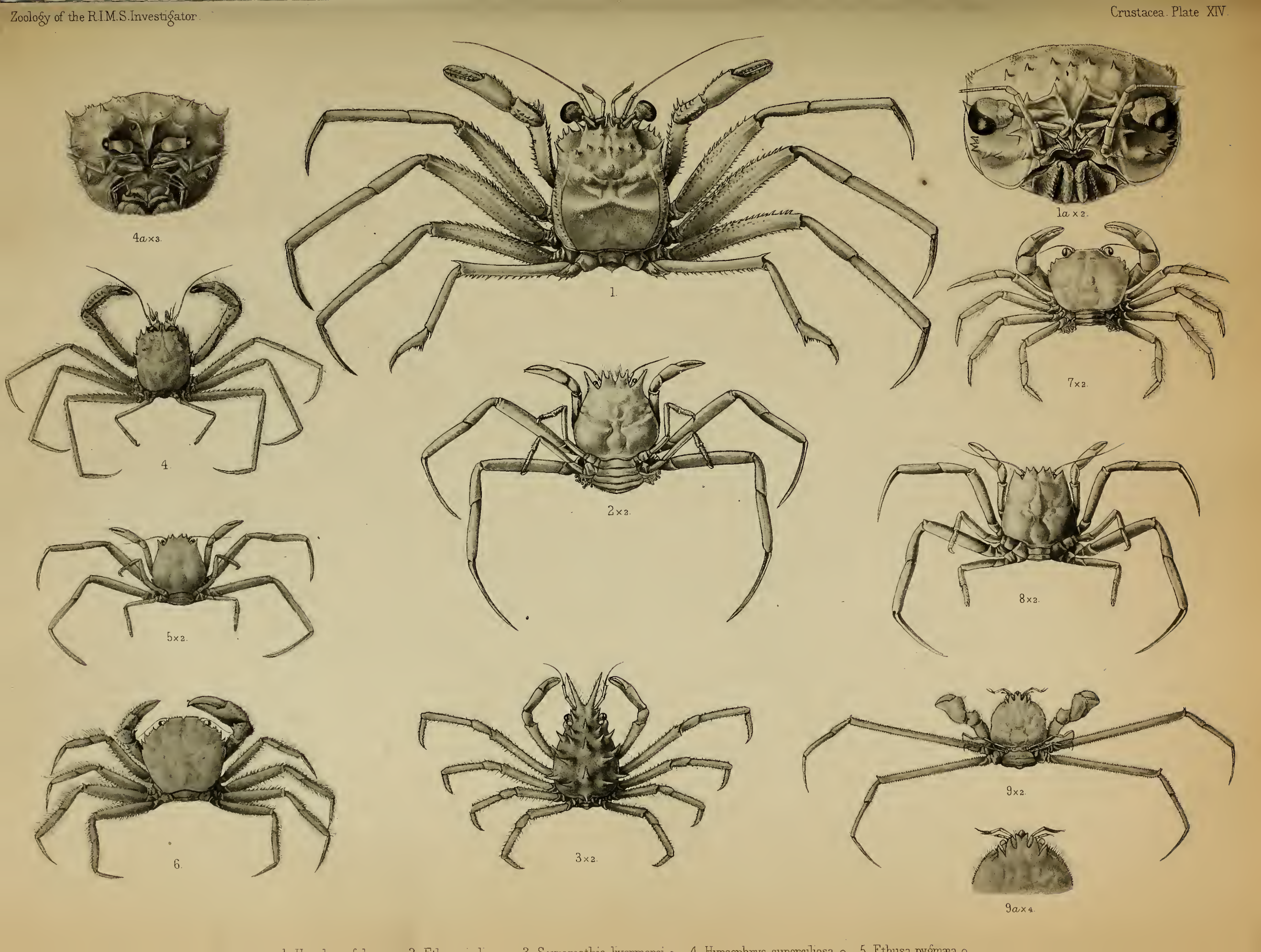
***Fig. 7.***—*Nectopanope longipes*, Wood-Mason, ♀. Annals and Magazine of Natural History, March, 1891, pp. 262–264.

***Fig. 8.***—*Aethusa andamanica*, Alcock, ♂. Annals and Magazine of Natural History, May, 1894, p. 405.

***Figs. 9, 9a.***—*Cymonomops glaucoma*, Alcock, ♀. Annals and Magazine of Natural History, May, 1894, pp. 406, 407.

---

*=*Anamathia livermorii*, Wood-Mason, *l. c.* :=*Scyramathia pulchra*, Miers, *v.* Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV, pt. 2, No. 2, 1895, pp. 202, 203.




1. Hyas coarctatus. 2. Ethusa indica. 3. Sternorhynchus lherminieri. 4. Hypocinhrus superciliosa, o. 5. Ethusa pygmæa, o.

# EXPLANATION OF PLATES.

## CRUSTACEA.

[By A. ALCOCK and A. R. S. ANDERSON.]

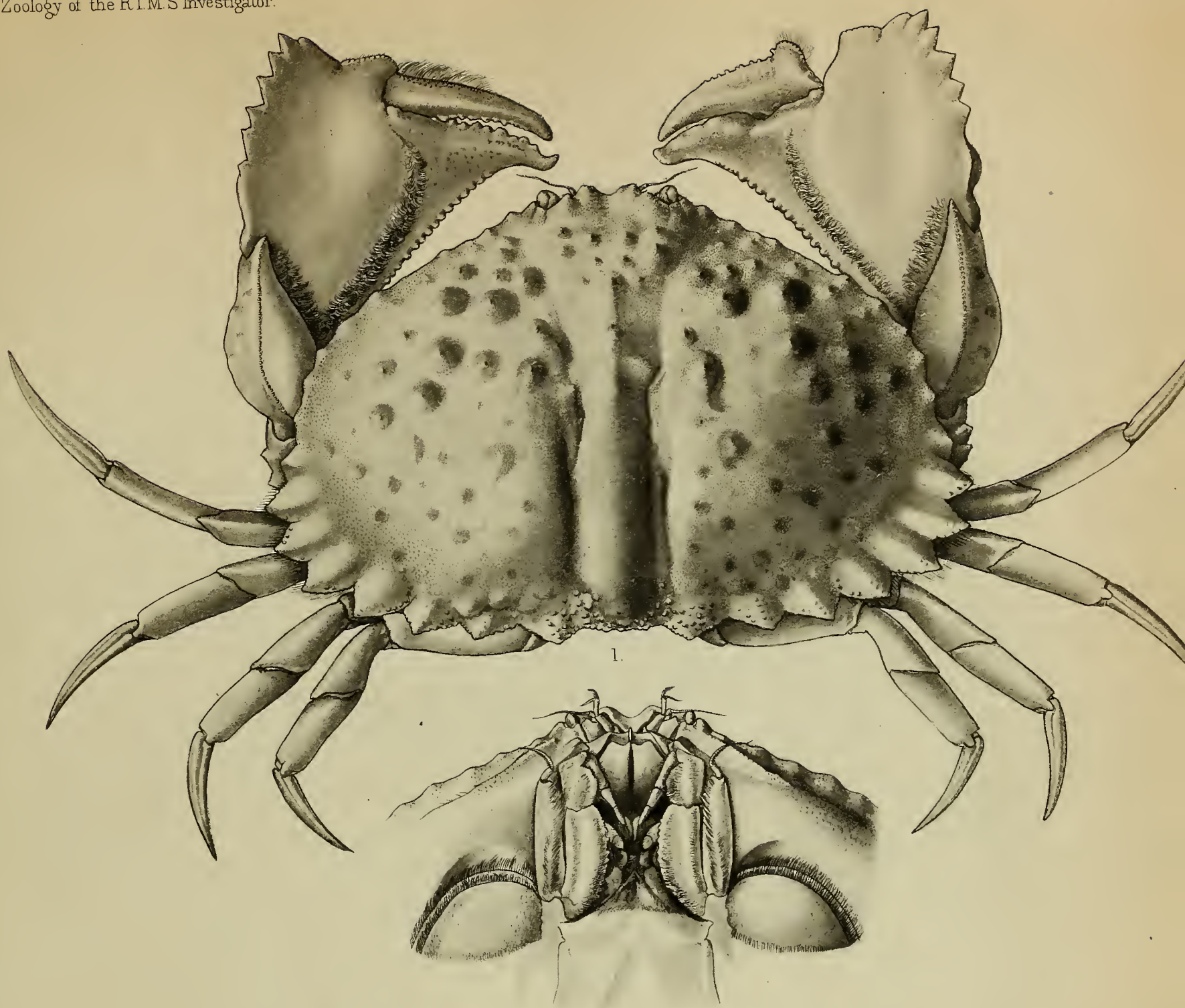
### PLATE XV.

***Figs. 1, 1a.***—*Calappa exanthematosa,* Alcock and Anderson, ♂. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 177, 178.

***Figs. 2, 2a, 2b.***—*Ptenoplax notopus,** (Alcock and Anderson), ♂. Journal, Asiatic Society of Bengal, Vol. LXIII, pt. 2, No. 3, 1894, pp. 180–183, pl. ix., figs. 3, 3*a*, 3*b*.

---

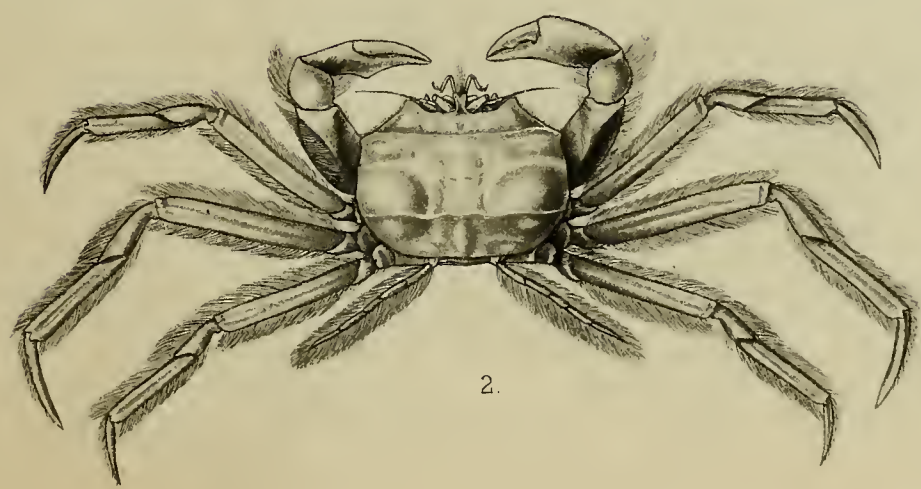
* *Ptenoplax notopus*=*Archæoplax notopus*, Alcock and Anderson, *loc. cit.* In the figure (pl. ix, 3*a*) in the Journal of the Asiatic Society of Bengal, *tom. cit.*, the external maxillipeds are removed for the clearer display of the mouth and deeper mouth-parts.



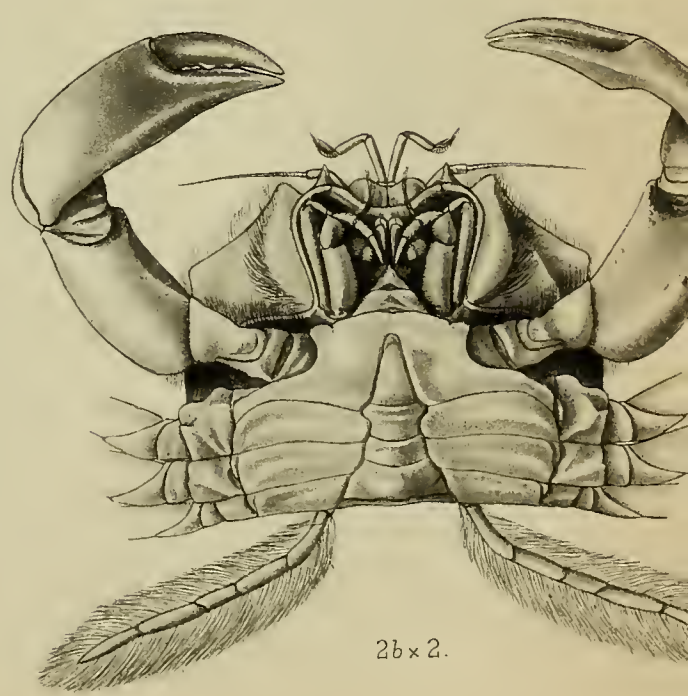
1.

1a.

2a.



2.



2b × 2.

1. Calappa exanthematosa. 2. Ptenoplax notopus.

A.C.Chowdhary & S.C.Mondul, del.

Photo-etching - Survey of India Offices, Calcutta.

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

ROYAL INDIAN MARINE SURVEYING STEAMER

# INVESTIGATOR,

UNDER THE COMMAND OF

COMMANDER C. F. OLDHAM, R.N.

---

## CRUSTACEA.

Part IV, Plates XVI–XXVII.

UNDER THE DIRECTION OF

A. ALCOCK, M.B., C.M.Z.S., LATE SURGEON-NATURALIST TO THE MARINE SURVEY,

AND OF

A. R. S. ANDERSON, B.A., M.B., SURGEON-NATURALIST TO THE MARINE SURVEY.

Published under the Authority of Captain J. Hext, R.N., C.I.E., A.D.C.,
Director of the Royal Indian Marine.

CALCUTTA:

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.

1896.

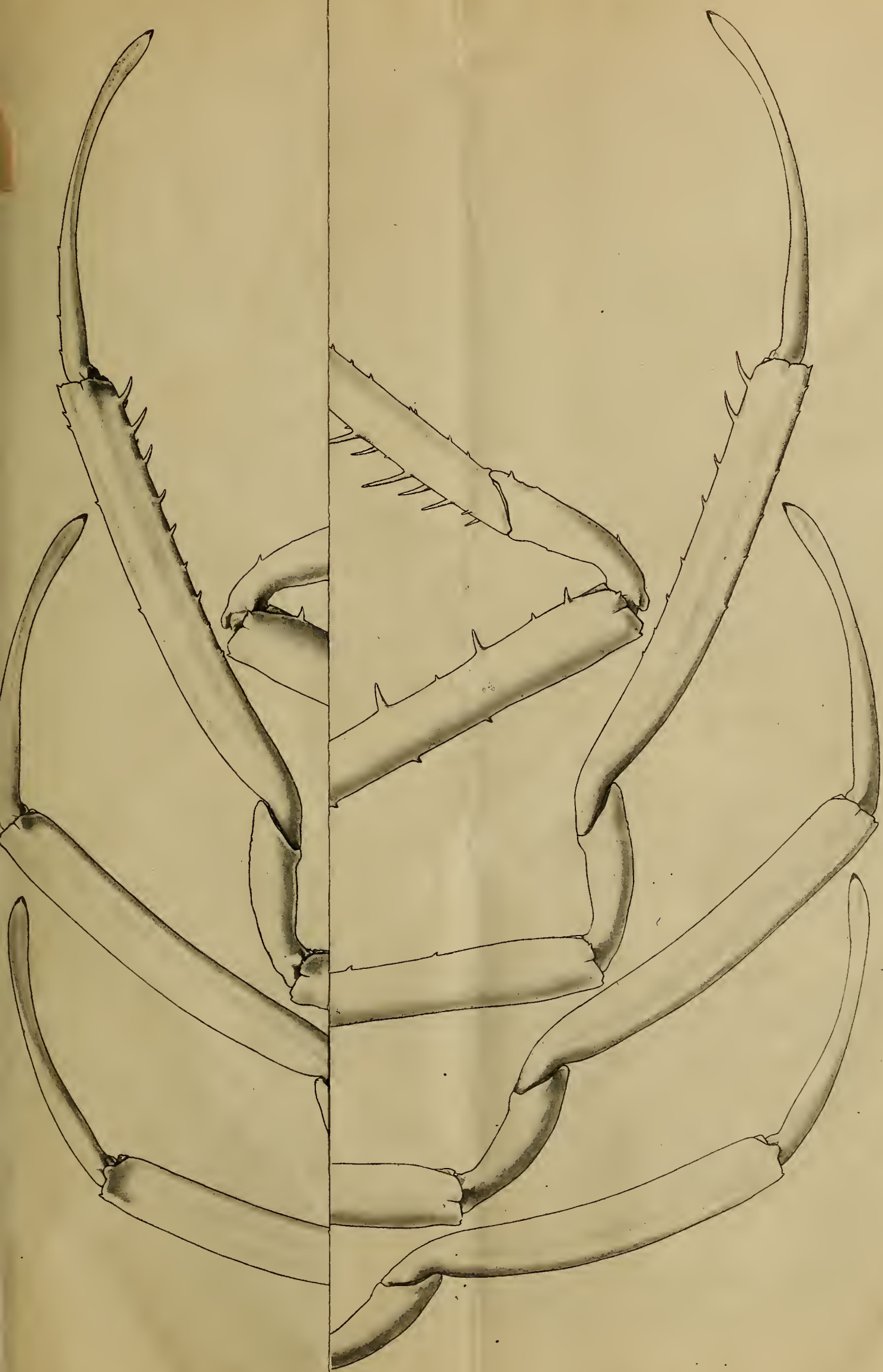
Sold by the Superintendent of the Indian Museum.

# EXPLANATION OF PLATES.

## CRUSTACEA.

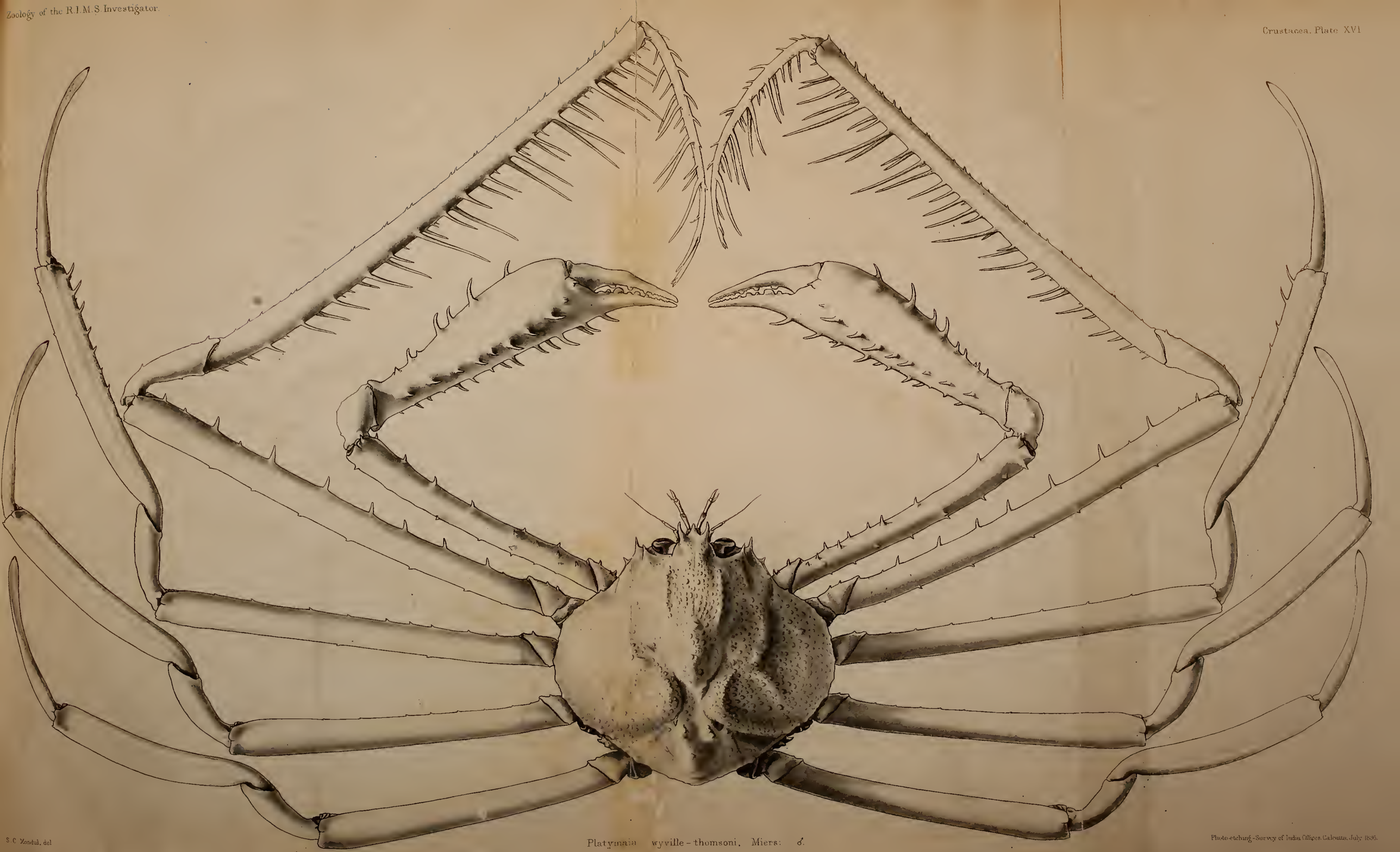
### PLATE XVI.

*Platymaia wyville-thomsoni*, Miers, ♂. Miers, Challenger Brachyura, p. 13: Wood-Mason, Annals and Magazine of Natural History, March, 1891, p. 258: Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 181.



S. C. Mondul, del.

Photo-etching - Survey of India Offices, Calcutta, July 1896.



S.C. Mondul, del

Platymaia wyville-thomsoni, Miers: ♂.

Photo-etching-Survey of India Offices, Calcutta, July 1896.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XVII.

***Fig. 1.***—*Echinoplax pungens*, Wood-Mason, Annals and Magazine of Natural History, March, 1891, p. 259: Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 179. ♀.

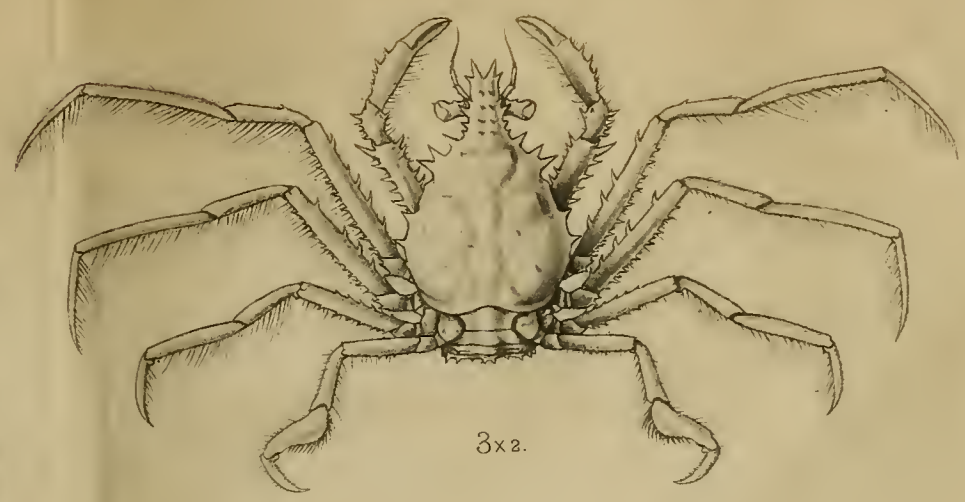
***Figs. 2, 2a.***—*Echinoplax rubida*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 179. ♂.

***Figs. 3, 3a.***—*Grypachæus hyalinus*, Alcock and Anderson, Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 205*: Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 177. ♀.

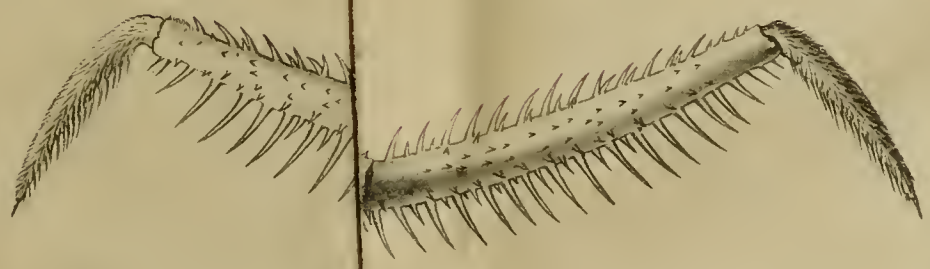
---

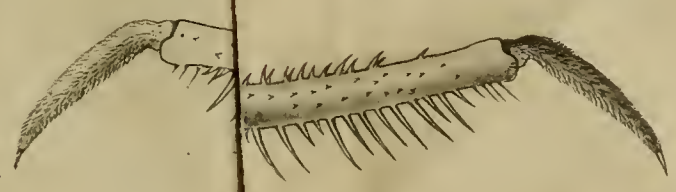
**Achæus hyalinus.*

2.



3 x 2.





2a.

3a x 3.

A.C. Chowdhary. del.

Photo-etching - Survey of India Offices. Calcutta. July 1896.

2.

3 x 2.

1.

2a.

3a x 8.

1 Echinoplax pungens. W-M., ♀. 2. Echinoplax rubida. Alc., ♂. 3 Grypachæus hyalinus. Alc. & And., ♀.

A. C. Chowdhary, del.

Photo-etching - Survey of India Offices, Calcutta. July 189

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XVIII.

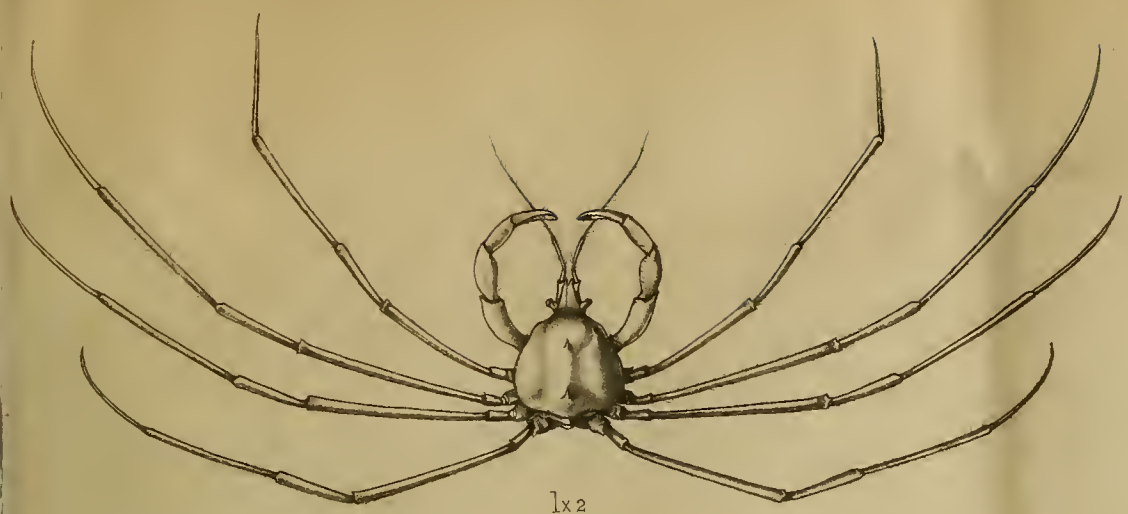
***Figs. 1, 1a, 1b.***—*Physachæus ctenurus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 175. ♂. ♀.

***Figs. 2, 2a.***—*Physachæus tonsor*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 176. ♀.

***Fig. 3.***—*Lamŏrachæus ramifer*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 168. ♂.

***Figs. 4, 4a.***—*Paratymolus hastatus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 174. ♀.

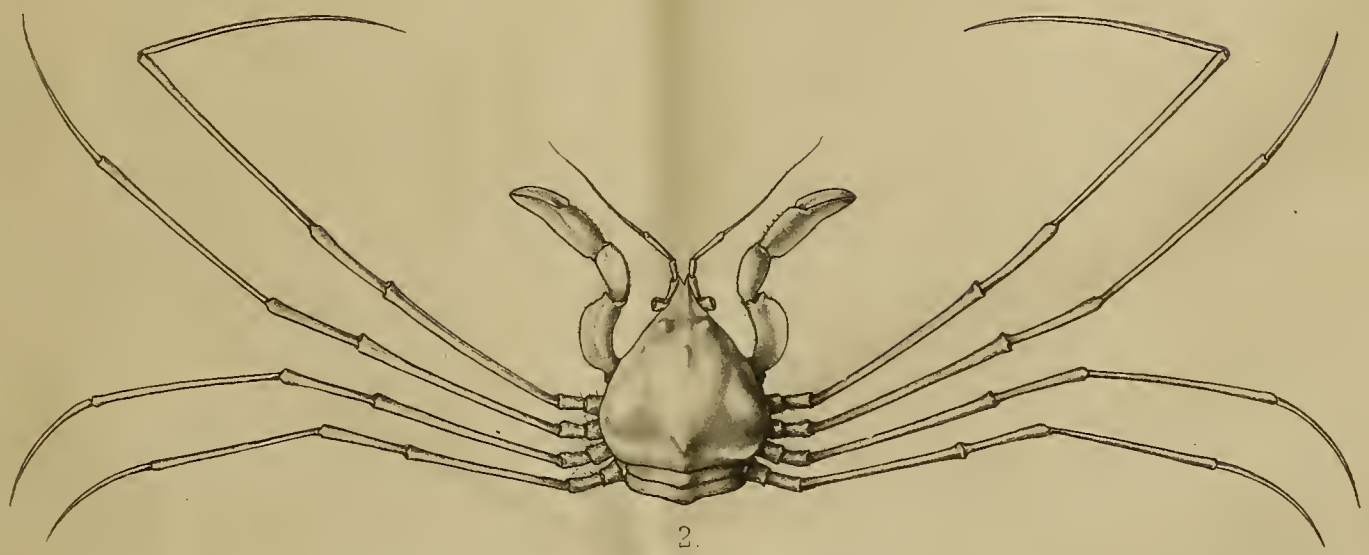
***Fig. 5.***—*Achæus cadelli*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 171. ♂.



1x2

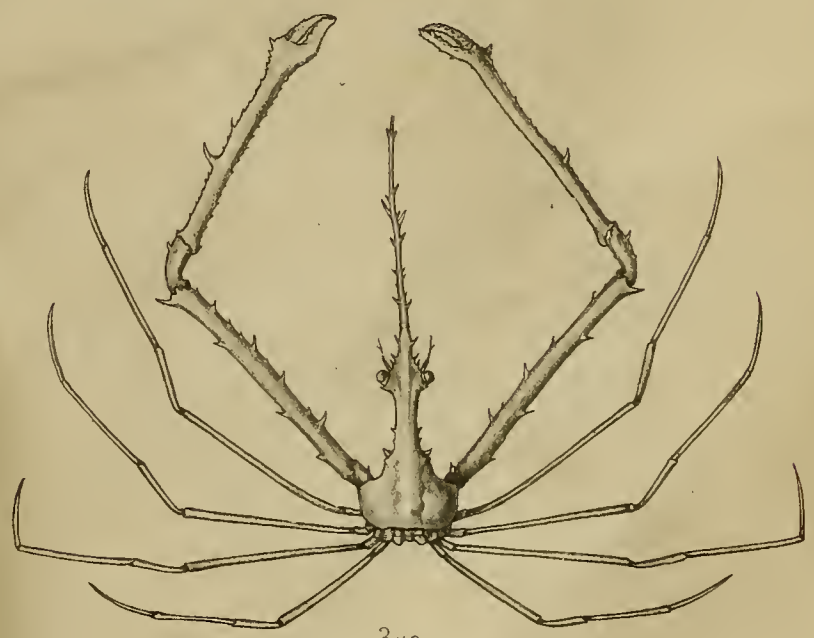
1a x 4.

1b x 4.

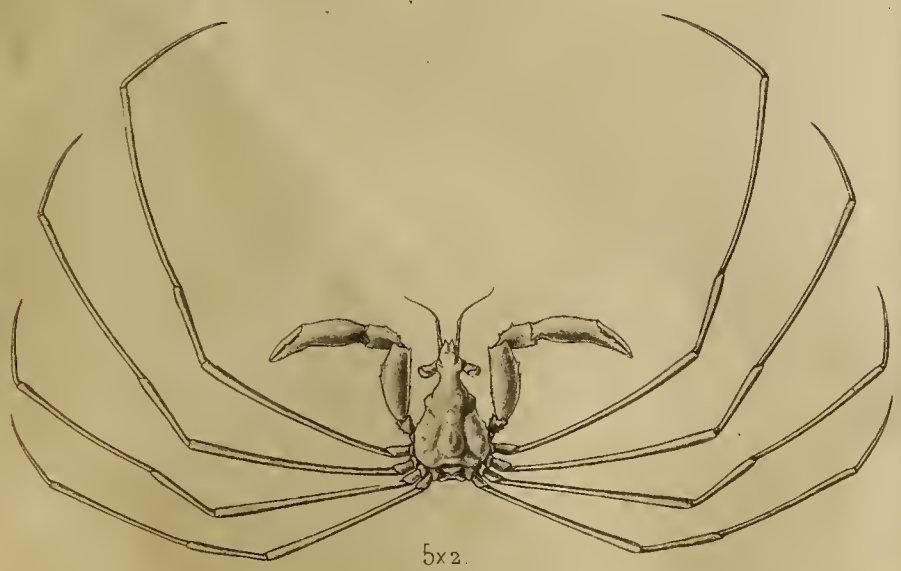


2.

2a.



3x2.



5x2.

4a x 4.

4x2.

1. Physachaeus ctenurus, Alc. ♂. 2. Physachaeus tonsor, Alc. ♀. 3. Lambrachaeus ramifer, Alc. ♂.
4. Paratymolus hastatus, Alc. ♀. 5. Achaeus cadelli, Alc. ♂.

Chowdhary & Mondul, del.

Photo-etching - Survey of India Offices, Calcutta, May 1896.

# EXPLANATION OF PLATES.

## CRUSTACEA.

### PLATE XIX.

***Fig. 1.***—*Collodes malabaricus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 189. ♀.

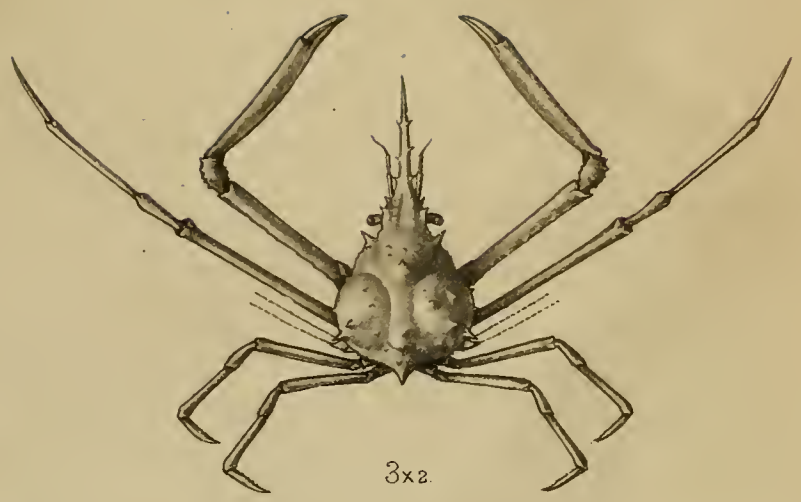
***Figs. 2, 2a.***—*Encephaloides armstrongi*, Wood-Mason, Annals and Magazine of Natural History, March, 1891, p. 259: Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 187. ♂.

***Figs. 3, 3a.***—*Inachoides dolichorhynchus*, Alcock and Anderson, Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 206: Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 186.

1x10.

3a.

2a.



3x2.

2.

1. Collodes malabaricus, Alc. ♀x10. 2. Encephaloides armstrongi W-M. ♂. 3. Inachoides dolichorhynchus. Alc. &. And. ♂.

A.C. Chowdhary, del.

Photo-etching-Survey of India Offices, Calcutta, May 1896.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XX.

***Figs. 1, 1a.***—*Apocremnus indicus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 188. ♂.

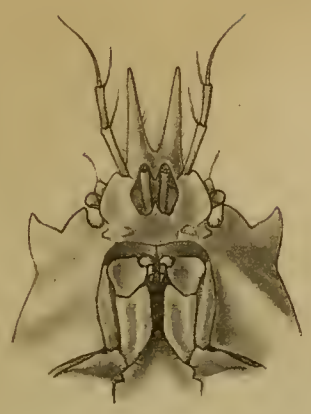
***Figs. 2, 2a.***—*Scyramathia beauchampi*, Alcock and Anderson, Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 185* : Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 204. ♂.

***Figs. 3, 3a.***—*Scyramathia globulifera*, Wood-Mason, Annals and Magazine of Natural History, March, 1891, p. 260† : Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 205. ♂.

***Figs. 4, 4a.***—*Chorilibinia andamanica*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 222.

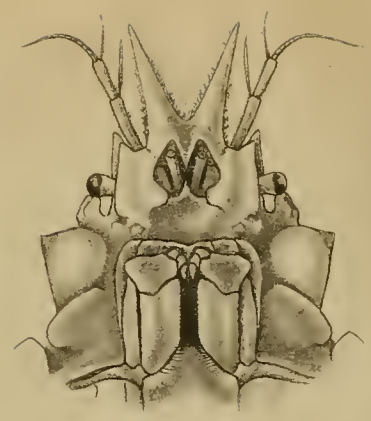
---

* *Anamathia beauchampi.*
† *Pugettia globulifera.*



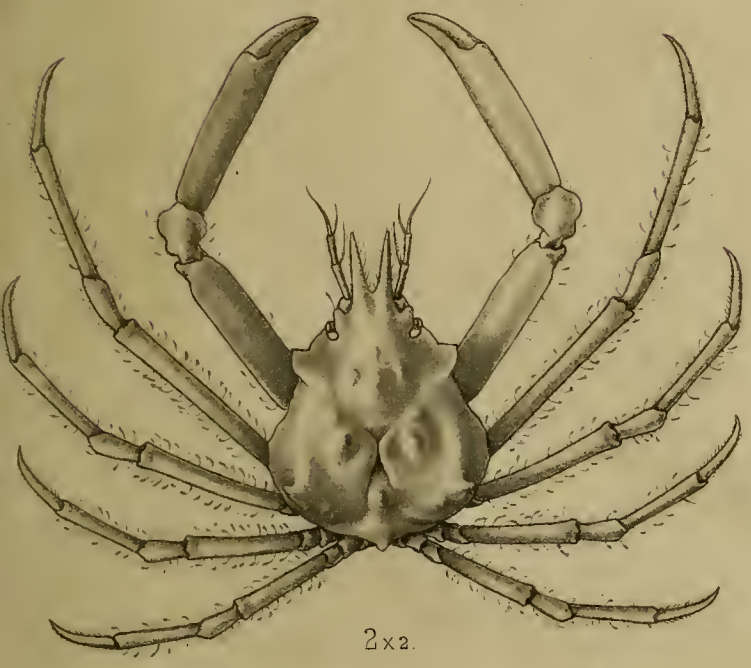
2a x 3.

1 x 2.



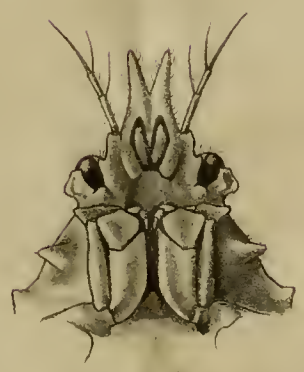
3a x 4.

1a x 4.

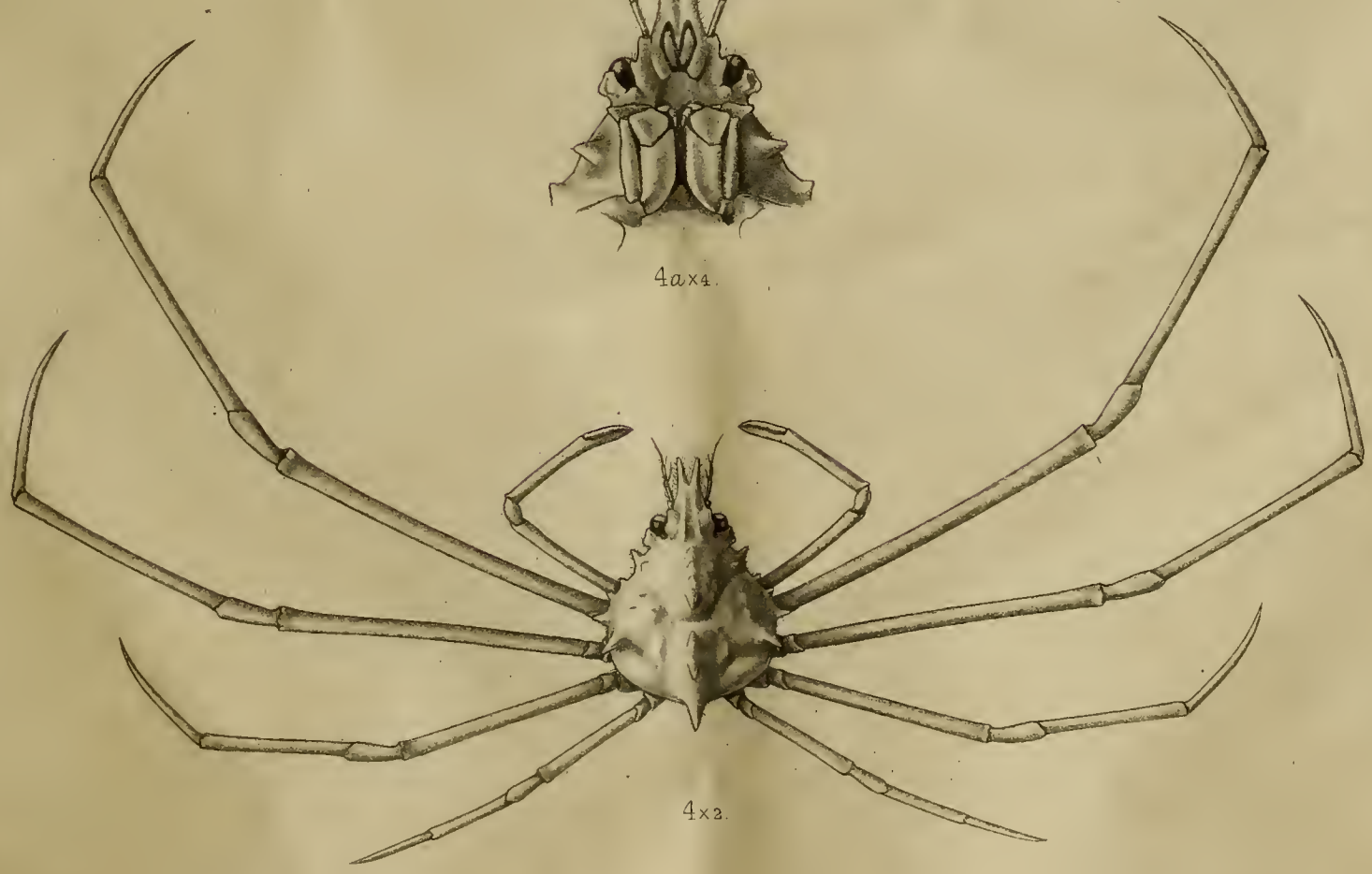


2 x 2.

3 x 2.



4a x 4.



4 x 2.

1. Apocremnus indicus, Alc. ♂. 2. Scyramathia beauchampi Alc. & And. ♂. 3. Scyramathia globulifera, W-M. ♂. 4. Chorilibinia andamanica, Alc.

S.C. Mondul, del.

Photo etching - Survey of India Offices, Calcutta, June 1896.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXI.

***Figs. 1, 1a.***—*Sphenocarcinus cuneus*, Wood-Mason, Annals and Magazine of Natural History, March, 1891, p. 261*: Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 193. ♀.

***Fig. 2.***—*Hyastenus calvarius*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 213. ♀.

***Figs. 3, 4.***—*Macrocœloma nummifer*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 255. ♀. ♂.

***Figs. 5, 5a.***—*Maia gibba*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 239. ♂.

***Fig. 6.***—*Naxia investigatoris*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 218.

---

* *Oxypleurodon cuneus.*

1a x3.

1x2.

2x2.

3x2.

4x2.

6.

5.

5a x2.

1. Sphenocarcinus cuneus, W-M. ♀. 2. Hyastenus calvarius, Alc. ♀. 3. Macrocoeloma nummifer, Alc. ♀.
4. Macrocoeloma nummifer, Alc. ♂. 5. Maia gibba, Alc. ♂. 6. Naxia investigatoris Alc. ♂.

A. C. Chowdhary & S. C. Mondul, del.

Photo-etching - Survey of India Offices, Calcutta, June 1896.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXII.

***Figs. 1, 1a.***—*Lambrus petalophorus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 271. ♂.

***Figs. 2, 4, 4a.***—*Scyramathia rivers-andersoni*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 203. ♀. ♂.

***Fig. 3.***—*Lambrus beaumontii*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 276. ♂.

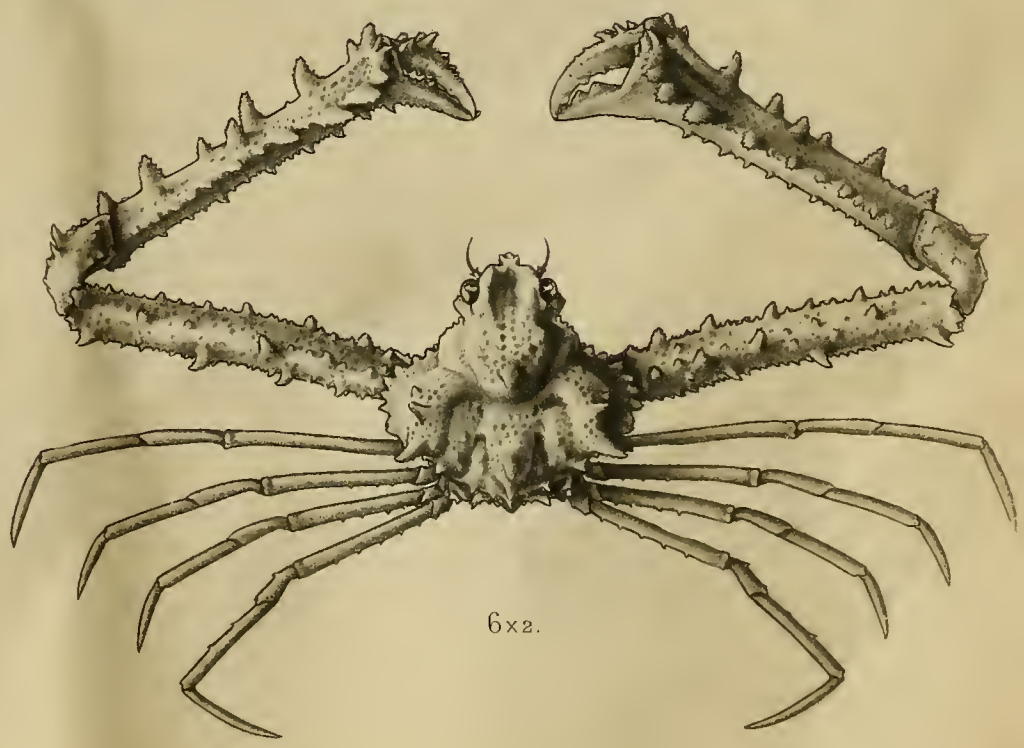
***Figs. 5, 5a.***—*Parthenope efflorescens*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 281. ♀.

***Fig. 6.***—*Lambrus cybelis*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895 p. 270. ♂.








1. Lambrus petalophorus. Alc. ♂. 2. Scyramathia rivers-andersoni. ♀. 3. Lambrus beaumontii. Alc. ♂.
4. Scyramathia rivers-andersoni. ♂. 5. Parthenope efflorescens. Alc. 6. Lambrus cybelis. Alc. ♂.

Chowdhary & Mondul. del. Photo-etching - Survey of India Offices, Calcutta. June 1896.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXIII.

***Figs. 1, 1a.***—*Parthenope investigatoris*, Alcock. Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 296, ♀.

***Fig. 2.***—*Lambrus beaumontii*, Alcock. Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 276, ♀.

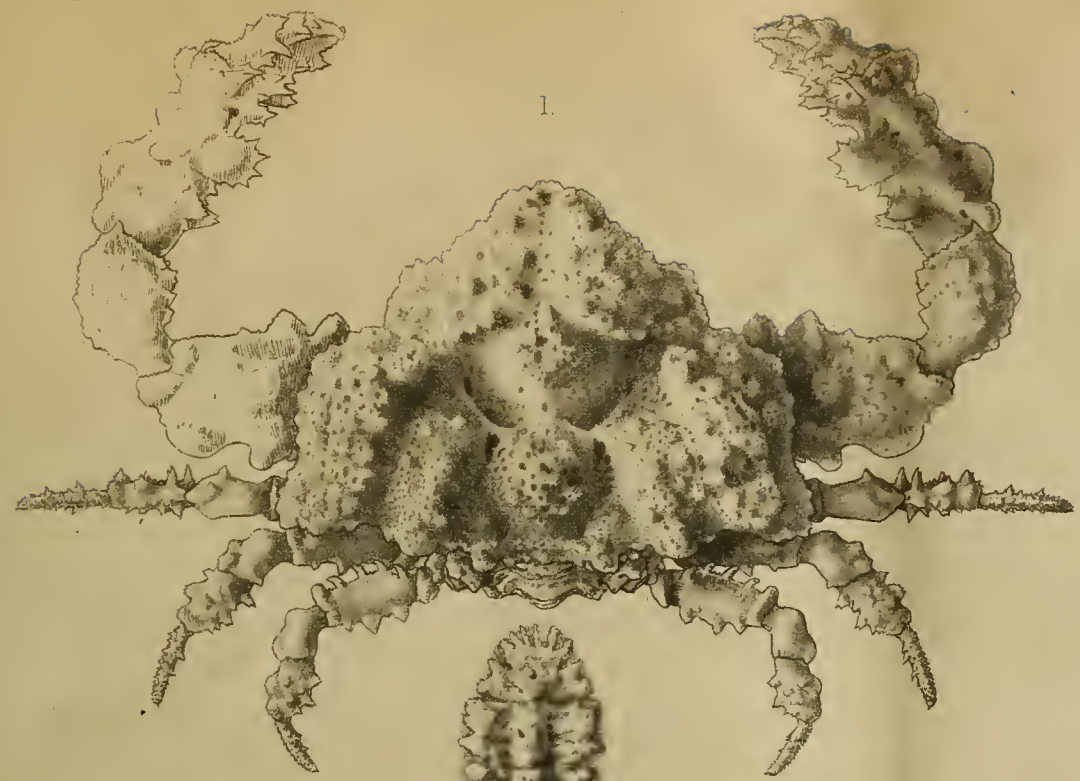
***Figs. 3, 3a.***—*Heterocrypta investigatoris*, Alcock. Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 284, ♀.

***Fig. 4.***—*Cryptopodia angulata*, var. *cippifer*, Alcock. Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 283, ♀.

***Fig. 5.***—*Eumedonus zebra*, Alcock. Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p 288, ♀.

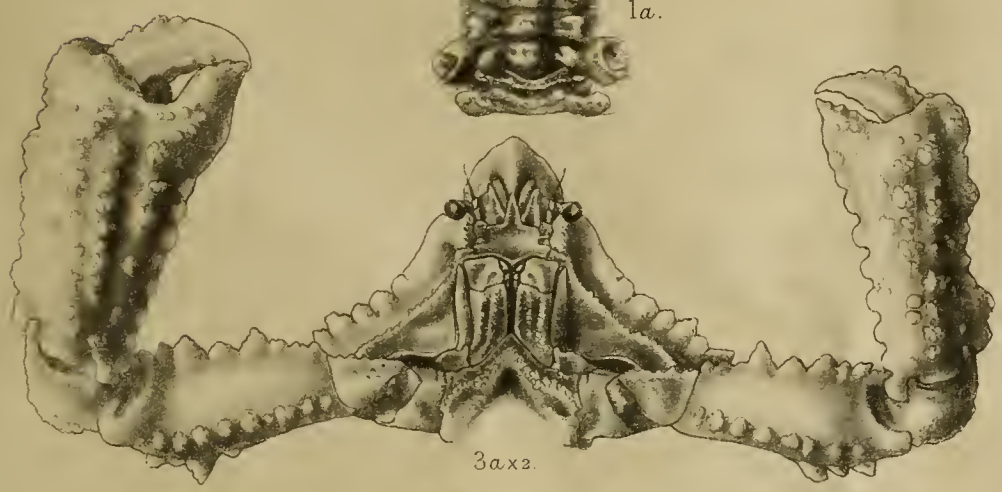
***Fig. 6.***—*Goniosoma hoplites*, Wood-Mason MS., Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 184, ♂.

***Figs. 7, 7a.***—*Menæthiops bicornis*, Alcock. Journal, Asiatic Society of Bengal, Vol. LXIV. pt. 2, 1895, p. 289, ♀.

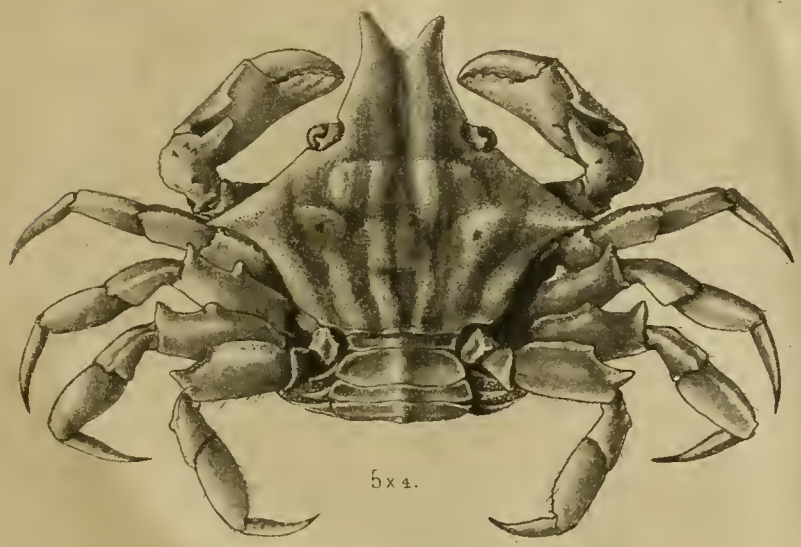
















1. Parthenope investigatoris, ♀. 2. Lambrus beaumontii, ♀. 3. Heterocrypta investigatoris, ♀. 4. Cryptopodia angulata, var. cippifer.
5. Eumedonus zebra, ♀. 6. Goniosoma hoplites, ♂. 7. Menaethiops bicornis, ♀.

A. C. Chowdhary & S. C. Mondul, del. Photo-etching Survey of India Offices, Calcutta, May 1896.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXIV.

***Figs. 1, 1a.***—*Dromidia kendalli*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 175, ♀.

***Fig. 2.***—*Pariphiculus coronatus*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 177: Alcock. Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 258, ♀

***Fig. 3.***—*Randallia pustulilabris*, Alcock. Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 193 (=*Leucosilia granulosa*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 207), ♀.

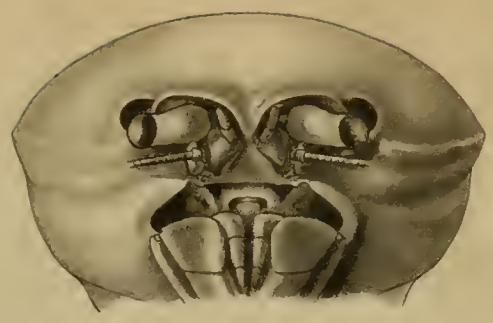
***Fig. 4.***—*Dorippe polita*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 208: Alcock. Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p 281, ♀.

***Fig. 5.***—*Mursia bicristimana*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 179 : Alcock. Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 150. ♀.

***Fig. 6.***—*Arcania quinquespinosa*, Wood-Mason MS. Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 206. Alcock. Journal, Asiatic Society of Bengal, Vol. LXV, pt. 2, 1896, p. 266, ♀.

***Fig. 7.***—*Cymopolia serripes*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 208, ♀.

1x2.



1a/x3.

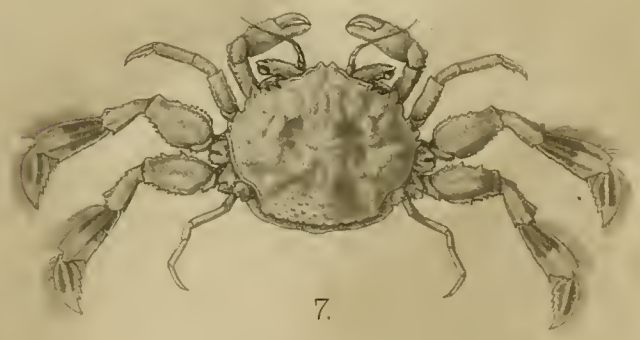
2.

5.

3x2.

6x2.

4. x2



7.

1. Dromidia kendalli A & A. ♀. 2. Randallia coronata. A & A. ♀. 3. Leucosilia granulosa A & A. ♀. 4. Dorippe polita. A & A. ♀.

5. Mursia bicristimana. A & A. ♀. 6. Arcania quinquespinosa. W-M. ♀. 7. Cymopolia serripes. A & A. ♀.

A.C. Chowdhary & Mondul, del. Photo-etching - Survey of India Offices, Calcutta, June 1896.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXV.

***Figs. 1, 1a.***—*Calastacus investigatoris*, Anderson. Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 97, ♂.

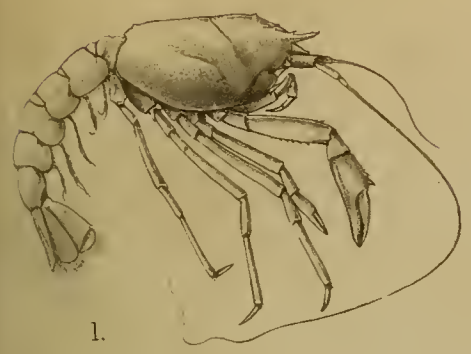
***Figs. 2, 2a.***—*Acanthephyra cristata*, Faxon. Bull. Mus. Comp. Zool., Vol. XXIV. 1893, p. 206; and Mem. Mus. Comp. Zool., Vol. XVIII. p. 162, pl. xliii. figs. 1, 1*a*, 1*b*: * Anderson. Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 94, ♀.

***Figs. 3, 3a.***—*Galacantha trachynotus*, Anderson. Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 100, ♀.

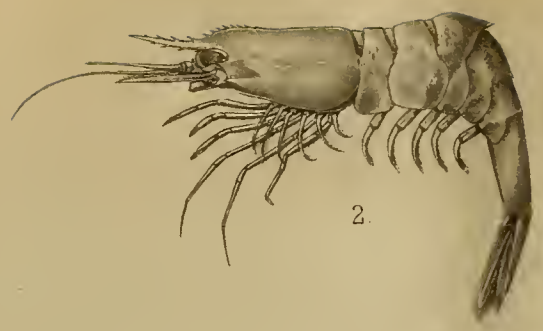
***Figs. 4, 4a.***—*Trichopeltarium ovale*, Anderson. Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 103, ♀.

---

* *Systellaspis gibba* on plate.

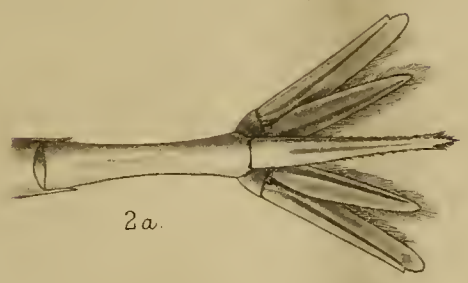


1.

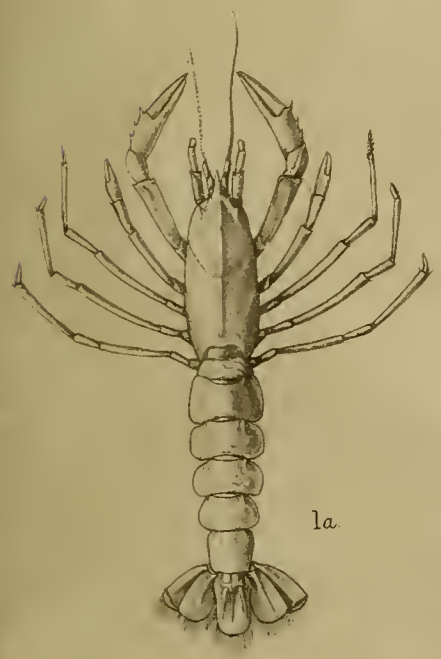


2.

3.

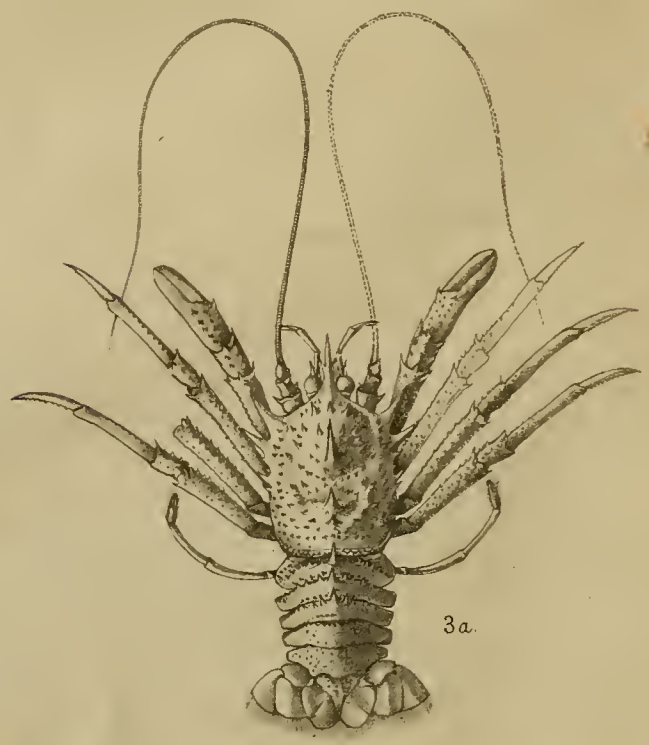


2a.



1a.

4a.



3a.

4.

1. Axius (Eiconaxius) Investigatoris, And. ♂. 2. Systellaspis gibba, And. ♀. 3. Galacantha trachynotus, And. ♀. 4. Trichopeltarion ovale, And. ♀.

Photo-etching-Survey of India Offices, Calcutta. April 1896.

A.C. Chowdhary & S.C. Mondul del.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXVI.

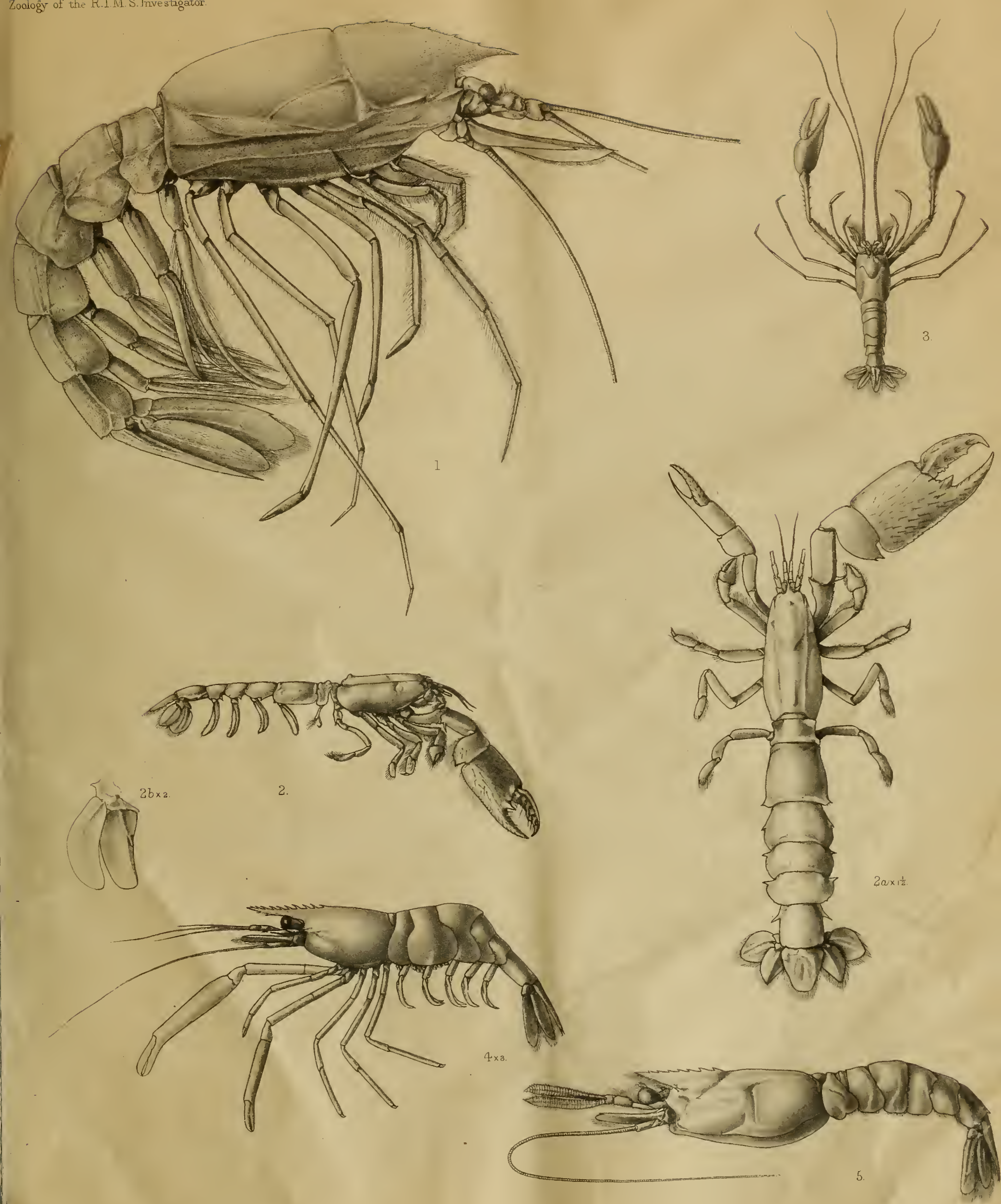
***Fig. 1.***—*Haliporus villosus*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 146, ♀.

***Figs. 2, 2a, 2b.***—*Callianassa cæcigena*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 163, ♀.

***Fig. 3.***—*Engystenopus palmipes*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 149, ♀.

***Fig. 4.***—*Palæmonella laccadivensis*, Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 157, ♀.

***Fig. 5.***—*Solenocera hextii*, Wood-Mason. Annals and Magazine of Natural History, February 1891, p. 188, ♀.




1. Haliporus villosus, A & A. ♀. 2. Callianassa cæcigena, A & A. ♀. 3. Engystenopus palmipes, A & A.
4. Palaemonella laccadivensis, A & A. ♀. 5. Solenocera hextii, W-M. ♀.

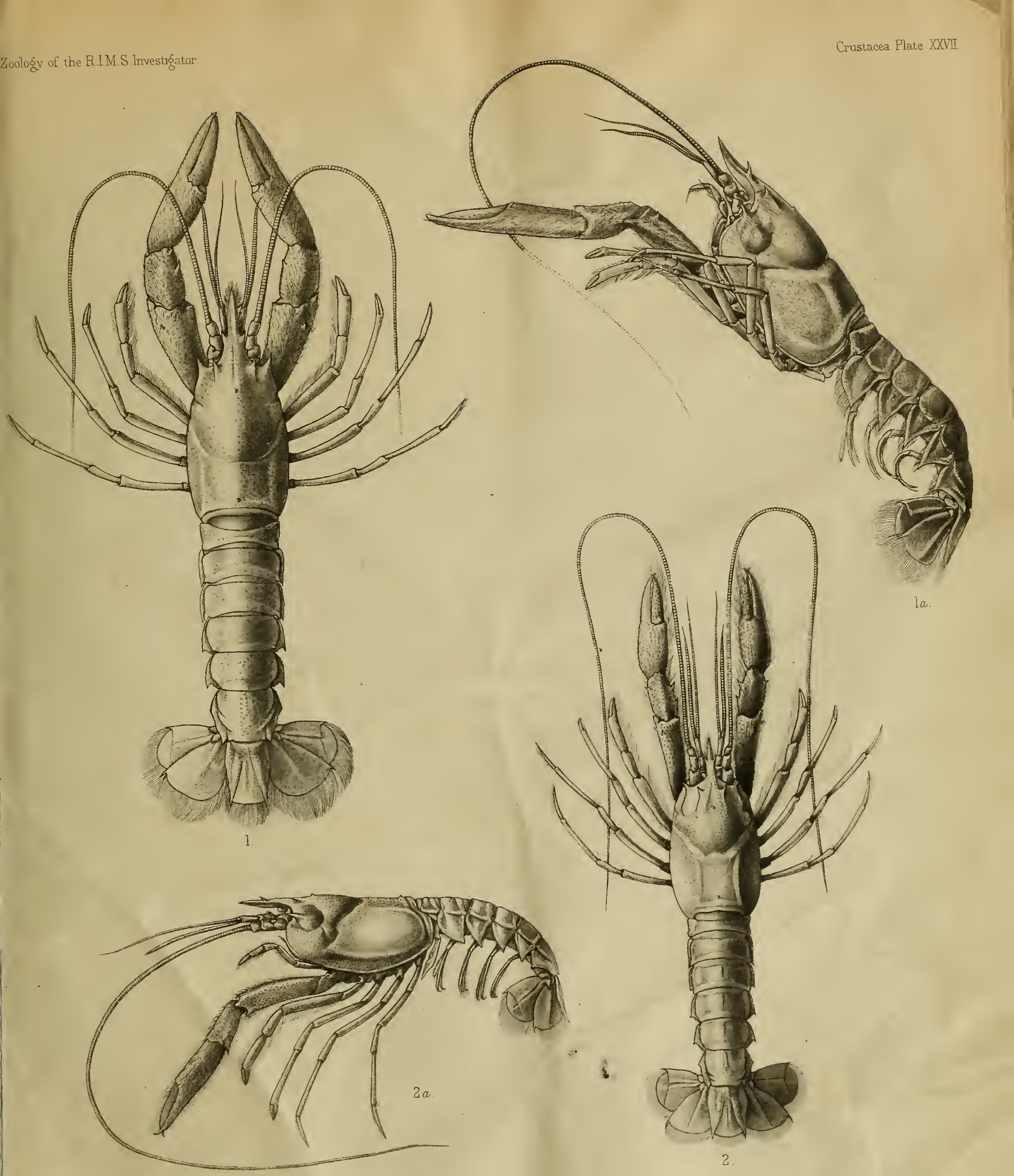
## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXVII.

***Figs. 1, 1a.***—*Nephropsis stewartii*, Wood-Mason. Journal, Asiatic Society of Bengal, Vol. XLII. pt. 2, 1873, p. 39, pl. iv: Annals and Magazine of Natural History, (4) XII. 1873, p. 59: A. Milne-Edwards, Ann. Sci. Nat., Zool., (5) XIX. p. 7, pl. xx, figs. 1-3: Alcock, Annals and Magazine of Natural History. (6) XIII. 1894, p. 230, ♂.

***Figs. 2, 2a.***—*Nephropsis carpenteri*, Wood-Mason. Proceedings, Asiatic Society of Bengal, 1885, p. 70: Alcock and Anderson. Journal, Asiatic Society of Bengal, Vol. LXIII. pt. 2, 1894, p. 161, ♂.




1. Nephropsis stewarti, W-M. ♂. 2. Nephropsis carpenteri, W-M. ♂.

Photo-etching-Survey of India Offices, Calcutta, June 1896.

A. C. Chowdhary del

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

## ROYAL INDIAN MARINE SURVEYING STEAMER

# INVESTIGATOR,

UNDER THE COMMAND OF

COMMANDER C. F. OLDHAM, R.N.

---

FISHES.—Part IV, Plate XVII.
CRUSTACEA.—Part V, Plates XXVIII—XXXII.
MOLLUSCA.—Part I, Plates I—VI.

UNDER THE DIRECTION OF

A. ALCOCK, M.B., C.M.Z.S., LATE SURGEON-NATURALIST TO THE MARINE SURVEY

AND OF

A. R. S. ANDERSON, B.A., M.B., SURGEON-NATURALIST TO THE MARINE SURVEY.

Published under the Authority of Rear Admiral Sir John Hext, R.N., K.C.B.E.,
Director of the Royal Indian Marine.

CALCUTTA:

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.

1897.

Sold by the Superintendent of the Indian Museum.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXVIII.

***Fig. 1.***—*Calappa pustulosa*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 147. ♂.

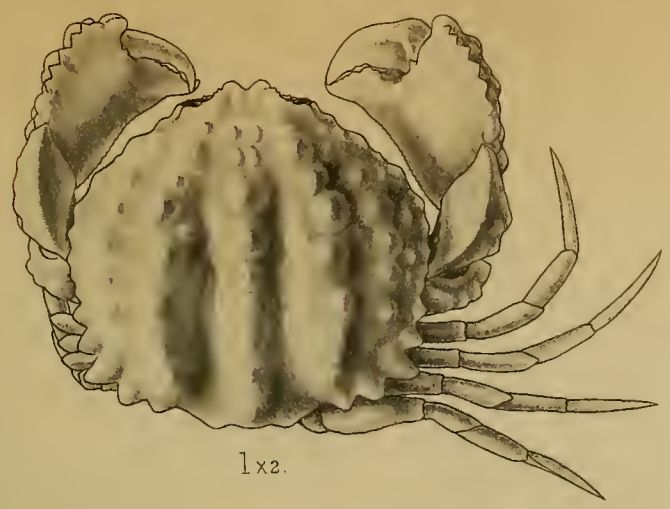
***Fig. 2.***—*Calappa wood-masoni*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 148. ♂.

***Fig. 3.***—*Actæomorpha lapillulus*, Alcock, Journal, Asiatic Society of Bengal, Vol. XLV. pt. 2, 1896, p. 173. ♀.

***Fig. 4.***—*Actæomorpha morum*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 172. ♀.

***Fig. 5.***—*Tlos patella*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 176. ♀.

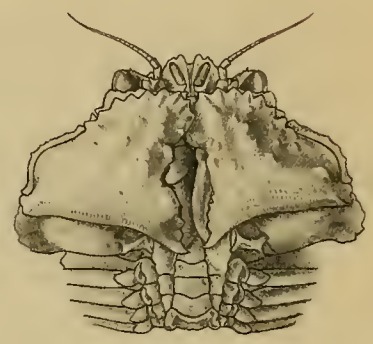
***Fig. 6.***—*Heteronucia vesiculosa*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 177. ♀.



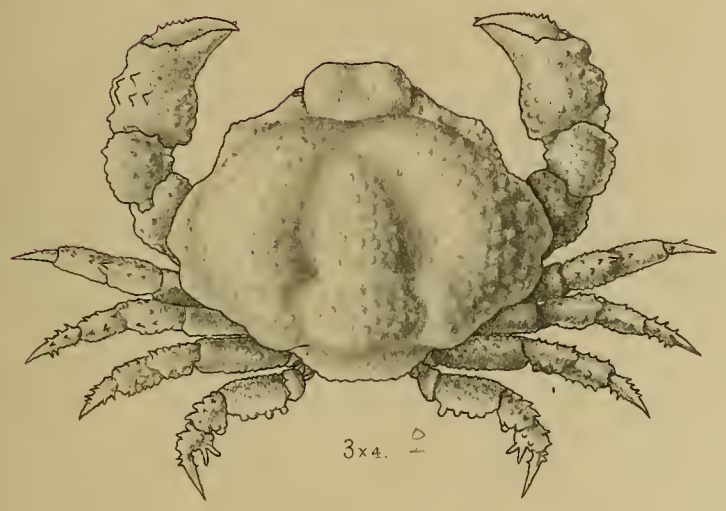
1 x 2.

2 x 4.

1a x 2.



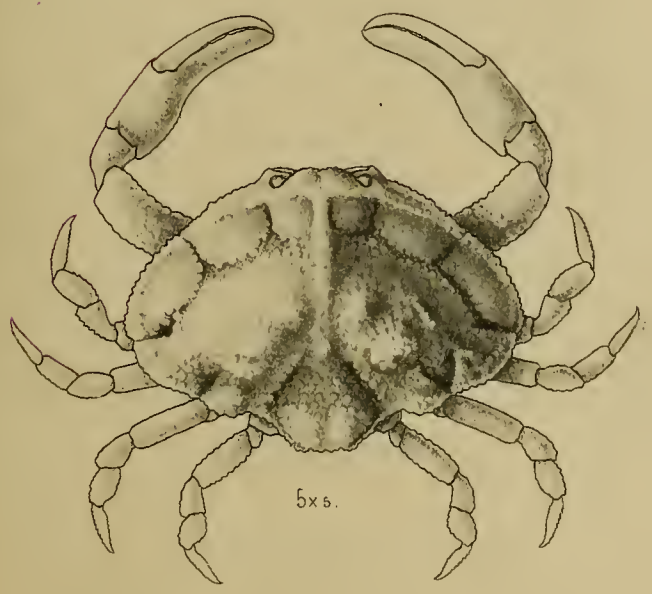
2a x 4.



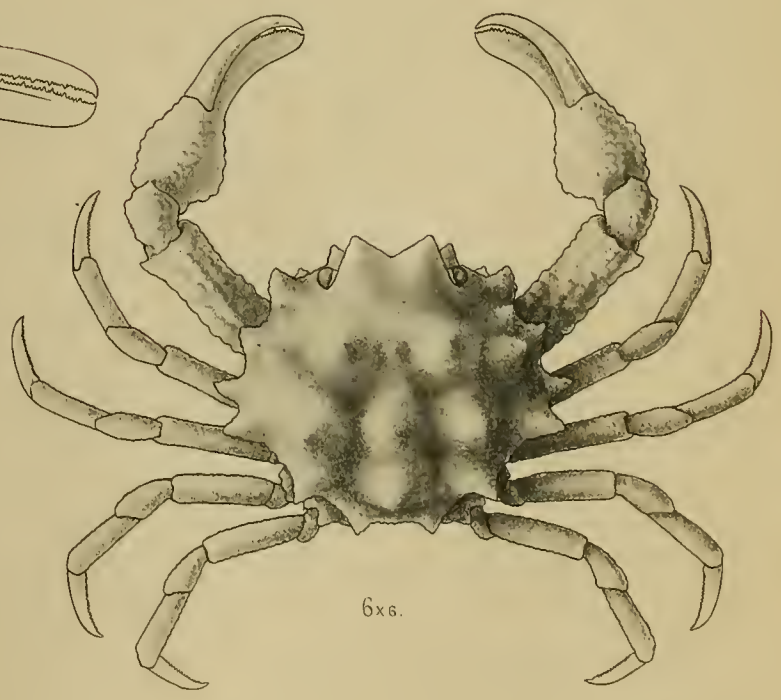
3 x 4.

4 x 4.

6a x 8.



5 x 5.



6 x 6.

1. Calappa pustulosa, Alc., ♂ x 2. 2. Calappa woodmasoni, Alc., ♂ x 4. 3. Actaeomorpha lapillulus, Alc., ♀ x 4.
4. Actaeomorpha morum, Alc., ♀ x 4. 5. Tlos patella, Alc., ♀ x 5. 6. Heteronucia vesiculosa, Alc., ♀ x 6.

A.C.Chowdhary & S.C.Mondul, del.

Photo-etching-Survey of India Offices, Calcutta, March 1897.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXIX.

***Fig. 1.***—*Nursia persica*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 183. ♀.

***Fig. 2.***—*Nursia nasuta*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 183. ♂.

***Fig. 3.***—*Nursia blanfordi*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 182. ♀.

***Fig. 4.***—*Ebalia diadumena*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 187. ♀.

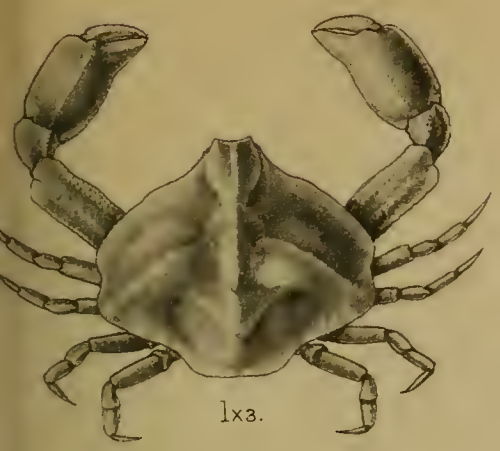
***Fig. 5.***—*Ebalia wood-masoni*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 188. ♂.

***Figs. 6, 6a.***—*Philyra sexangula*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 241. ♂.

***Figs. 7, 7a.***—*Philyra corallicola*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 247. ♂.

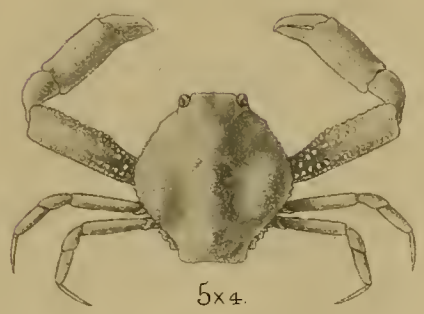
***Figs. 8, 8a.***—*Myra brevimana*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 206. ♂.

***Fig. 9.***—*Ebalia sagittifera*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 188. ♂.





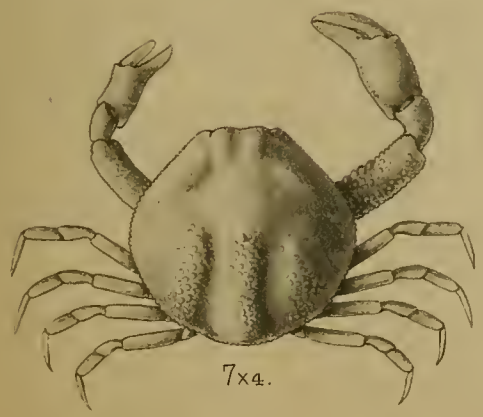














1. Nursia persica, Alc. ♀ x 3. 2. Nursia nasuta, Alc ♂ x 6. 3. Nursia blanfordi, Alc. ♀ x 4. 4. Ebalia diadumena, Alc. ♀ x 4.
5. Ebalia woodmasoni, Alc. ♂ x 4. 6. Philyra sexangula, Alc. ♂ x 2. 7. Philyra corallicola, Alc. ♂ x 4.
8. Myra brevimana, Alc. ♂ x 1½. 9. Ebalia sagittifera, Alc. ♂ x 4.

Photo-etching.

Survey of India Offices, Calcutta, August 1897.

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXX.

***Fig. 1.***—*Leucosia sima*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 227. ♀.

***Fig. 2.***—*Leucosia corallicola*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 224.

***Fig. 3.***—*Leucosia truncata*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 234. ♀.

***Fig. 4.***—*Randallia eburnea*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 197. ♂.

***Figs. 5, 5a.***—*Randalia lanata*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 193. ♂.

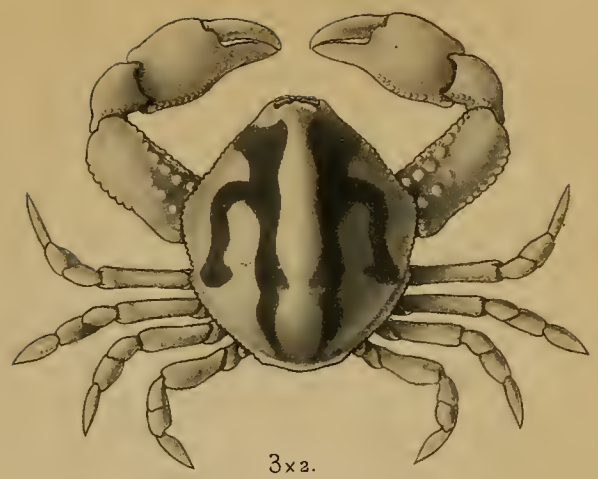
***Figs. 6, 6a.***—*Pseudophilyra wood-masoni*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 250 ♂.

***Fig. 7.***—*Pariphiculus rostratus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 259.

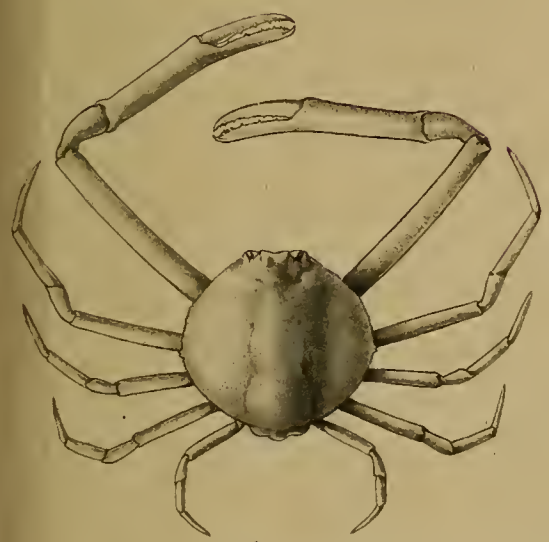
***Figs. 8, 8a.***—*Pseudophilyra blanfordi*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 252. ♂.

1x2.

2x3.

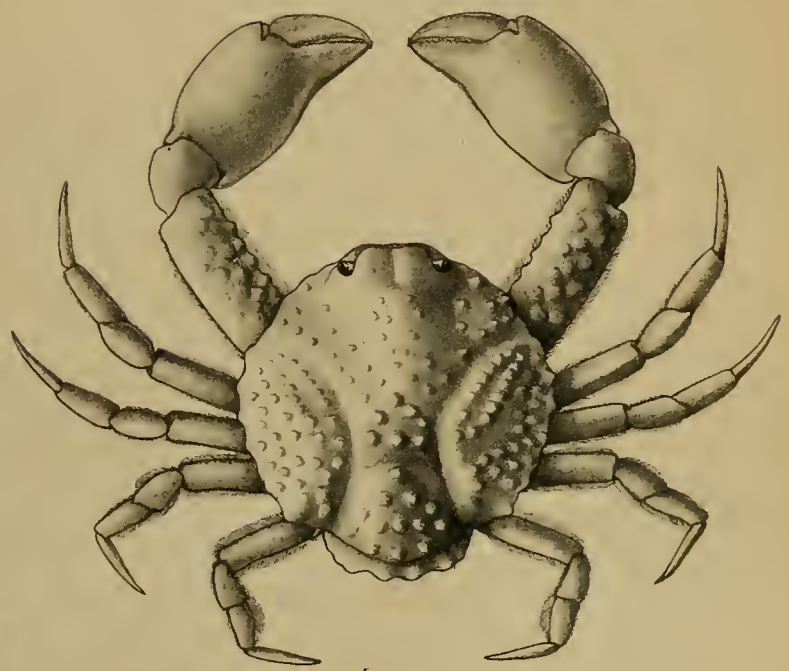


3x2.



4x1½.

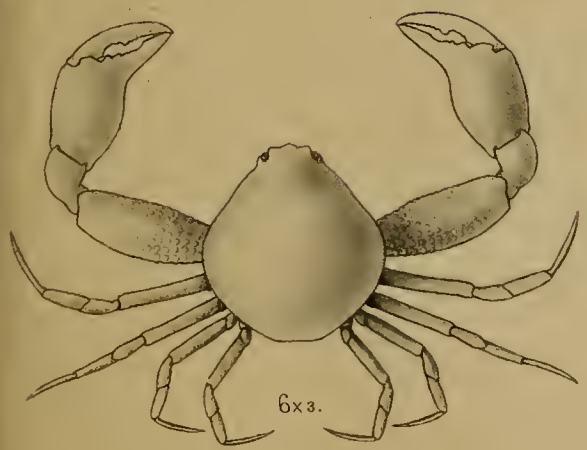
5ax5.



5x4.

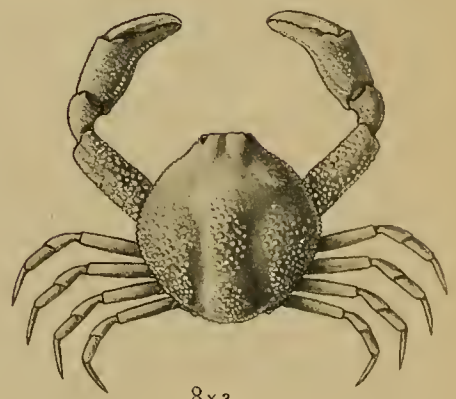
6ax3.

8ax4.



6x3.

7.



8x3.

1. Leucosia sima, Alc., ♀x2. 2. Leucosia corallicola, Alc juv. x3. 3. Leucosia bruncata, Alc ♀x2.
4. Randallia eburnea, Alc. ♂x1½. 5. Randallia lanata, Alc x4. 6. Pseudophilyra woodmasoni, Alc., ♂x3.
7. Pariphiculus rostratus Alc. 8. Pseudophilyra blanfordi, Alc. ♂x3.

Photo-etching-Survey of India Offices, Calcutta, July 1897.

A.C.Chowdhary & S.C.Mondul, del.

# EXPLANATION OF PLATES.

## CRUSTACEA.

### PLATE XXXI.

***Fig. 1.***—*Eupagurus pergranulatus*, Henderson, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 520.

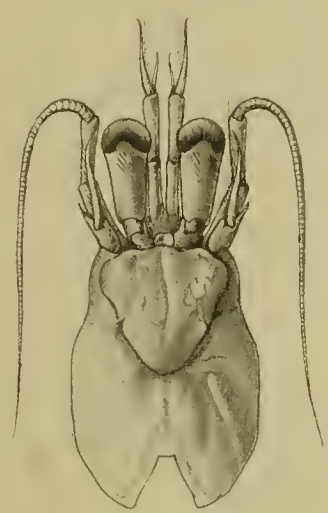
***Fig. 2.***—*Pylopagurus magnimanus*, Henderson, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 522.

***Figs. 3, 3a, 3b, 3c.***—*Catapagurus muricatus*, Henderson, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 524.

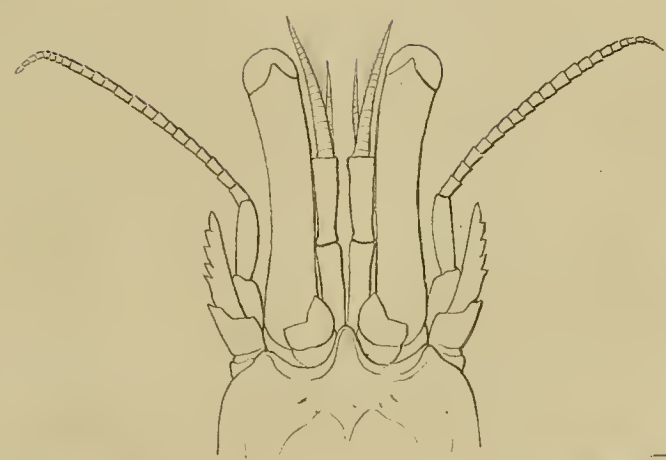
***Figs. 4, 4a.***—*Paguristes pusillus*, Henderson, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 526.

1x3.

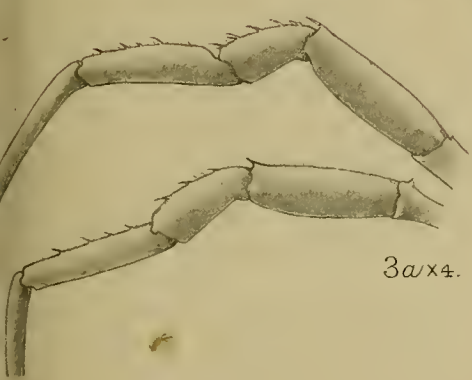
2x$\frac{3}{2}$.



3x4.

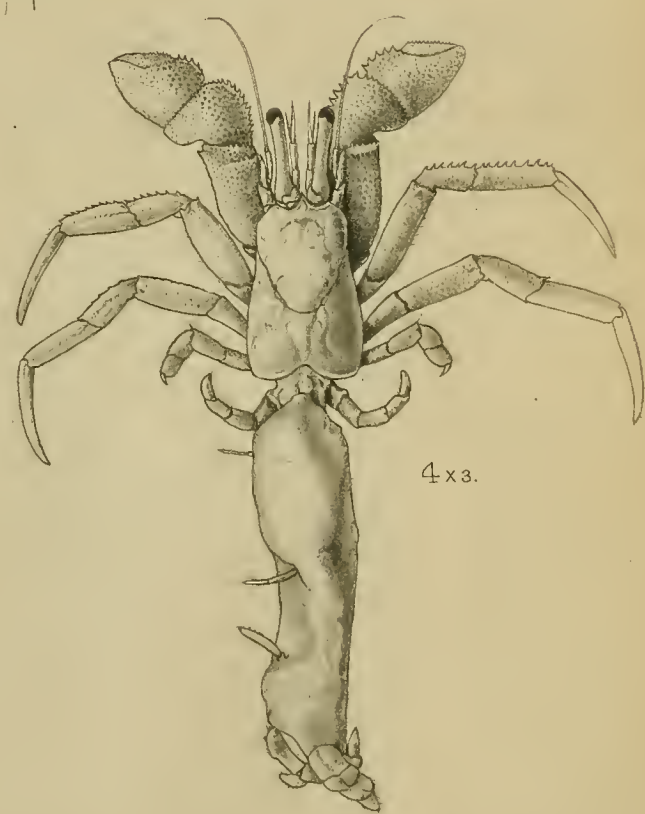


4a x8.

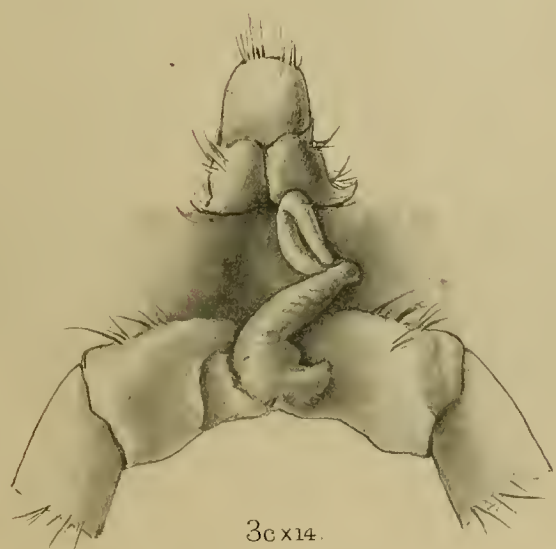


3a x4.

3b x4.



4x3.



3c x14.

1. Eupagurus pergranulatus, Hend. x 3.
3. Catapagurus muricatus, Hend. x 4 : 3c x 14.

2. Pylopagurus magnimanus, Hend. x $\frac{3}{2}$.
4. Paguristes pusillus, Hend. x 3: 4a x 8.

A.C. Chowdhary del.

Photo-etching - Survey of India Offices, Calcutta, April 189

## EXPLANATION OF PLATES.

# CRUSTACEA.

### PLATE XXXII.

***Fig. 1.***—*Paguristes puniceus*, Henderson, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 527.

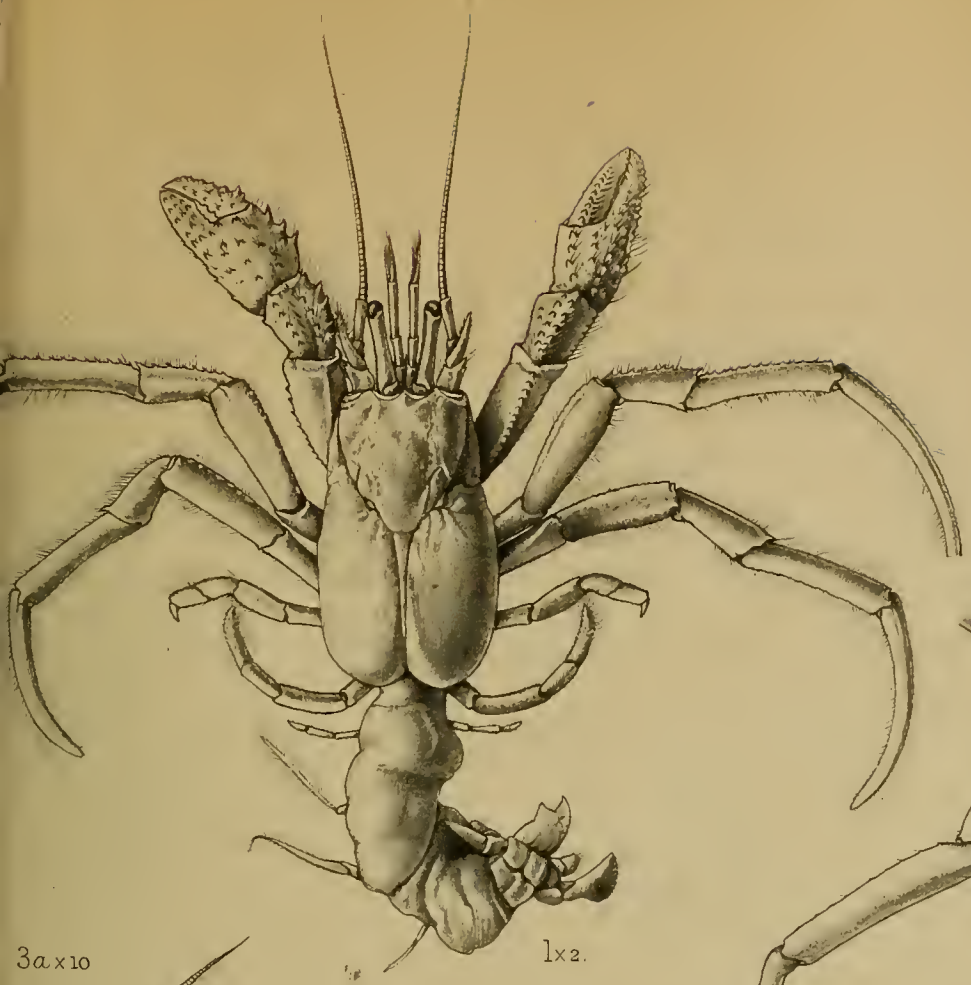
***Fig. 2.***—*Parapagurus andersoni*, Henderson, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 529.

***Figs. 3, 3a.***—*Parapagurus minutus*, Henderson, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 531.

***Fig. 4.***—*Sympagurus monstrosus*,* Alcock, Annals and Magazine of Natural History, (6) XIII, March, 1894, p. 243: Henderson, Journal, Asiatic Society of Bengal, Vol. LXV. pt. 2, 1896, p. 533.

---

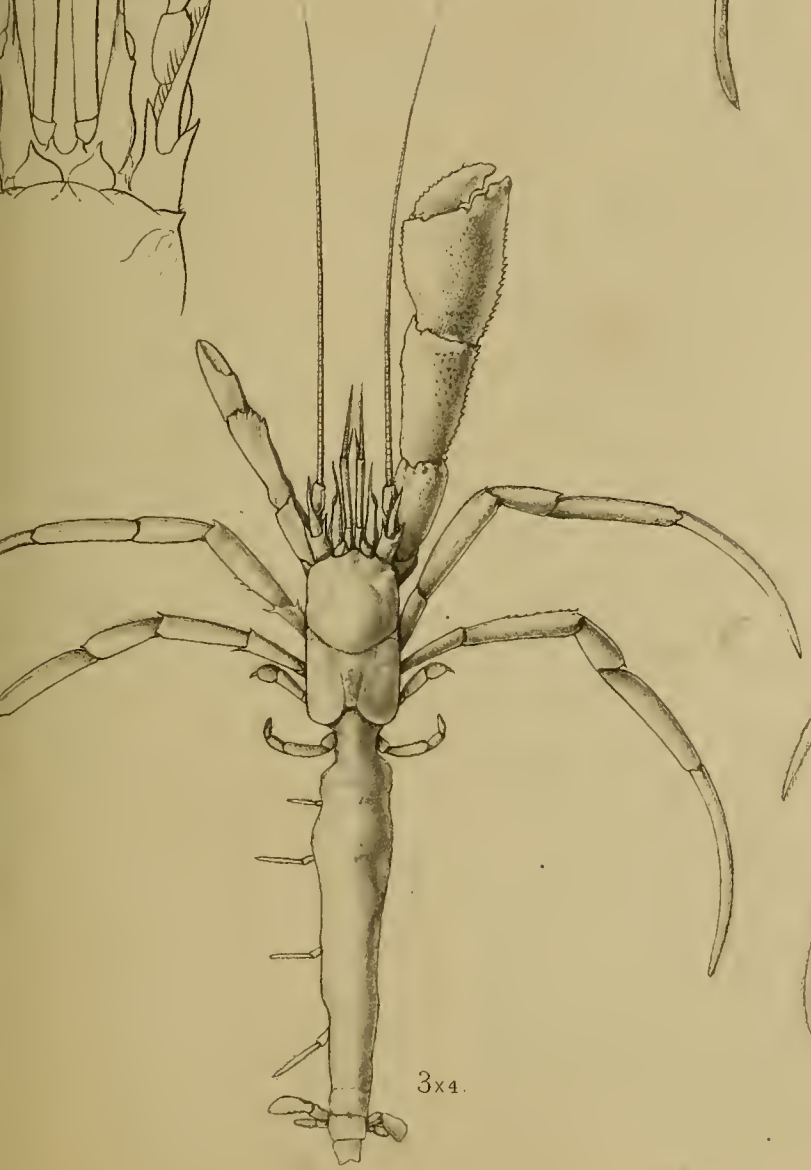
* (?) *Parapagurus monstrosus.*



1x2.

2x2.

3a x 10



3x4.

4x3.

1. Paguristes puniceus, Hend. x 2.
3. Parapagurus minutus, Hend. x 4: 3a x 10.

2. Parapagurus andersoni, Hend. x 2.
4. Sympagurus monstrosus, (Alc.) x 3.

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

ROYAL INDIAN MARINE SURVEY SHIP

# INVESTIGATOR,

UNDER THE COMMAND OF

COMMANDER T. H. HEMING, R.N.

---

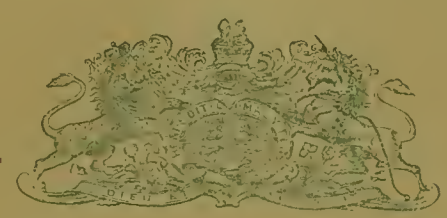
FISHES.—Part V, Plates XVIII—XXIV.
CRUSTACEA.—Part VI, Plates XXXIII—XXXV.
MOLLUSCA.—Part II, Plates VII—VIII.

UNDER THE DIRECTION OF

A. ALCOCK, M. B., C.M.Z.S, SUPERINTENDENT OF THE INDIAN MUSEUM, FORMERLY SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY

AND OF

A. R. S. ANDERSON, B.A., M.B., SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY.



Published under the Authority of Captain W. S. Goodridge, R.N.
Director of the Royal Indian Marine.

CALCUTTA:
OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.
1898.

Sold by the Superintendent of the Indian Museum.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE XXXIII.

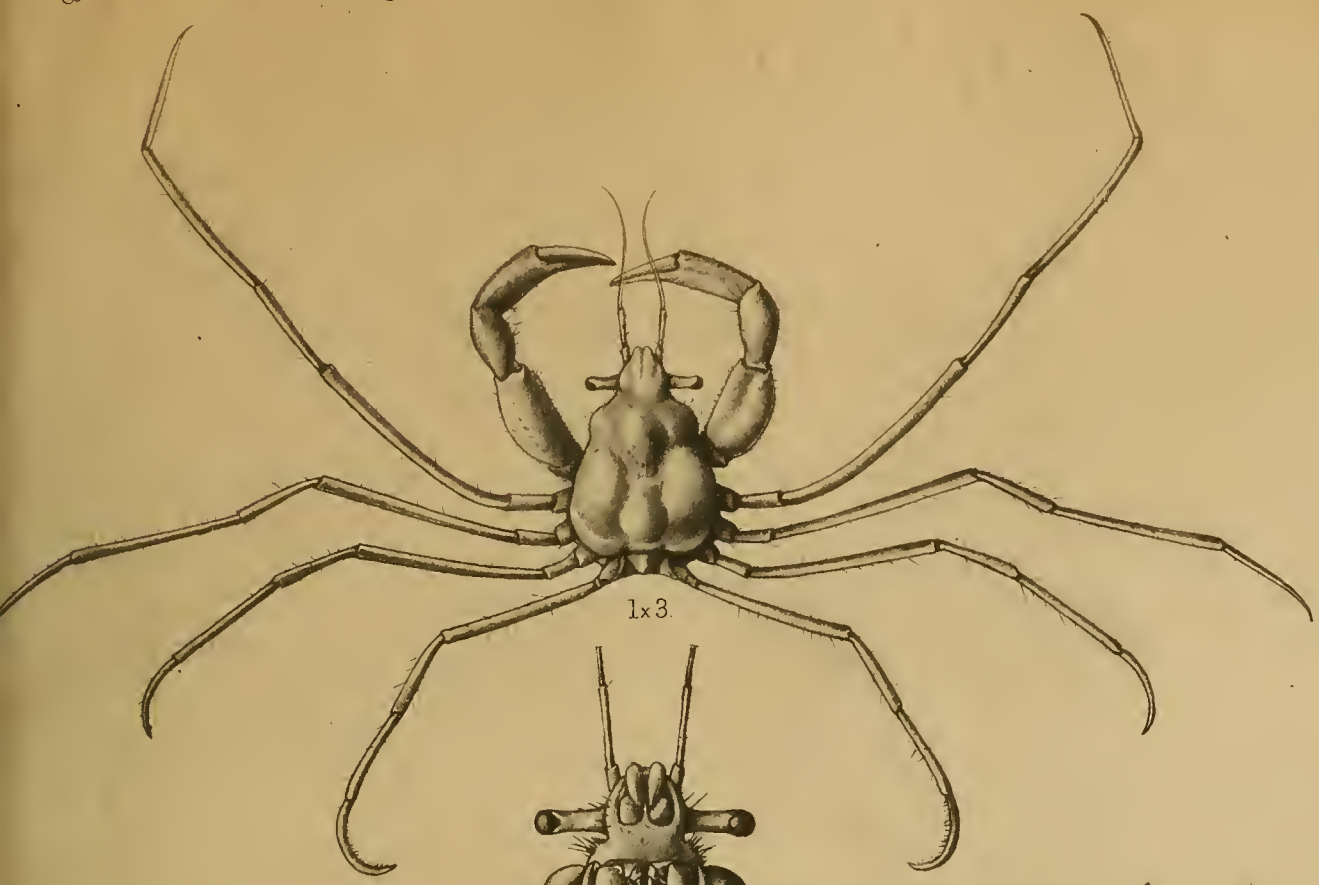
***Figs. 1, 1a.***—*Achaeus lacertosus*, Stimpson, Proc., Academy Natural Science, Philad. 1857, p. 218. [*Vide* Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV, pt. 2, 1895, p. 172, *Carcinological Fauna of India.*]

***Figs. 2, 2a.***—*Naxia cerastes*, Ortmann, in Semon's Forschungsr. Austral. u. Malay. Arch., Crust. (Jena. Denk. Bd., VIII) p. 43. [*Vide* Alcock, Carcinol. Faun. Ind. *loc. cit.*, p. 220.]

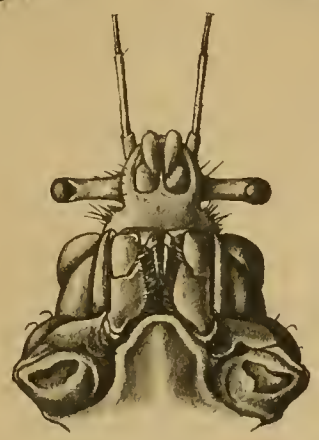
***Figs. 3, 3a.***—*Xenocarcinus tuberculatus*, White, Proc. Zool. Soc. 1847, p. 119. [*Vide* Alcock, Carcinol. Faun. Ind. *loc. cit.*, p. 192.]

***Figs. 4, 4a.***—*Hyastenus tenuicornis*, Pocock, Annals and Magazine of Natural History, (6) V, 1890, p. 76. [*Vide* Alcock, Carcinol. Faun. Ind. *loc. cit.*, p. 215.]

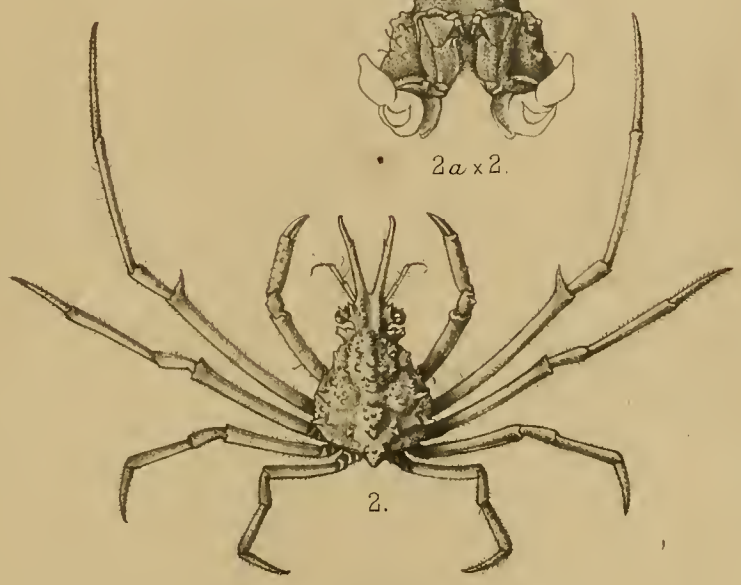
***Figs. 5, 5a.***—*Naxia taurus*, Pocock, Annals and Magazine of Natural History, (6) V, 1890, p. 77. [*Vide* Alcock, Carcinol. Faun. Ind. *loc. cit.*, p. 219.]

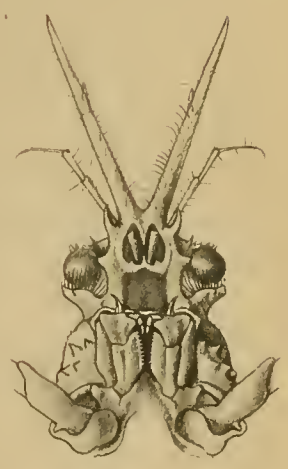









1, Achaeus lacertosus, St. ♂. 2, Naxia cerastes, Ortm. ♂. 3, Xenocarcinus tuberculatus, White. ♀.
4, Hyastenus tenuicornis, Poc. ♂. 5, Naxia taurus, Poc. ♂.

A.C. Chowdhary, del.
Photo-etching.

Survey of India Offices, Calcutta, August, 1898.

## EXPLANATION OF PLATE.

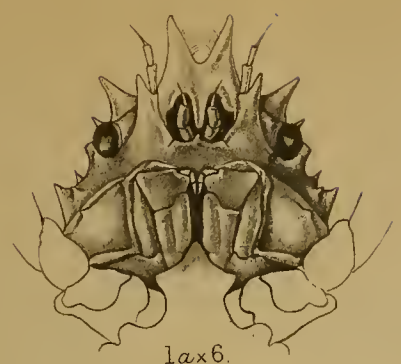
# CRUSTACEA.

### PLATE XXXIV.

***Figs. 1, 1a ♂, 2, 2a ♀.***—*Hoplophrys oatesii*, Henderson, Trans. Linn. Soc., Zool., (2) V, 1893, p. 347. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 233.]

***Figs. 3, 3a.***—*Maia spinigera*, DeHaan, Fauna Japonica Crust., p. 93. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 239.]

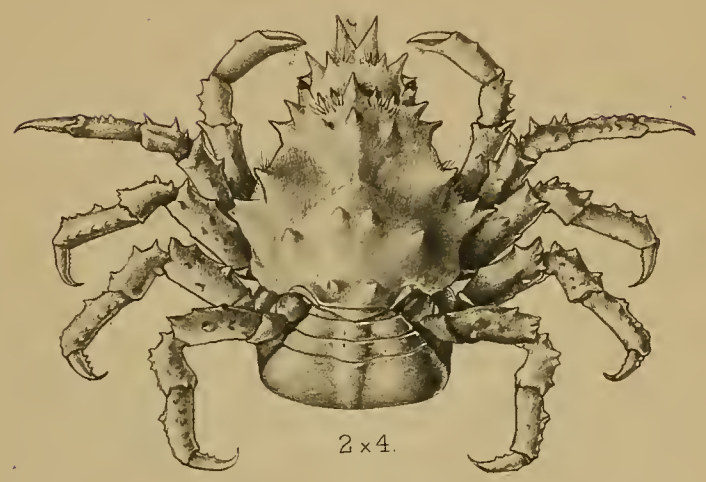
***Figs. 4, 4a, 4b.***—*Chlorinoides longispinus* (DeHaan), Fauna Japonica, Crust., p. 94. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 242.]



1a×6.

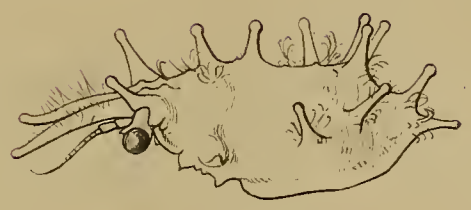
2a×6.

1×3.

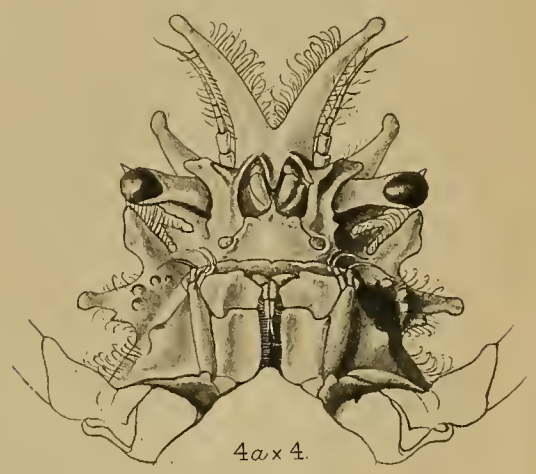


2×4.

3a×2.



4b×2½.



4a×4.

3×1½.

4×2½.

1. Hoplophrys oatesii, Hendrsn. ♂. 2. Hoplophrys oatesii, Hendrsn. ♀.
3. Maia spinigera, (De H.). 4. Chlorinoides longispinus, (De H.). ♂.

Photo etching Survey of India Offices, Calcutta. July, 1898

C. Chowdhary, del.

## EXPLANATION OF PLATE.

# CRUSTACEA.

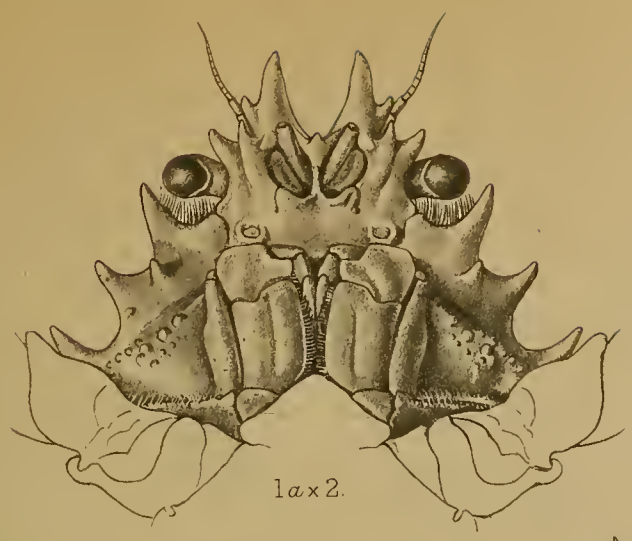
### PLATE XXXV.

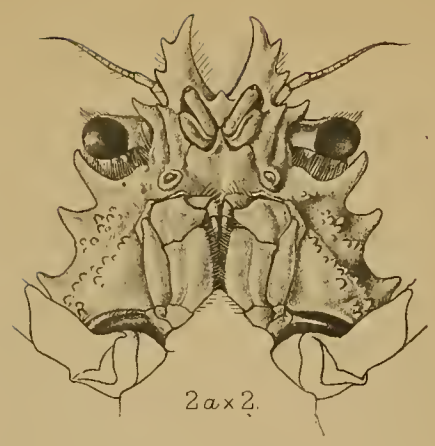
***Figs. 1, 1a.***—*Schizophrys aspera*, Milne Edwards, Hist. Nat. Crust. I, 320. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 243.]

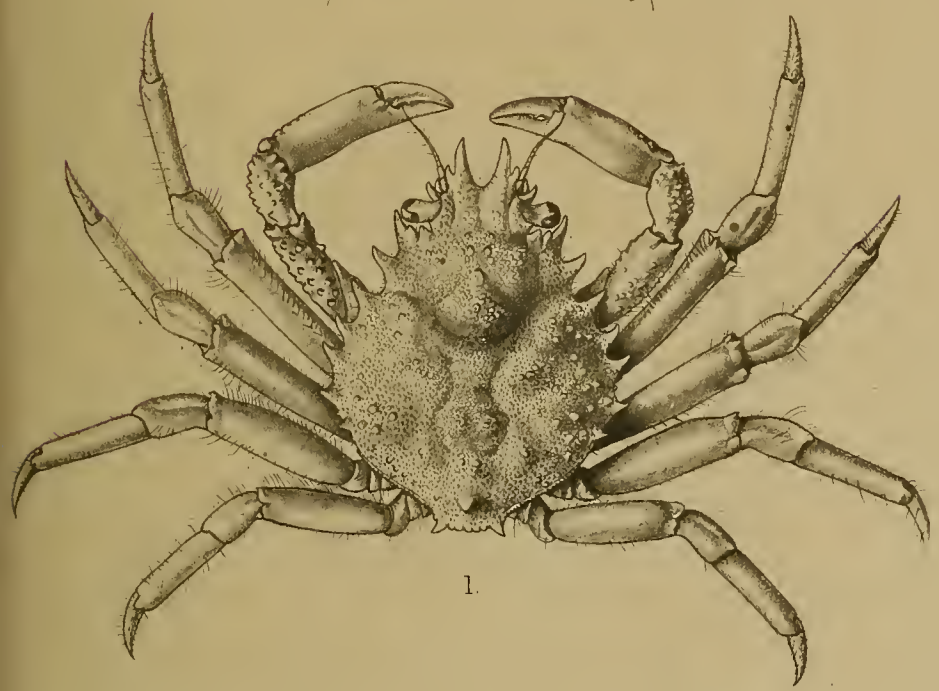
***Figs. 2, 2a.***—*Schizophrys dama* (Herbst), Krabben und Krebse, III, iv, p. 5. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 245.]

***Figs. 3, 3a.***—*Micippe margaritifera*, Henderson, Trans. Linn. Soc., Zool., (2) V, 1893, p. 348. [*Vide* Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 253.]

***Figs. 4, 4a.***—*Micippe margaritifera*, var. *parca*, Alcock, Carcinol. Faun. Ind., *loc. cit.*, p. 253.









1. Schizophrys aspera, Edw. ♂. 2. Schizophrys dama, Herbst. ♂. 3. Micippe margaritifera, Hend. ♂.
4. Micippe margaritifera, Hend. Var. parca. ♀.

A. C. Chowdhry, del.

Photo-etching Survey of India Offices, Calcutta, July, 1898.

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

## ROYAL INDIAN MARINE SURVEY SHIP

# INVESTIGATOR,

UNDER THE COMMAND OF

COMMANDER T. H. HEMING, R.N.

---

FISHES.—Part VI, Plates XXV—XXVI.
CRUSTACEA.—Part VII, Plates XXXVI—XLV.

UNDER THE DIRECTION OF

A. ALCOCK, M.B., C.M.Z.S, SUPERINTENDENT OF THE INDIAN MUSEUM, FORMERLY SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY.



Published under the Authority of Captain W. S. Goodridge, R.N.,
Director of the Royal Indian Marine.

CALCUTTA:
OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.
1899.

Sold by the Superintendent of the Indian Museum, and by Friedlander and Son, 11 Carlstrasse, Berlin.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE XXXVI.

***Fig. 1.***—*Leptodius euglyptus*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXVII, pt. 2, 1898, p. 121.

***Fig. 2.***—*Carpilodes lophopus*, Alcock, *tom. cit.*, p. 84.

***Fig. 3.***—*Lioxantho tumidus*, Alcock, *tom. cit.*, p. 91.

***Fig. 4.***—*Carpilodes pediger*, Alcock, *tom cit.*, p. 83.

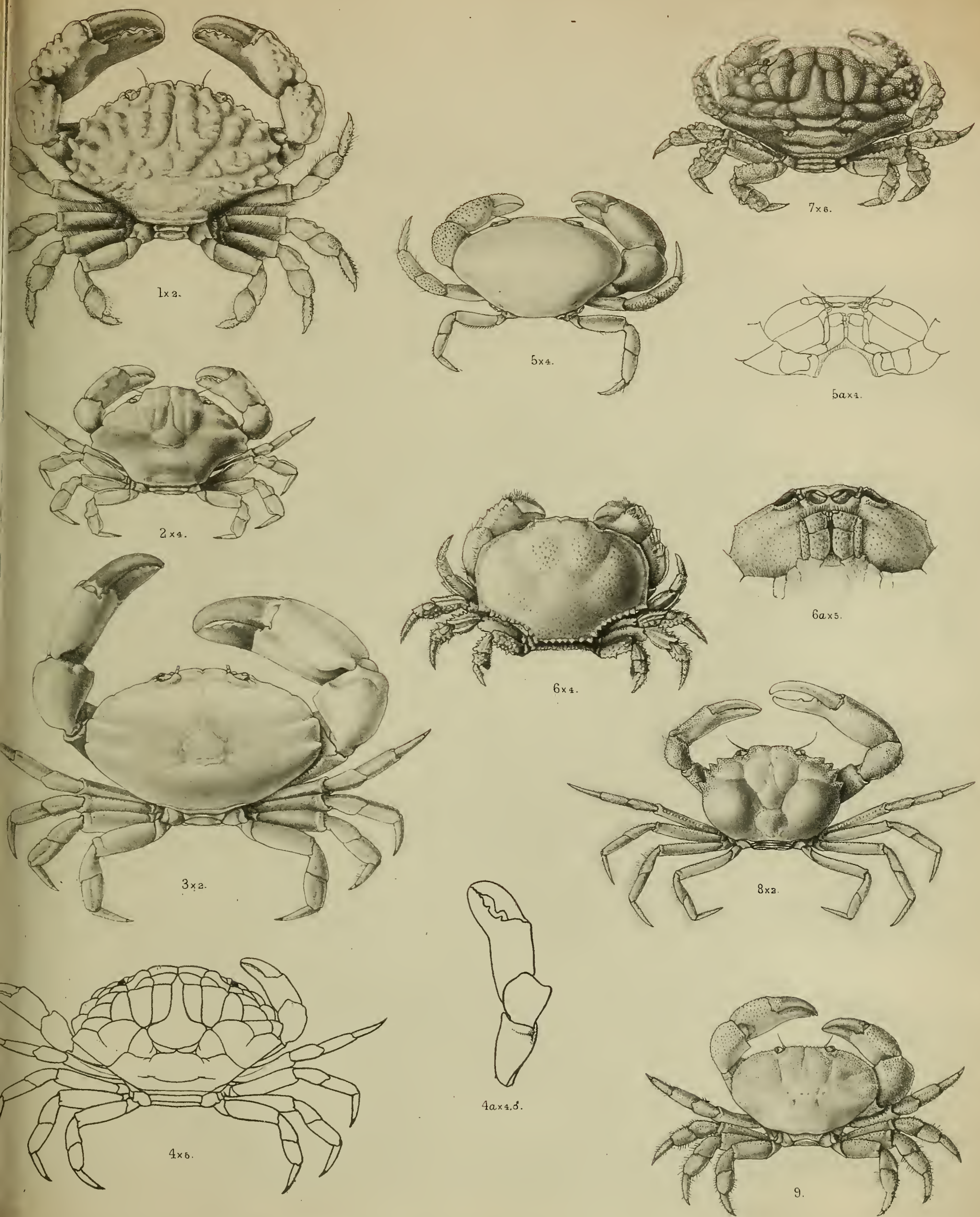
***Fig. 5.***—*Liomera sodalis*, Alcock, *tom. cit.*, p. 88.

***Fig. 6.***—*Lophactæa corallina*, Alcock, *tom. cit.*, p. 102.

***Fig. 7.***—*Carpilodes cariosus*, Alcock, *tom. cit.*, p. 86.

***Fig. 8.***—*Orphnoxanthus microps*, Alcock, *tom. cit.*, p. 128.

***Fig. 9.***—*Lioxantho asperatus*, Alcock, *tom. cit.*, p. 92.




Leptodius euglyptus, A.A. ♂. 2. Carpilodes lophopus, A.A. ♀. 3. Lioxantho tumidus, A.A. ♂. 4. Carpilodes pediger, ♀. A.A. 5. Liomera sodalis, A.A. ♀. 6. Lophactæa corallina, A.A. ♀. 7. Carpilodes cariosus, A.A. ♀. 8. Orphnoxanthus microps, A.A. ♂. 9. Lioxantho asperatus, Alc. ♂.

Photogravure-Survey of India Offices, Calcutta, July 1889.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE XXXVII.

***Figs. 1, 1a.***—*Hoploxanthus Hextii*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXVII, pt. 2, 1898, p. 126.

***Fig. 2.***—*Actæa nodulosa*, var. *bullifera*, Alcock, *tom. cit.*, p. 149.

***Fig. 3.***—*Actæa echinus*, Alcock, *tom. cit.*, p. 149.

***Fig. 4.***—*Actæa flosculata*, Alcock, *tom. cit.*, p. 151.

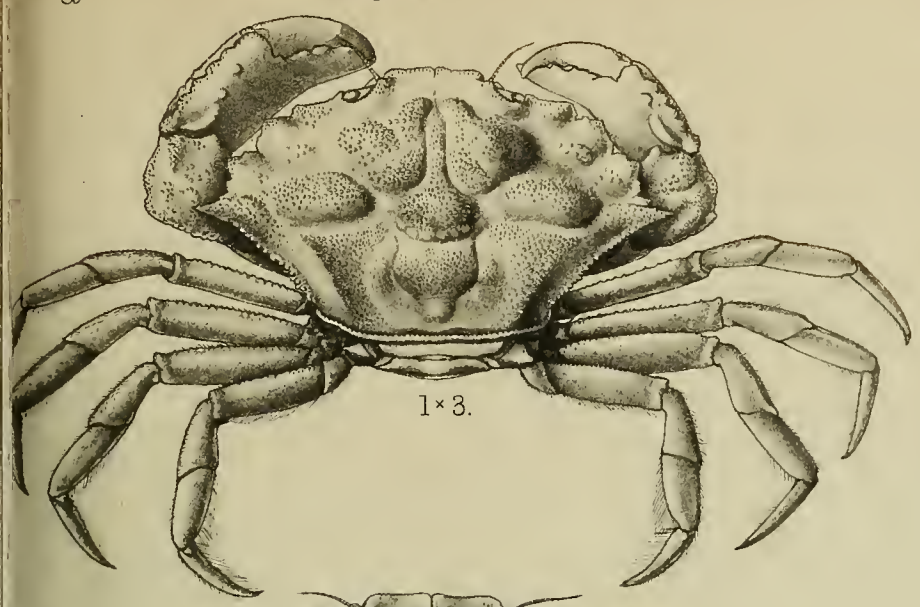
***Fig. 5.***—*Actumnus fissifrons*, Alcock, *tom. cit.*, p. 204.

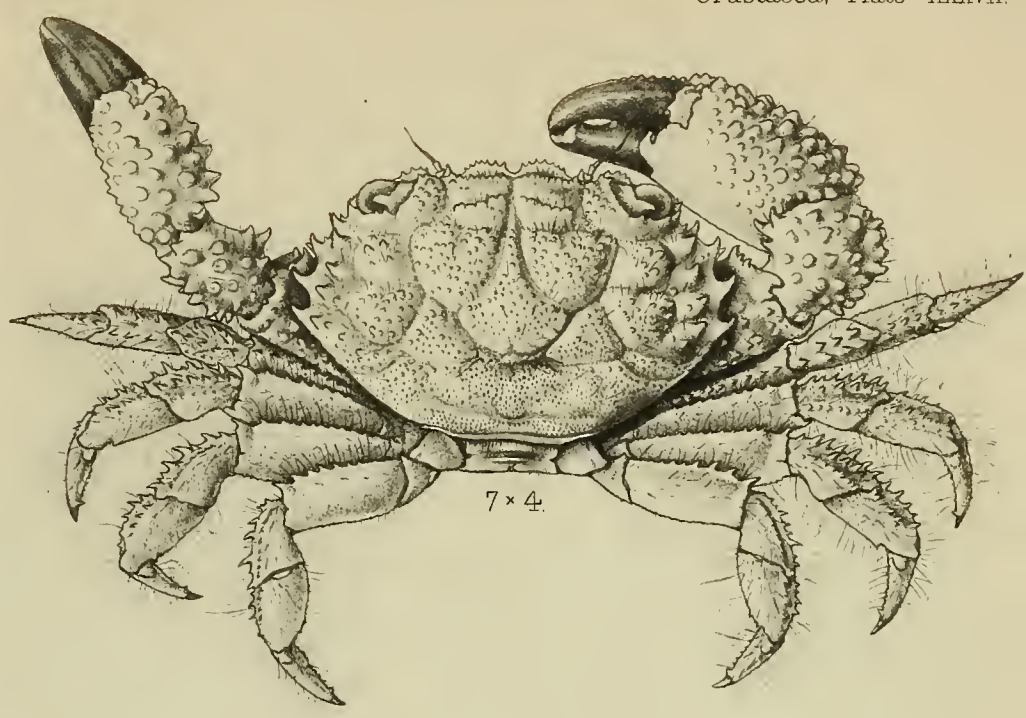
***Fig. 6.***—*Actumnus arbutum*, Alcock, *tom. cit.*, p. 205.

***Fig. 7.***—*Chlorodopsis Wood-Masoni*, Alcock, *tom. cit.*, p. 170.

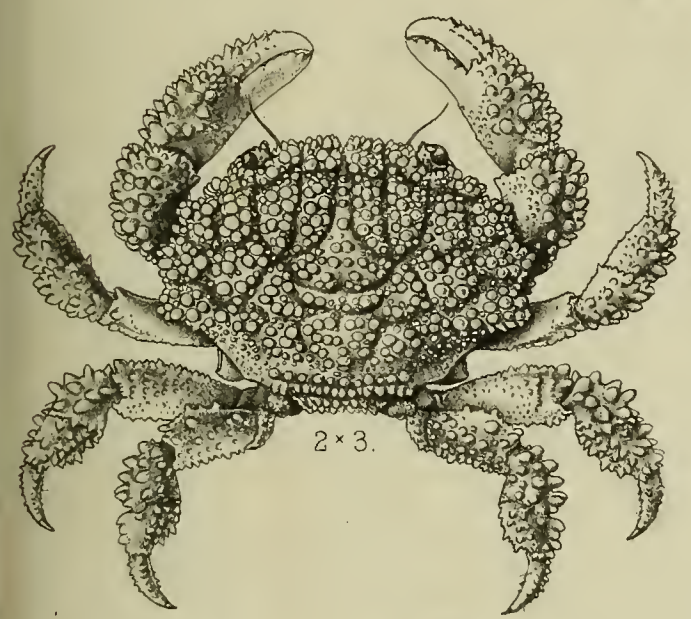
***Fig. 8.***—*Cymo quadrilobatus*, Miers, Zoology of H. M. S. "Alert," p. 533; Alcock, *tom. cit.*, p. 175.

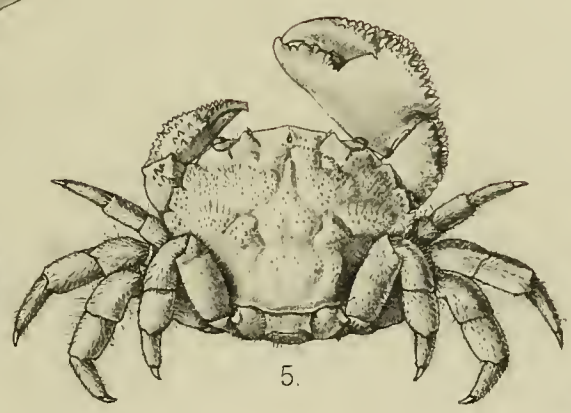
***Fig. 9.***—*Actumnus tessellatus*, Alcock, *tom. cit.*, p. 205.

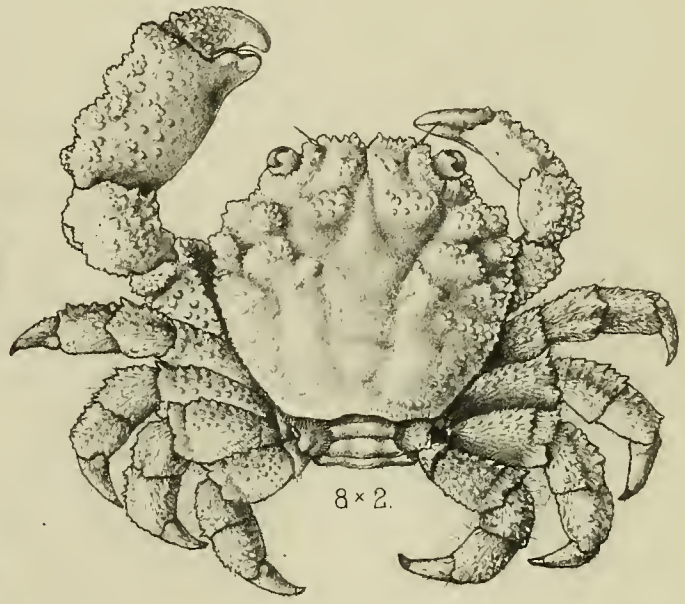


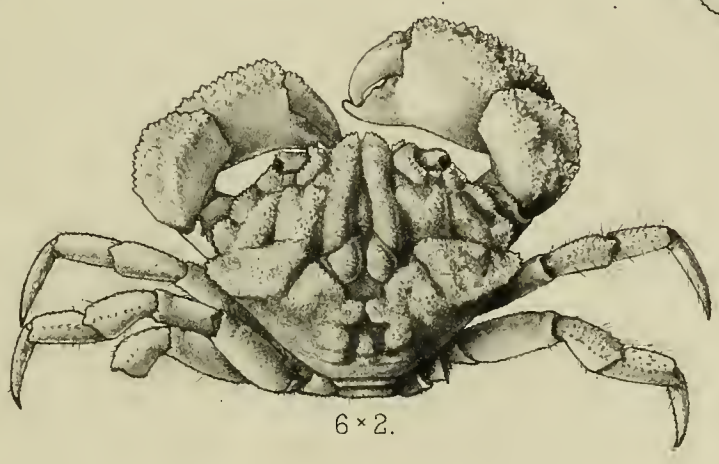


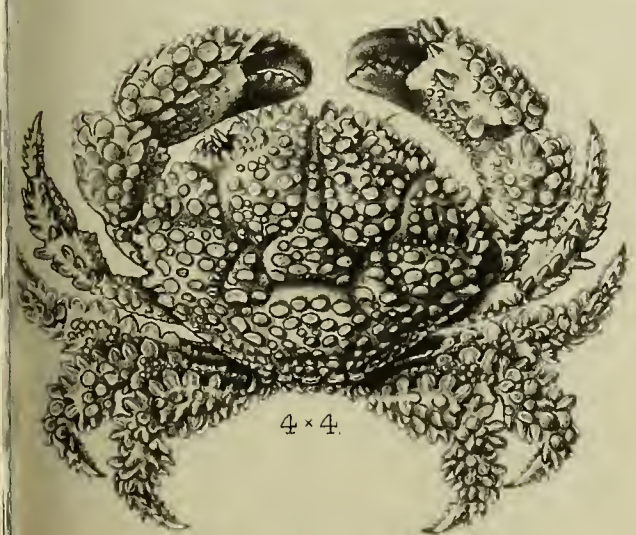


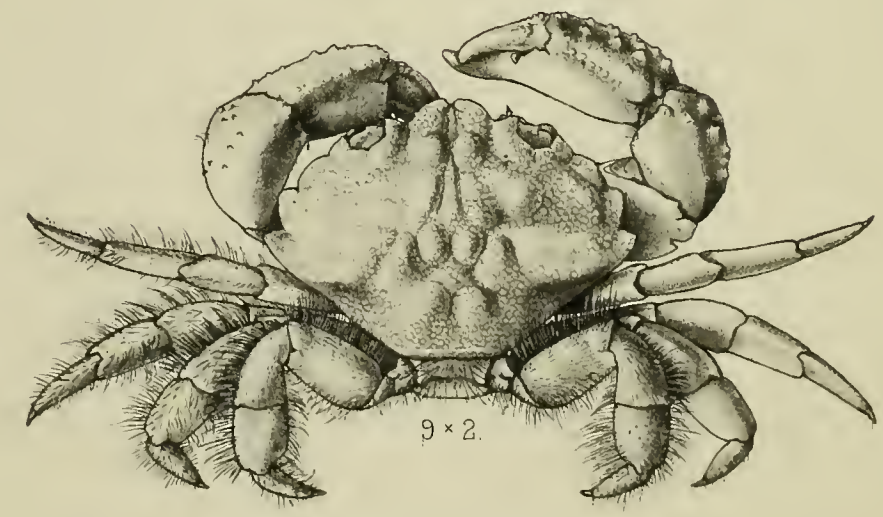








1. Hoploxanthus hextii, ♀. A.A. 2. Actaea nodulosa var. bullifera, ♂. A.A. 3. Actaea echinus, ♂. A.A.
4. Actaea flosculata, A.A. ♂. 5. Actumnus fissifrons, A.A. ♀. 6. Actumnus arbutum, Alc., ♂.
7. Chlorodopsis wood-masoni, A.A. 8. Cymo quadrilobatus, ♀. Miers. 9. Actumnus tessellatus, A.A. ♂.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE XXXVIII.

***Fig. 1.***—*Quadrella boopsis*, Alcock, Journal, Asiatic Society of Bengal, Vol. LXVII, pt. 2, 1898, p. 227.

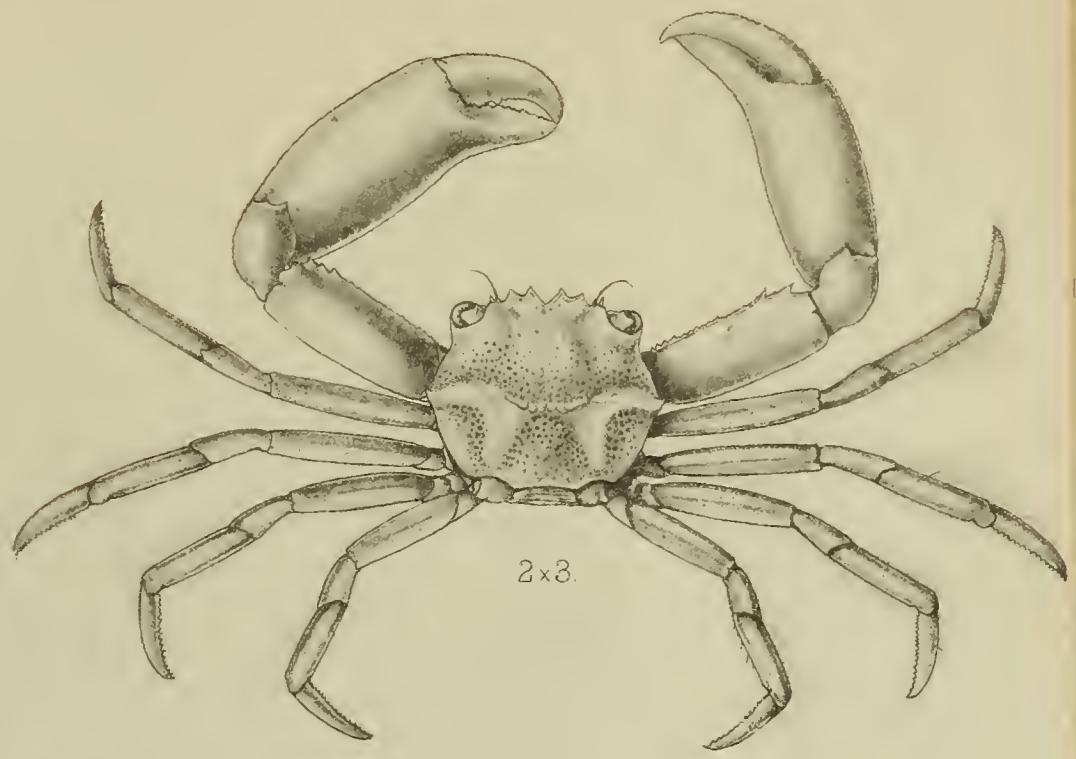
***Fig. 2.***—*Quadrella coronata*, var. *maculosa*, Alcock, *tom. cit.*, p. 226.

***Fig. 3.***—*Baptozius vinosus*, Milne Edwards, Histoire Naturelle des Crustacés, I., p. 422: Alcock, *tom. cit.*, p. 189.

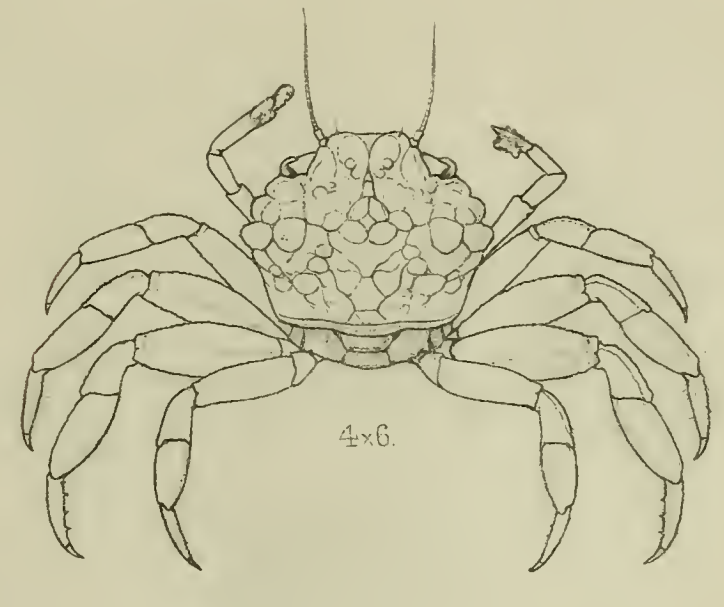
***Fig. 4.***—*Melia cæstifer*, Alcock, *tom. cit.*, p. 231.

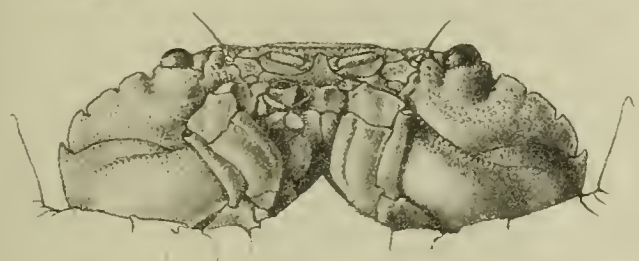
***Fig. 5.***—*Melia pugil*, Alcock, *tom. cit.*, p. 231.

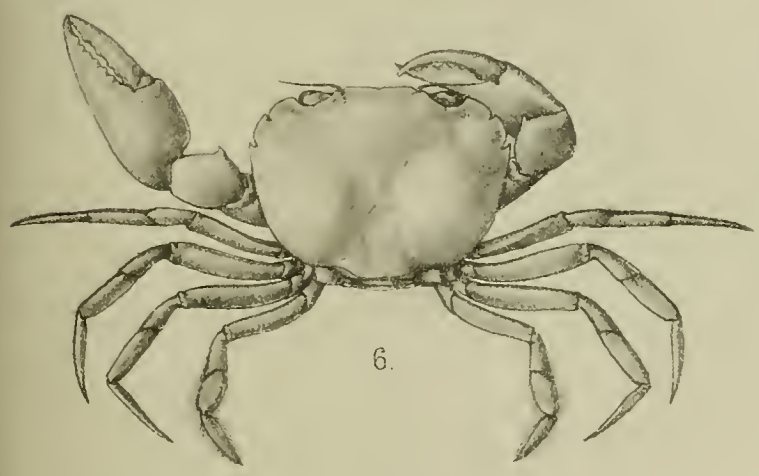
***Fig. 6.***—*Nectepanope rhodobaphes*, Wood-Mason, Annals and Magazine of Natural History, March 1891, p. 261: Alcock, *tom. cit.*, p. 213.

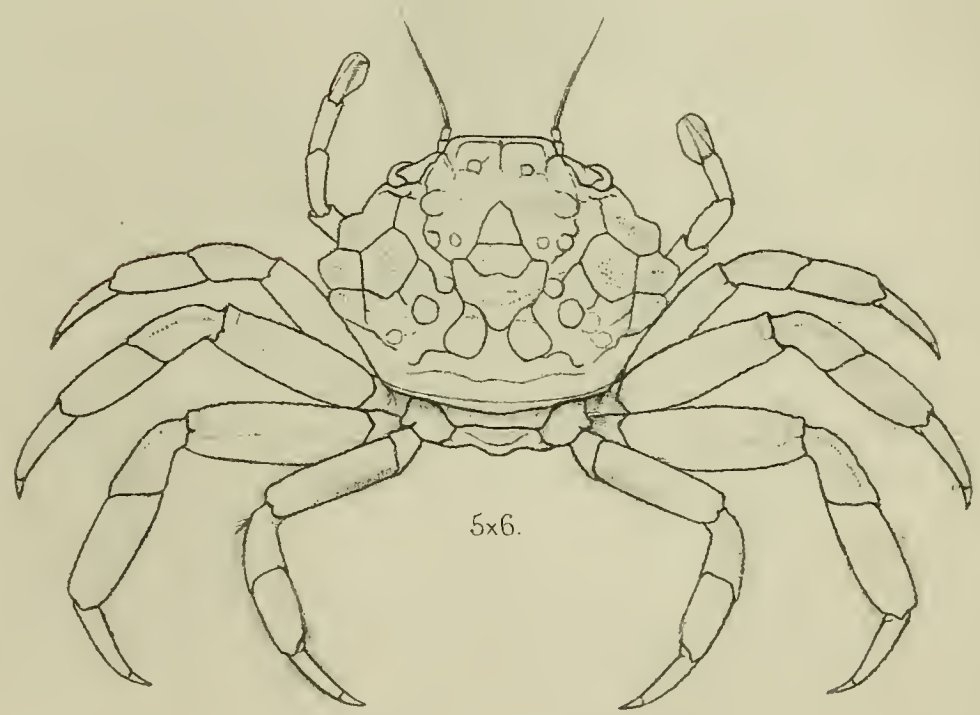








1. Quadrella boopsis, ♀ A.A. 2. Quadrella coronata var. maculosa, ♂ A.A. 3. Baptozius vinosus, Edw. ♀.
4. Melia cæstifer, A.A. ♂ 5. Melia pugil, A.A. ♀. 6. Nectopanope rhodobaphes, W.M. ♀.

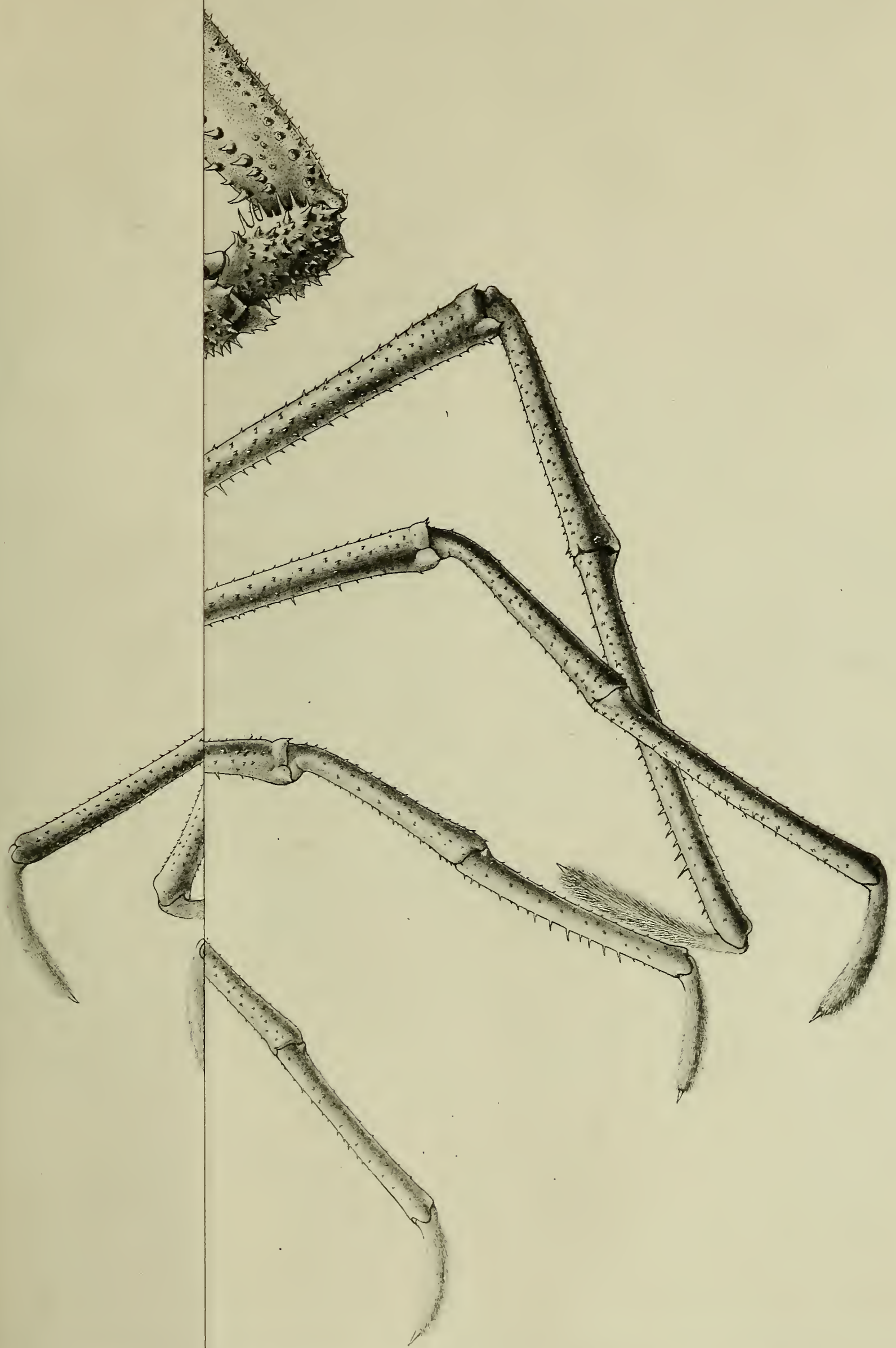
.C Chowdhary, del. Photogravure. Survey of India. Offices. Calcutta. July 1899.

## EXPLANATION OF PLATE.

# CRUSTACEA.

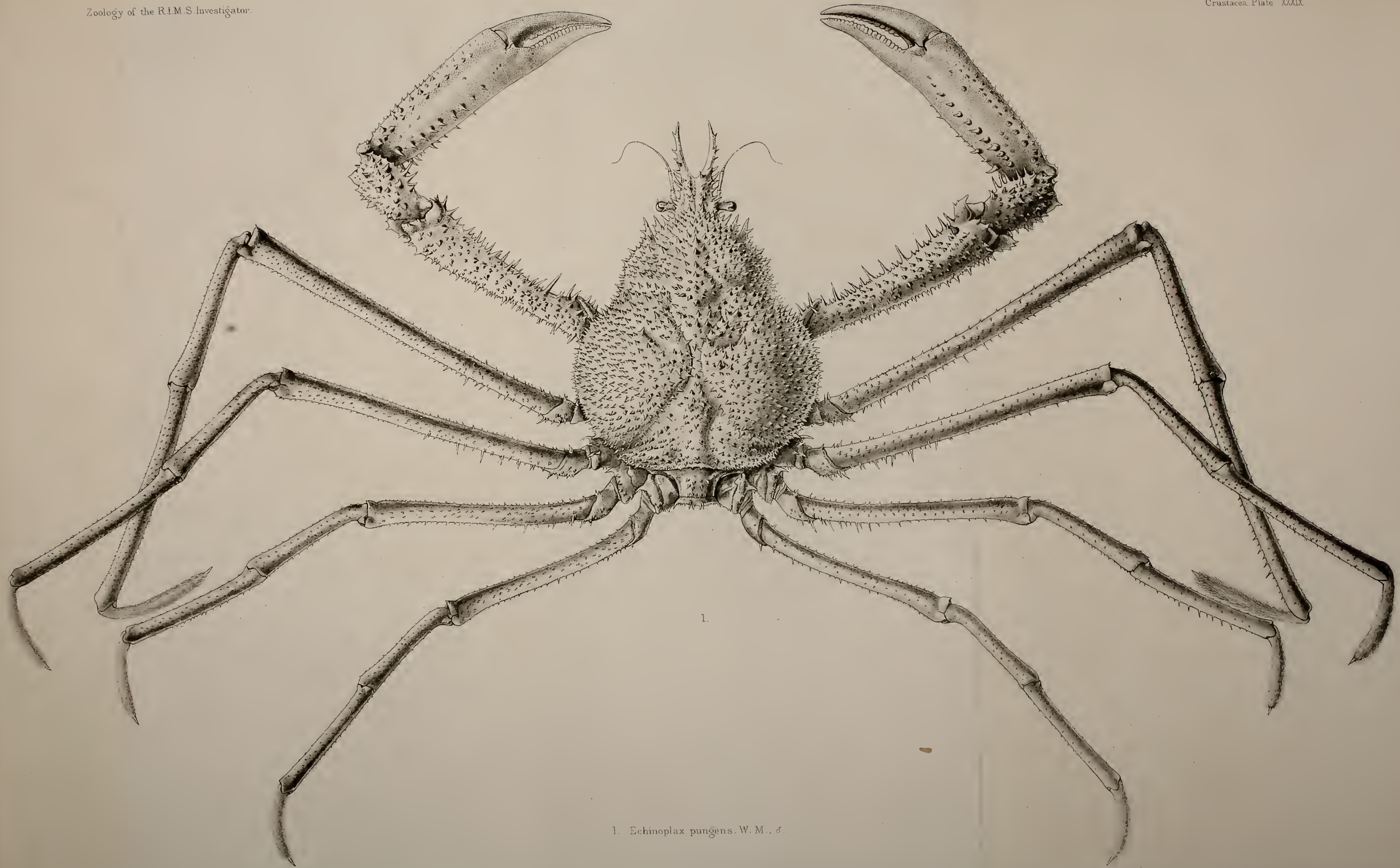
### PLATE XXXIX.

*Echinoplax pungens*, Wood-Mason. Male, natural size. Wood-Mason, Annals and Magazine of Natural History, March 1891, p. 259. Alcock, Journal, Asiatic Society of Bengal, Vol. LXIV, pt. 2, 1895, p. 179: Illustrations of the Zoology of the Investigator, Crustacea, plate xvii, fig. 1 (adult female): and "Investigator" Deep Sea Brachyura, p. 43.



A.C. Cho

Photogravure - Survey of India Offices, Calcutta, August 1899.




1. Echinoplax pungens. W. M., ♂.

A.C. Chowdhary, del.

Photogravure: Survey of India Offices, Calcutta. August 1899

## EXPLANATION OF PLATE.

# CRUSTACEA.

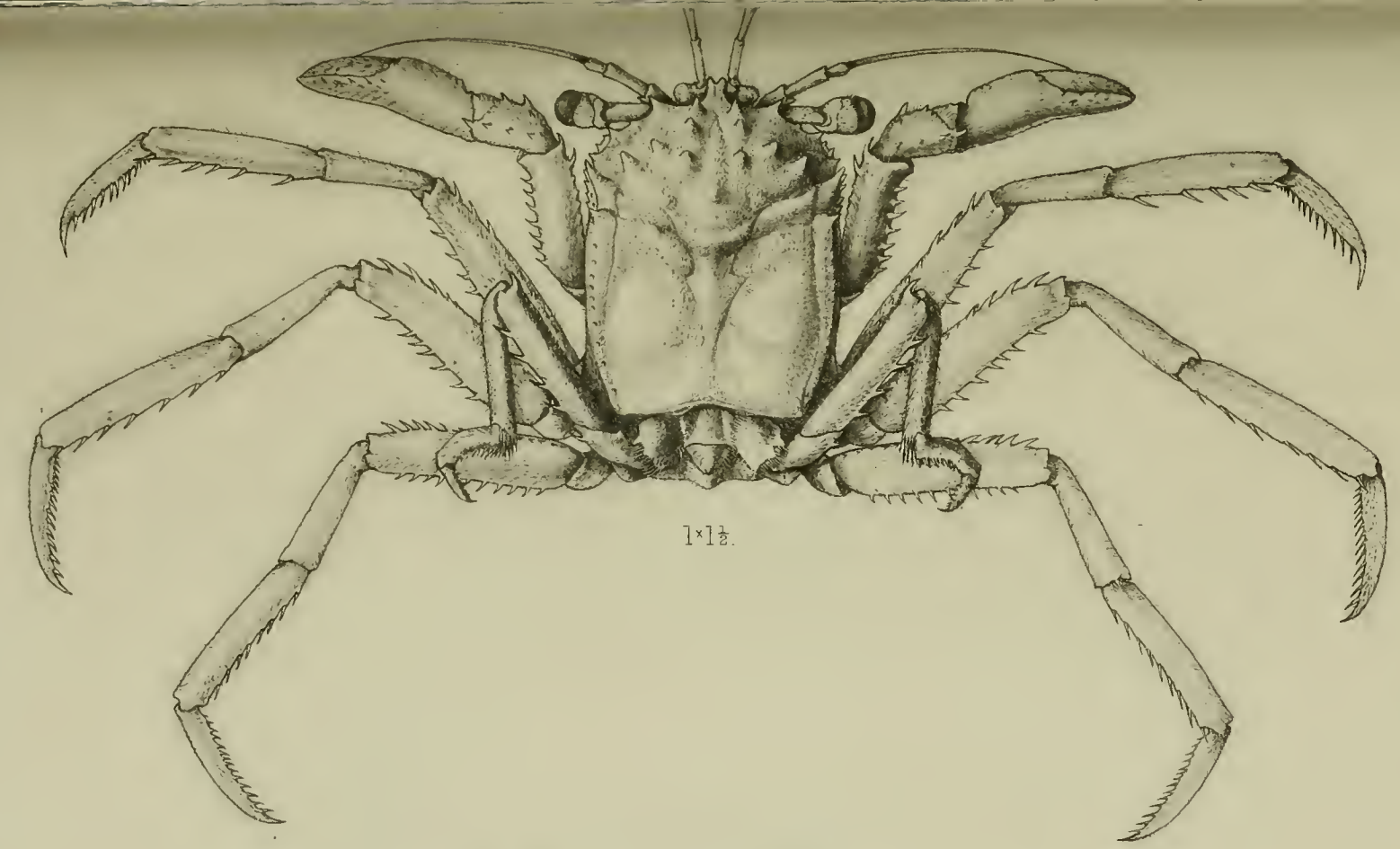
### PLATE XL.

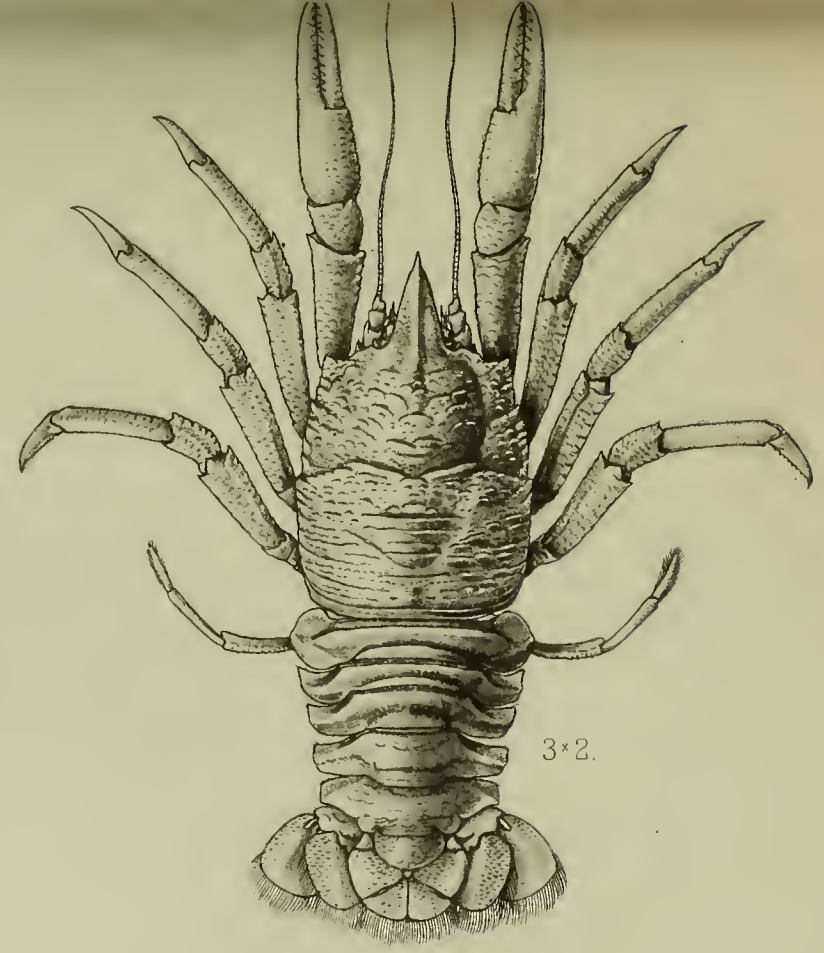
***Fig. 1.***—*Homola andamanica*, Alcock, An Account of the Investigator Deep Sea Brachyura, p. 7.

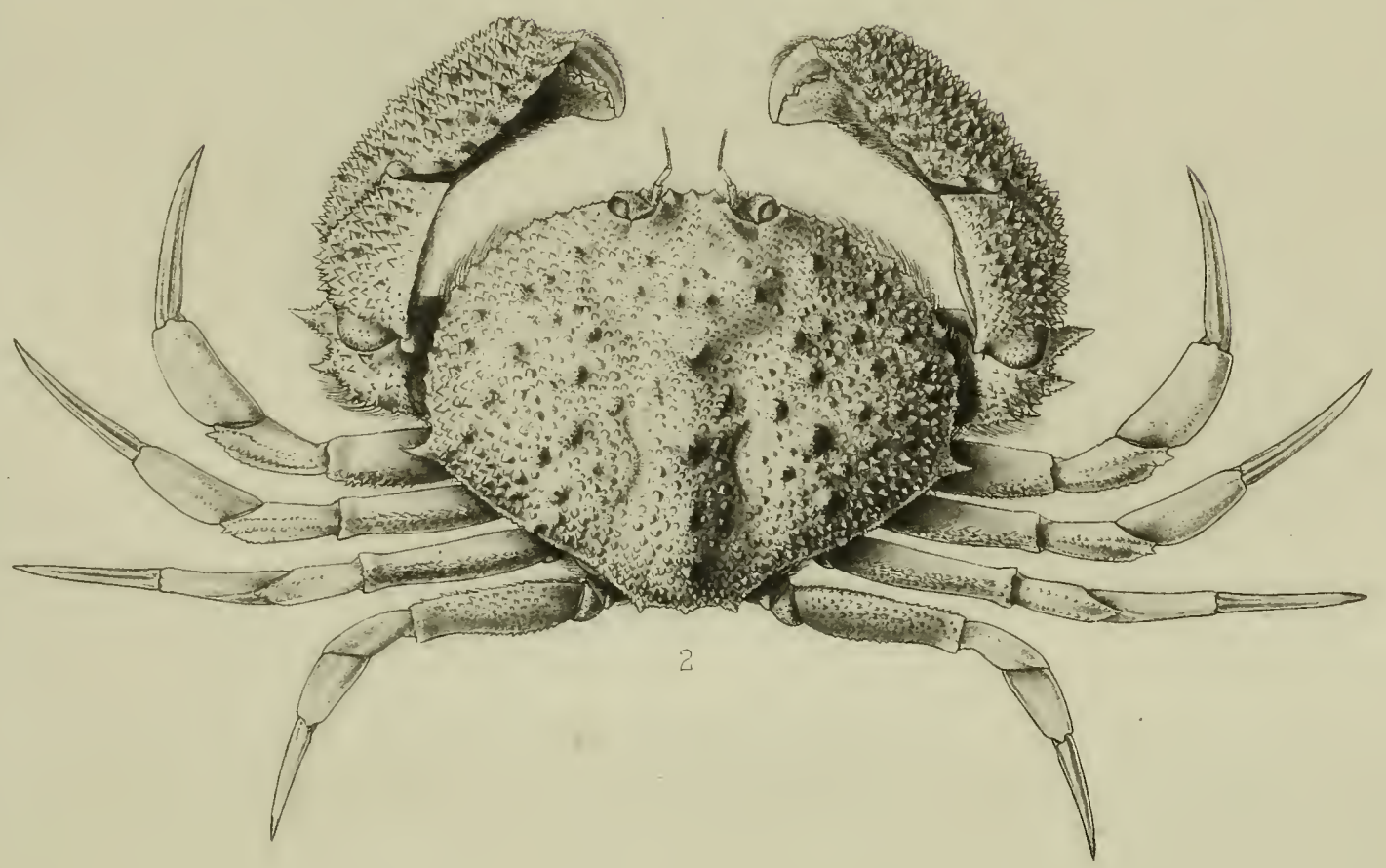
***Fig. 2.***—*Mursia aspera*, Alcock, *op. cit.*, p. 24.

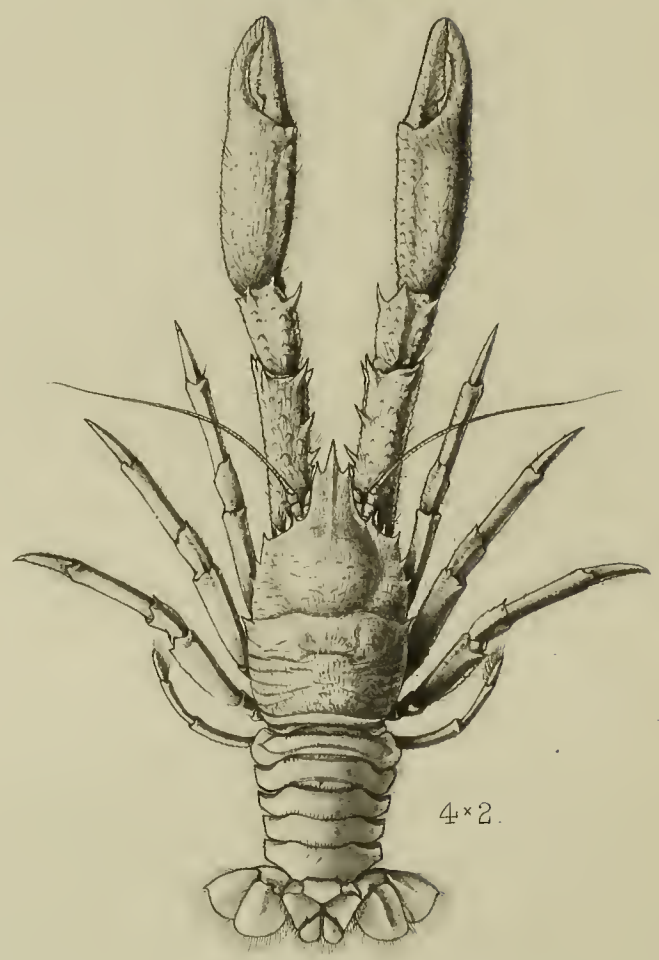
***Fig. 3.***—*Munidopsis Moresbyi*, Alcock and Anderson, Annals and Magazine of Natural History, January, 1899, p. 22.

***Fig. 4.***—*Munidopsis rosacea*, A. Milne Edwards: Alcock and Anderson, *tom. cit.*, p. 19.




1. Homola andamanica. 2. Mursia aspera. 3. Munidopsis moresbyi. 4. Munidopsis rosacea.

A.C Chowdhury & S.C. Mondul, del.

Photo-etching, Survey of India Offices, Calcutta, July 1899.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE XLI.

***Figs. 1, 1a, 1b.***—*Parapeneus investigatoris*, Anderson, Annals and Magazine of Natural History, April 1899, p. 279.

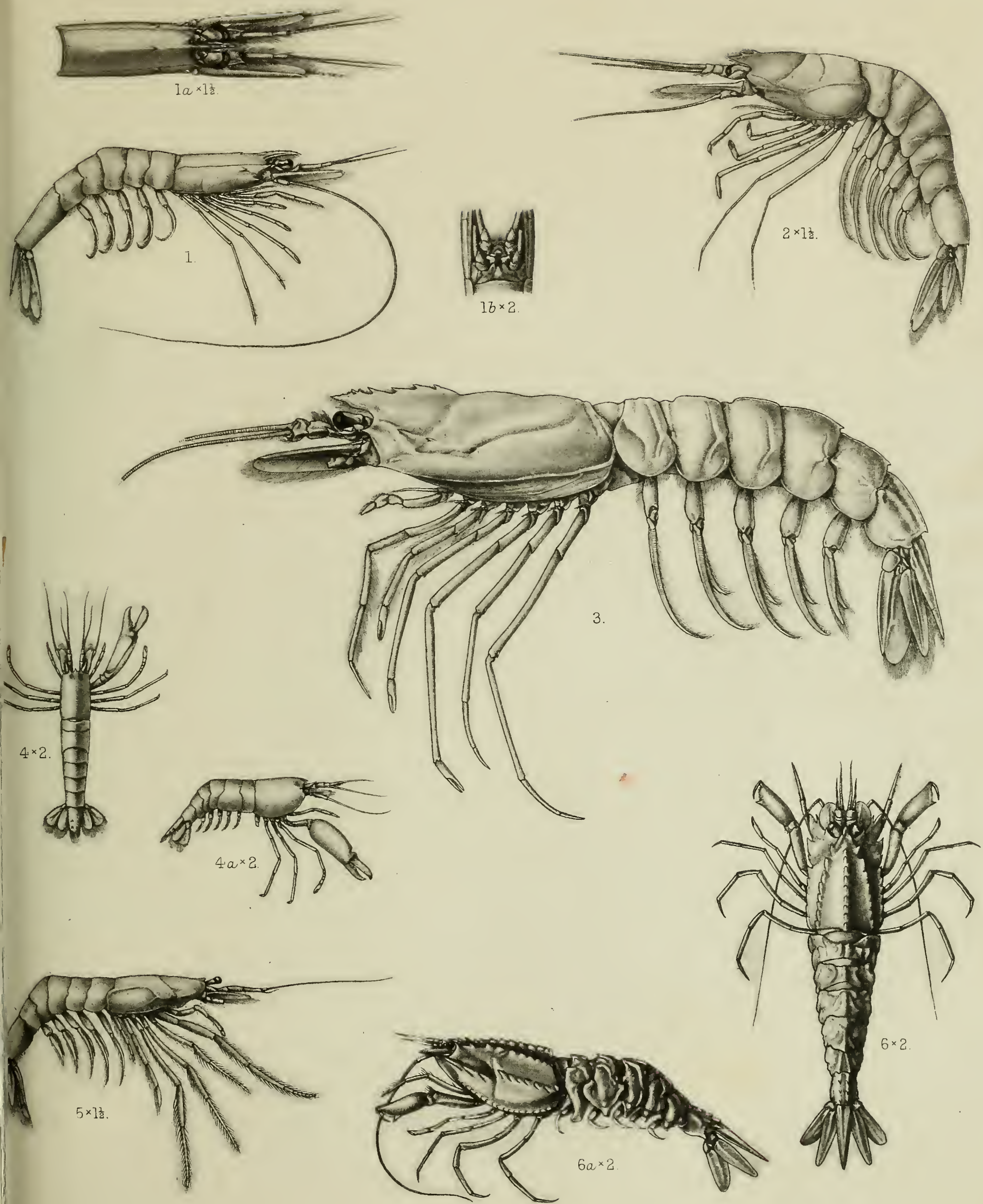
***Fig. 2.***—*Benthesicymus investigatoris*, Anderson, *tom. cit* , p. 282.

***Fig. 3.***—*Haliporus taprobanensis*, Anderson, *tom. cit.*, p. 280.

***Figs. 4, 4a.***— *Alpheus Shearmei*, Anderson, *tom. cit.*, p. 283.

***Fig. 5.***—*Sergestes rubroguttatus*, Wood-Mason, Annals and Magazine of Natural History, November, 1891, p. 354.

***Figs. 6, 6a.***—*Pontocaris media*, Alcock, Annals and Magazine of Natural History, April, 1899, p. 282.




1. Parapeneus investigatoris. 2. Benthesicymus investigatoris. 3. Haliporus taprobanensis.
4. Alpheus shearmei. 5. Sergestes rubroguttatus. 6. Pantocaris media.

C. Chowdhary & S. C. Mondul del.

Photo-etching, Survey of India Offices, Calcutta, July, 1899.

## EXPLANATION OF PLATE.

# CRUSTACEA.

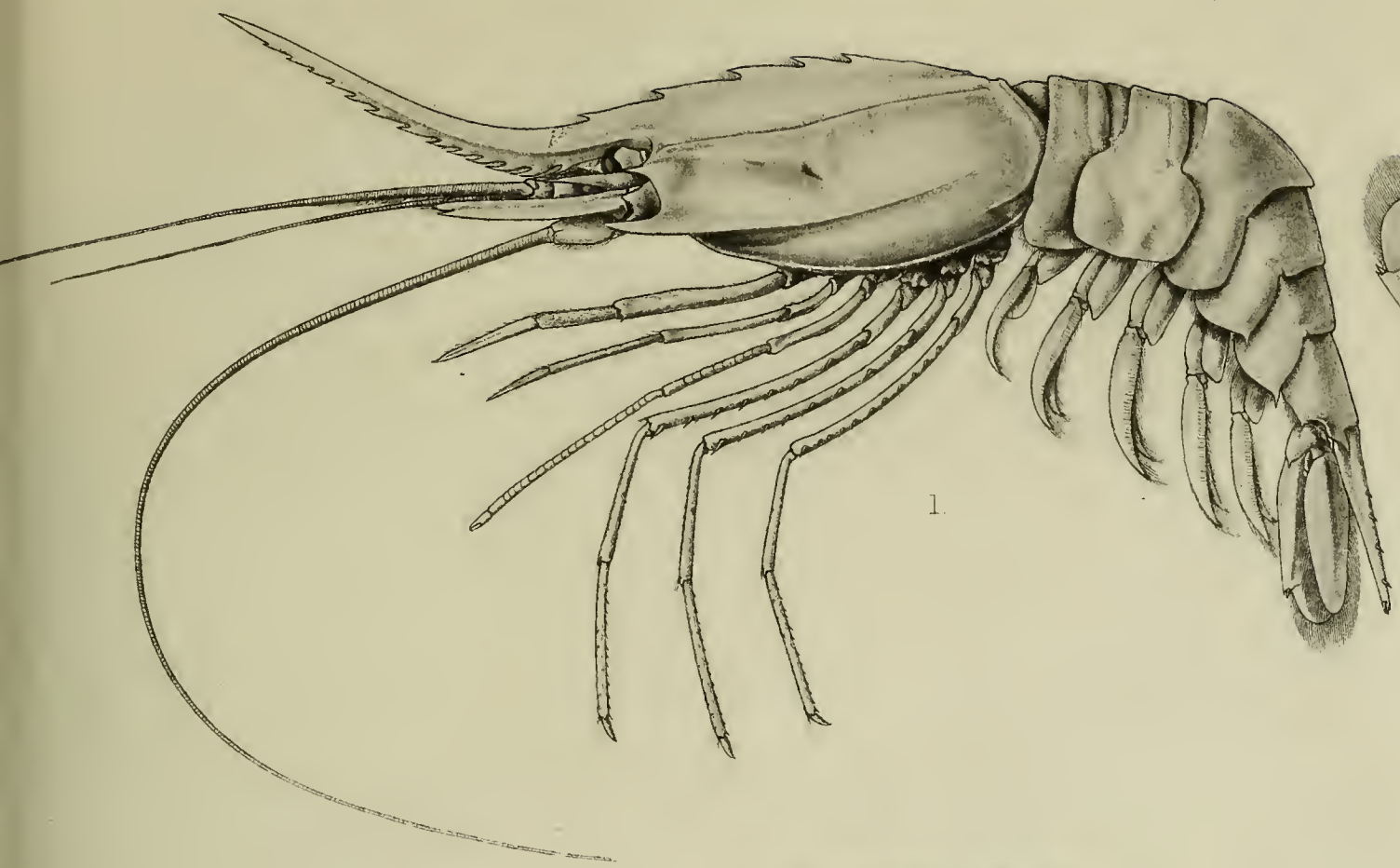
### PLATE XLII.

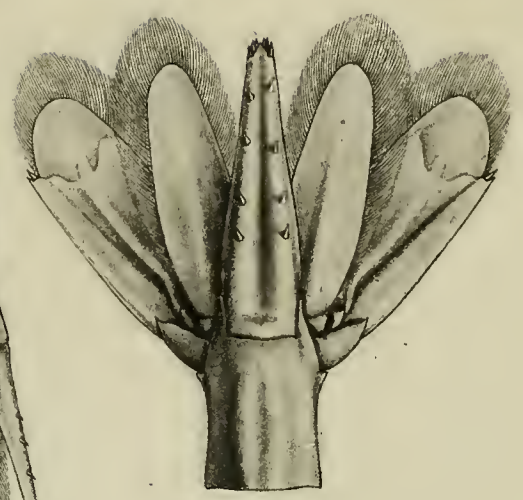
***Figs. 1, 1a.***—*Heterocarpus laevigatus*, Spence Bate, Challenger Macrurous Crustacea, p. 636, pl. cxii., fig. 3: Anderson, Annals and Magazine of Natural History, April 1899, p. 285.

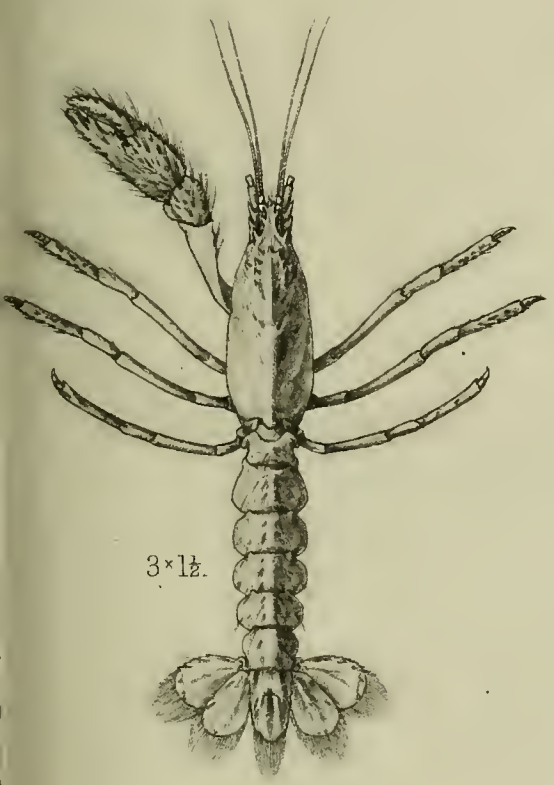
***Figs. 2, 2a, 2b.***—*Callianassa lignicola*, Anderson, Annals and Magazine of Natural History, April 1899, p. 288.

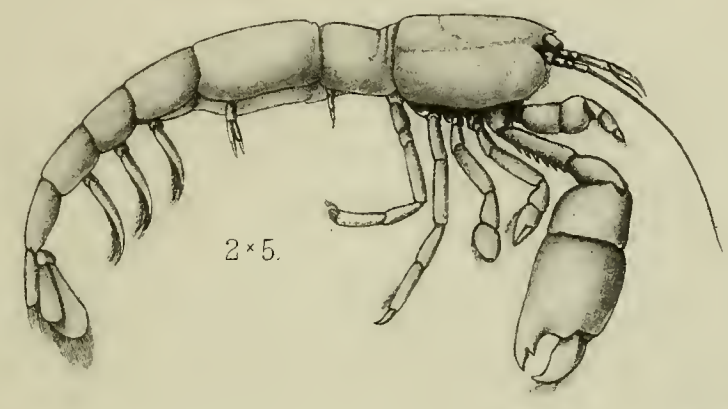
***Figs. 3, 3a.***—*Calastacus felix*, Anderson, *tom. cit.*, p. 287.

***Figs. 4, 4a.***—*Richardina spongicola*, Alcock and Anderson, Annals and Magazine of Natural History, April, 1899, p. 291.

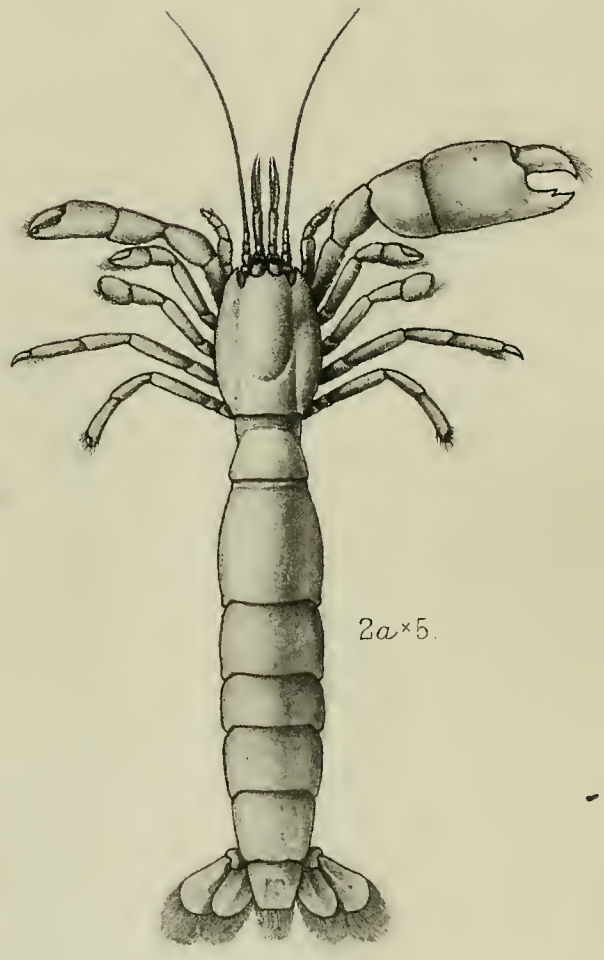


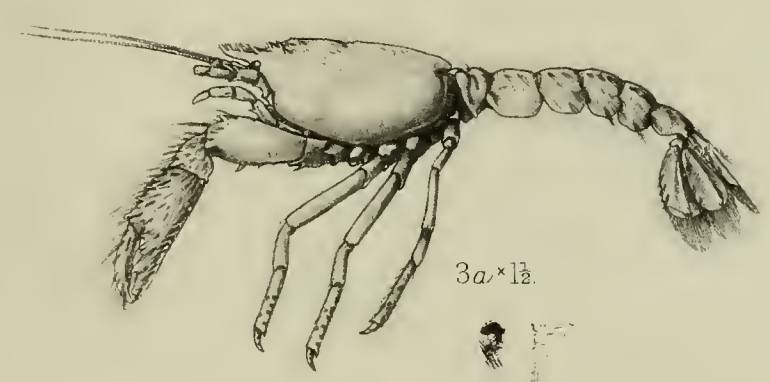



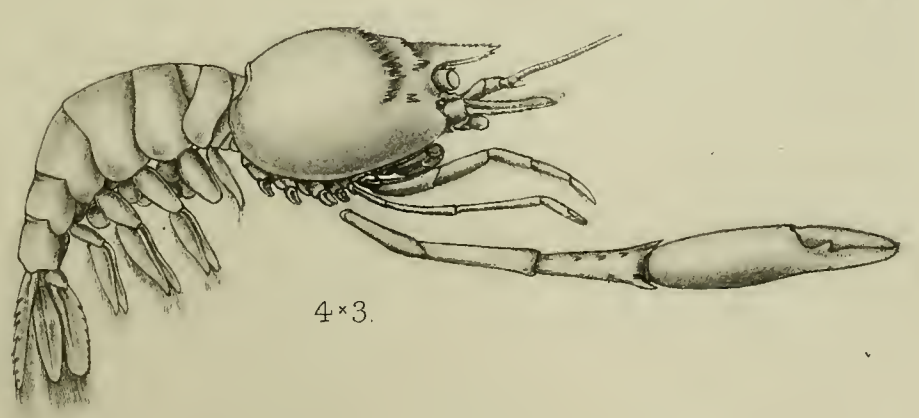



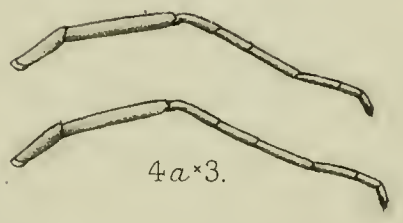








1. Heterocarpus laevigatus. 2. Callianassa lignicola. 3. Calastacus felix. 4. Richardina spongicola.

C. Mondul, del.

Photo-etching, Survey of India Offices, Calcutta, July, 1899.

## EXPLANATION OF PLATE.

# CRUSTACEA.

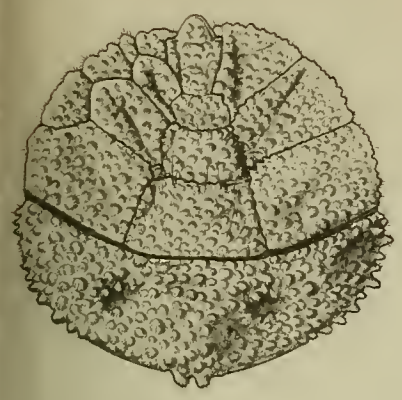
### PLATE XLIII.

***Figs. 1, 1a.***—*Paralomis investigatoris*, Alcock and Anderson, Annals and Magazine of Natural History, January, 1899, p. 17.

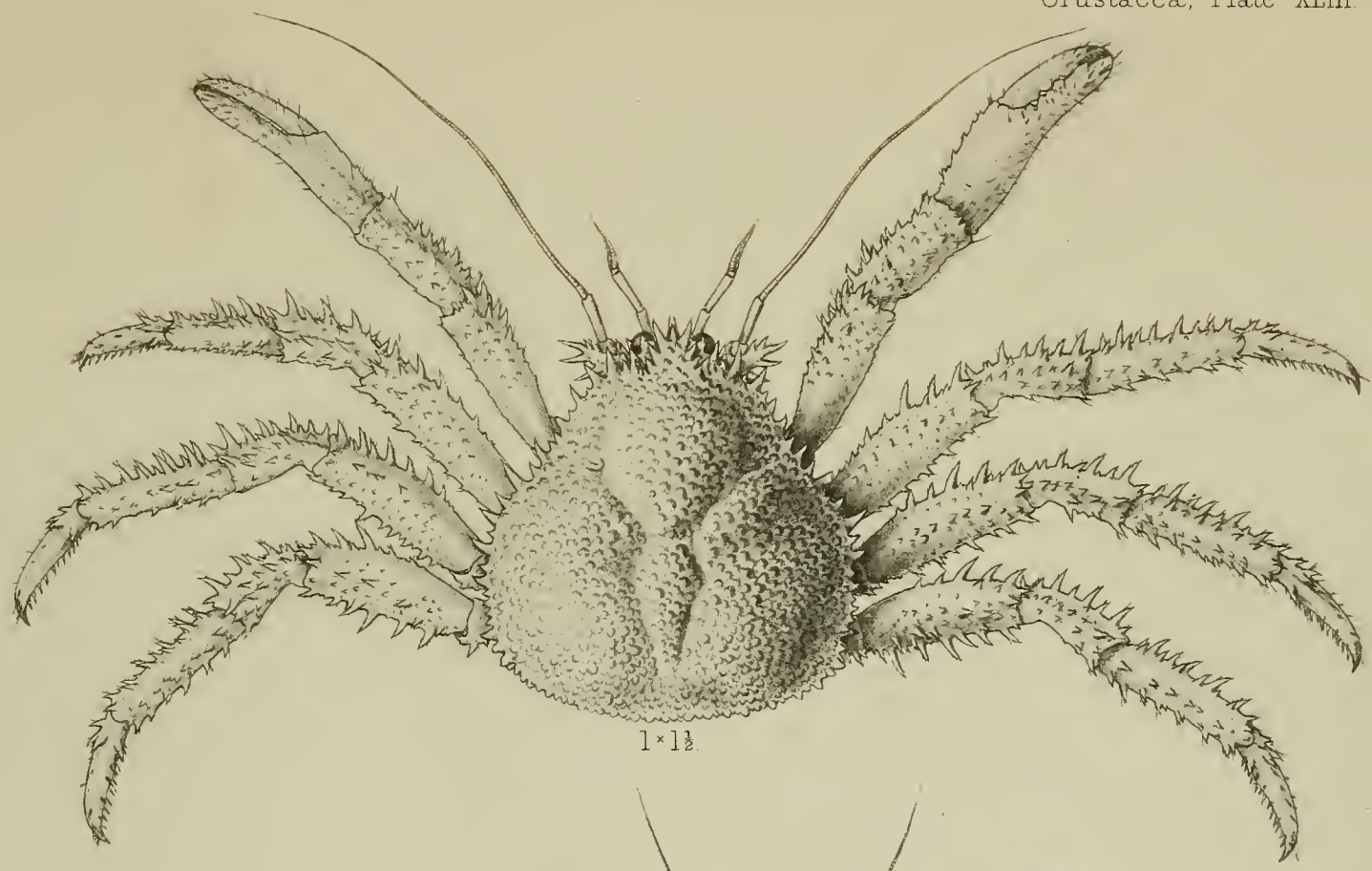
***Figs. 2, 2a.***—*Paralomis indica*, Alcock and Anderson, *tom. cit.*, p. 15.

***Fig. 3.***—*Munida comorina*, Alcock and Anderson, *tom. cit.*, p. 18.

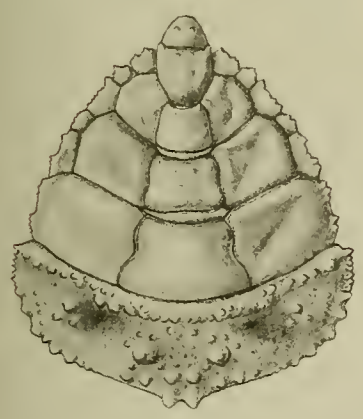
***Figs. 4, 4a, 4b.***—*Fylocheles Miersi*, Alcock and Anderson, *tom. cit.*, p. 14.



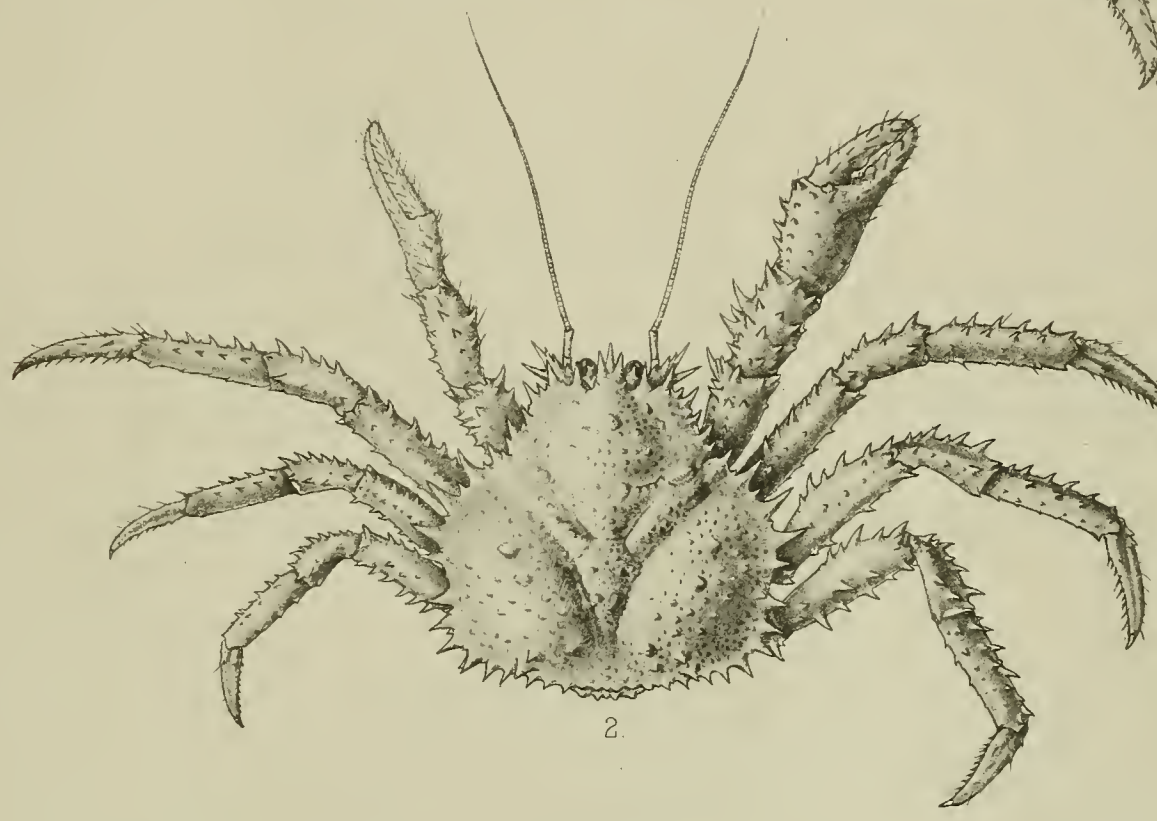
1a × 2.



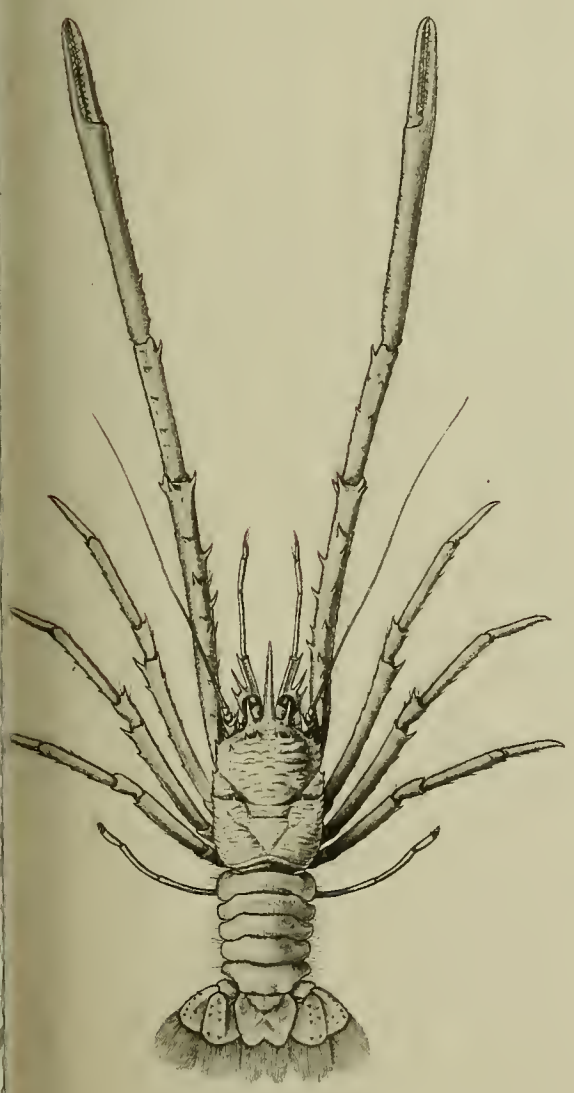
1 × 1½.



2a × 1½.



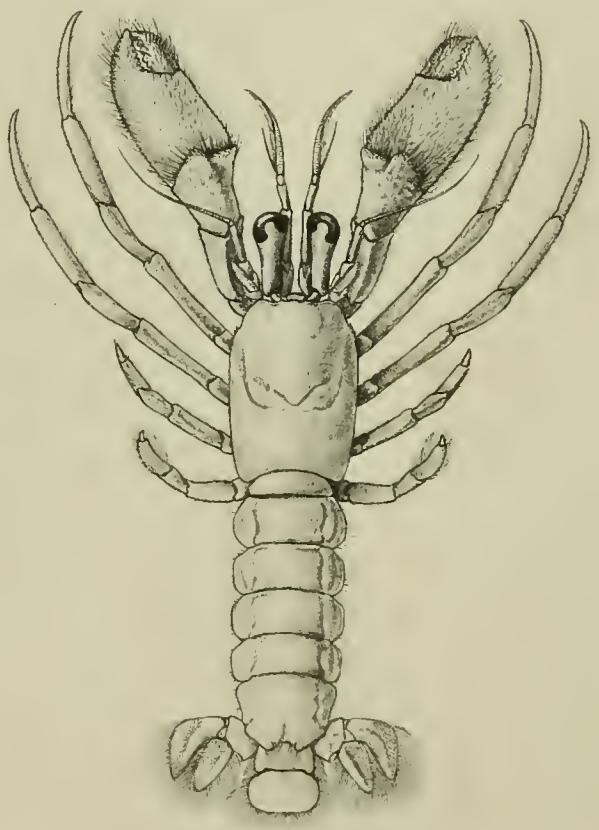
2.



3 × 3.

4a × 2.

4b × 4.



4 × 2.

1. Paralomis investigatoris. 2. Paralomis indica. 3. Munida comorina. 4. Pylocheles miersi.

## EXPLANATION OF PLATE.

# CRUSTACEA.

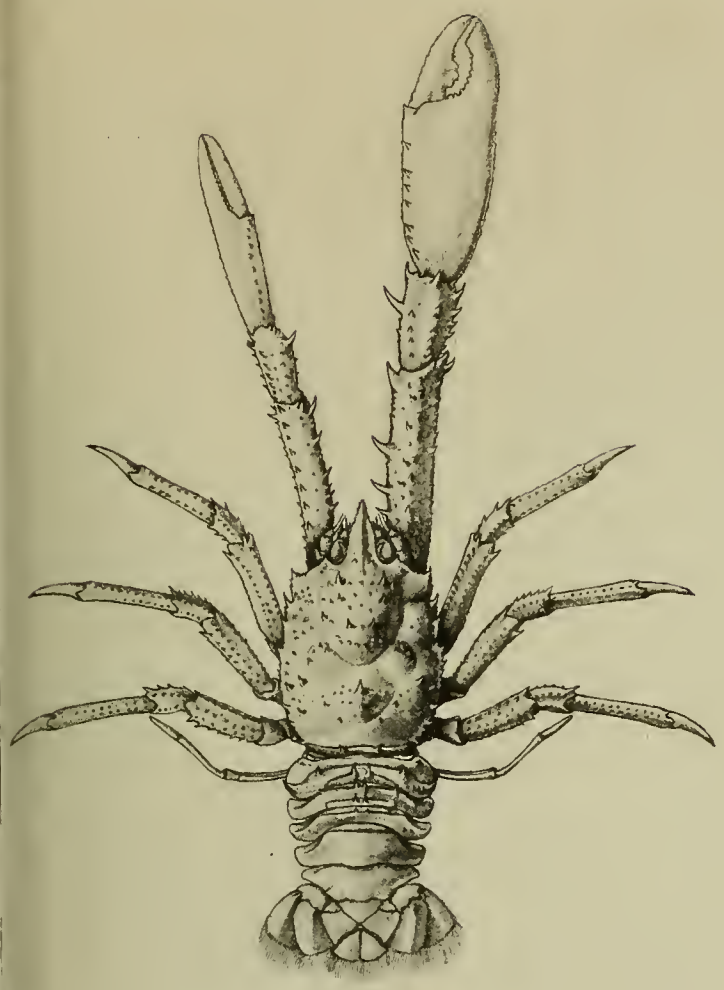
### PLATE XLIV.

***Figs. 1, 1a, 1b.***—*Munidopsis iridis*, Alcock and Anderson, Annals and Magazine of Natural History, January 1899, p. 20.

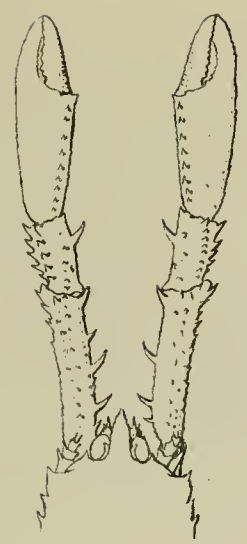
***Fig. 2.***—*Munidopsis Goodridgii*, Alcock and Anderson, *tom. cit.*, p. 21.

***Fig. 3.***—*Uroptychus cavirostris*, Alcock and Anderson, *tom. cit.*, p. 26.

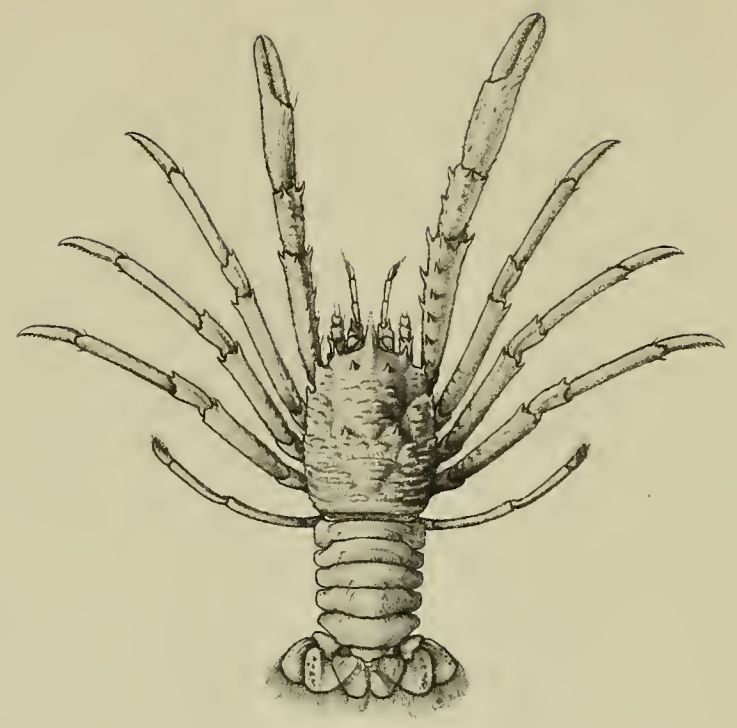
***Fig. 4.***—*Uroptychus fusimanus*, Alcock and Anderson, *tom. cit.*, p. 26.



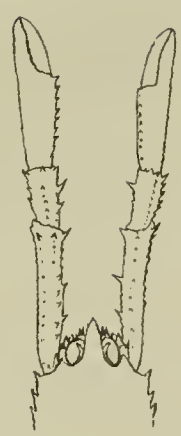
1x2.



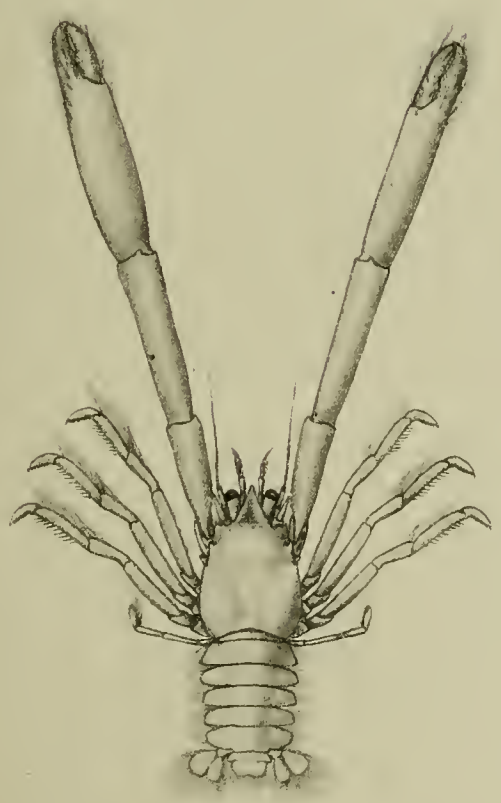
1a x2.



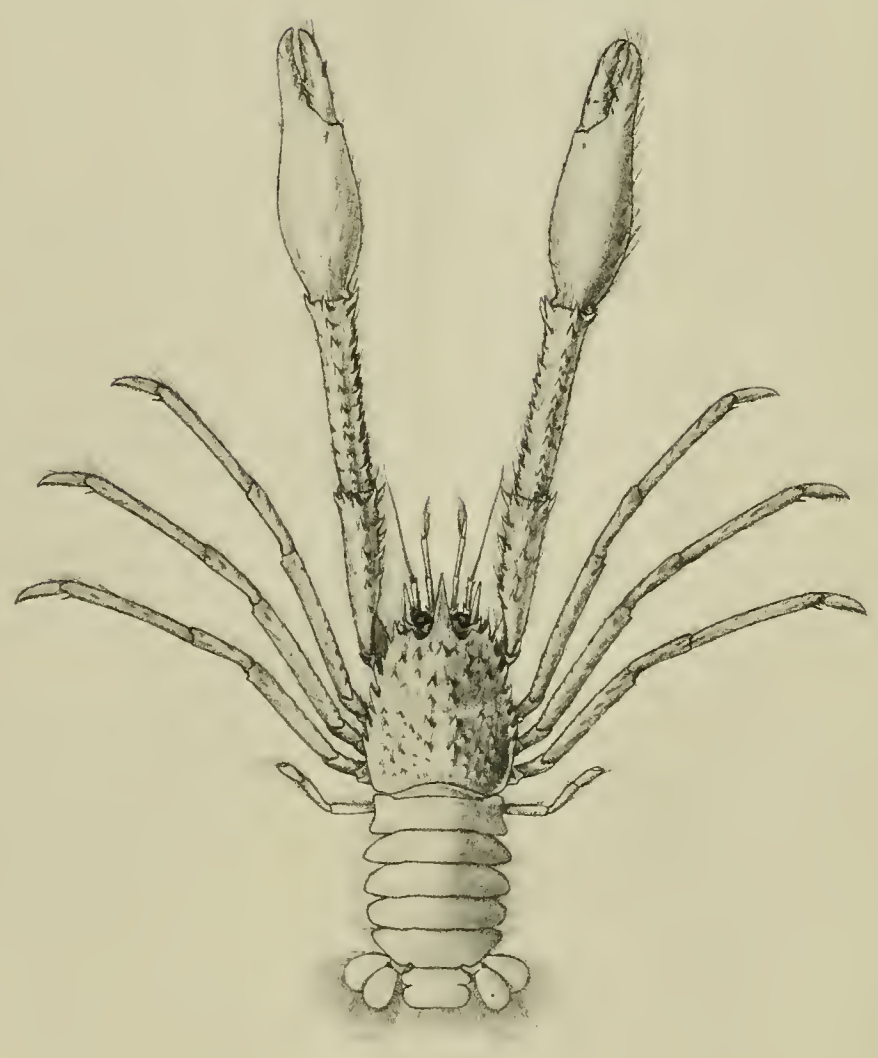
2x2.



1b x2.



3x2.



4x1½.

1. Munidopsis iridis. 2. Munidopsis goodridgii. 3. Uroptychus cavirostris. 4. Uroptychus fusimanus.

S.C. Mondul and A.C. Chowdhary, del.

Photogravure-Survey of India Offices, Calcutta, July 1893.

## EXPLANATION OF PLATE.

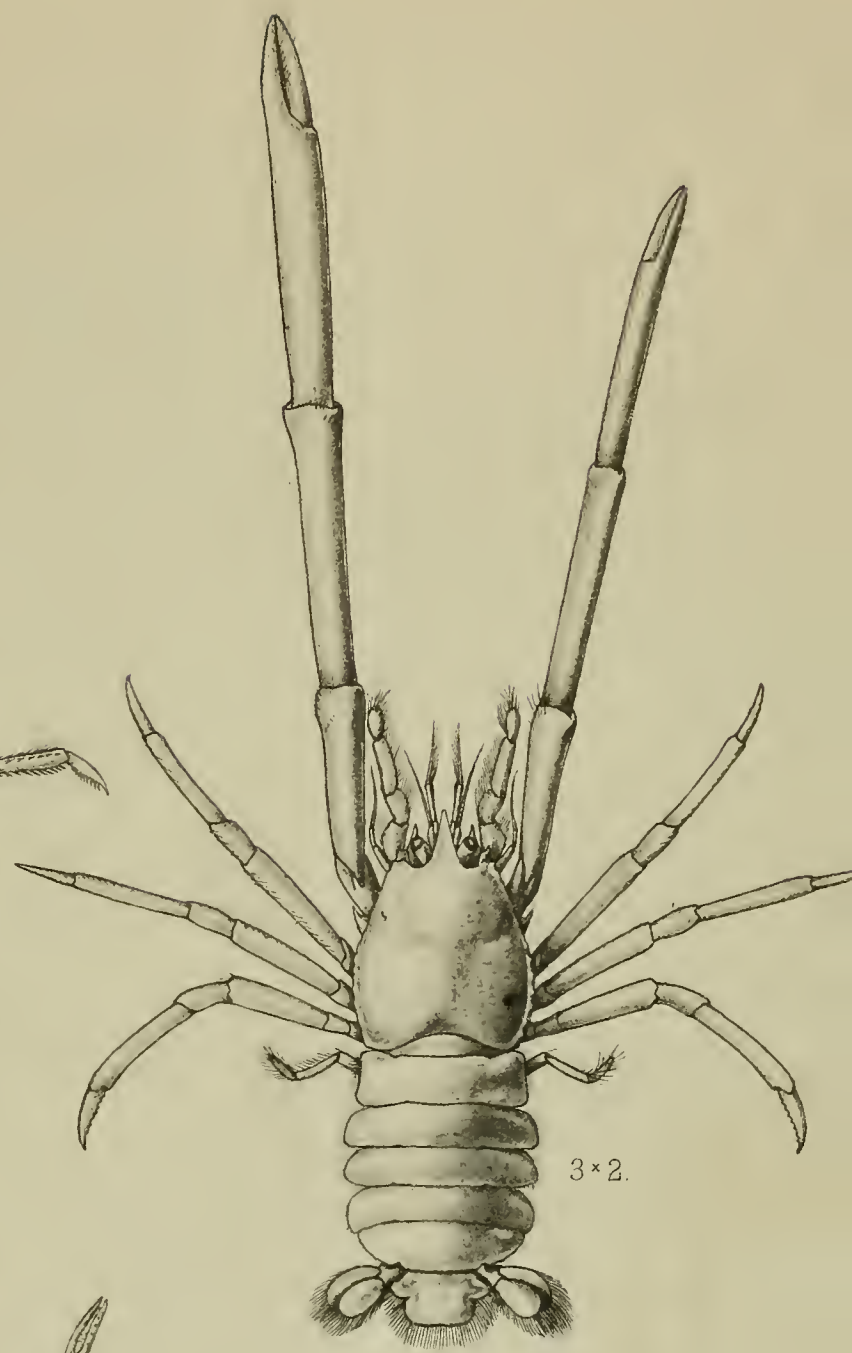
# CRUSTACEA.

### PLATE XLV.

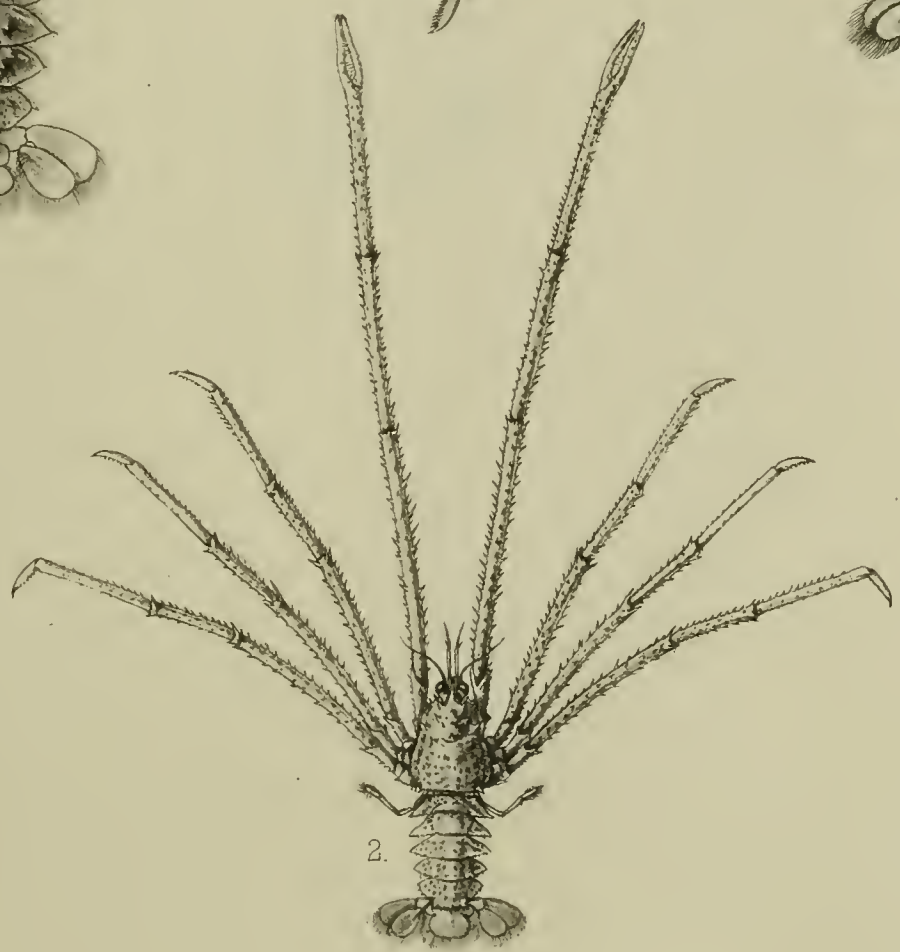
***Fig. 1.***—*Ptychogaster investigatoris*, Alcock and Anderson, Annals and Magazine of Natural History, January 1899, p. 24.

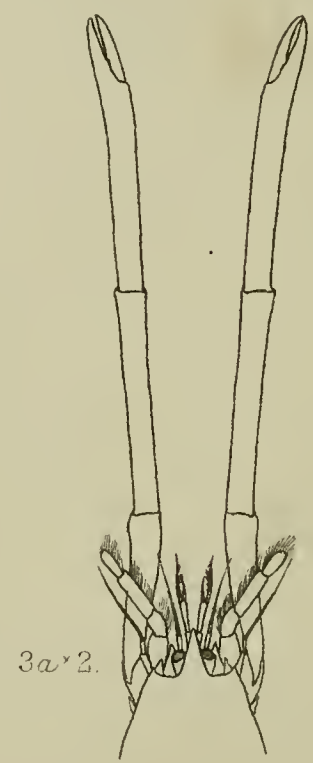
***Figs. 2, 2a.***—*Ptychogaster Hendersoni*, Alcock and Anderson, *tom. cit.*, p. 23.

***Figs. 3, 3a.***—*Uroptychus bacillimanus*, Alcock and Anderson, *tom. cit.*, p. 25.






1. Ptychogaster investigatoris. 2, 2*a*. Ptychogaster henderson. 3, 3*a*. Uroptychus bacillimanus.

Chowdhary & S. C. Mondul, del.

Photo-etching, Survey of India Offices, Calcutta, July, 1899.

Investigator

Illustrations of the geology of..

pt. 8. pl. 46-48

## EXPLANATION OF PLATE.

# CRUSTACEA.

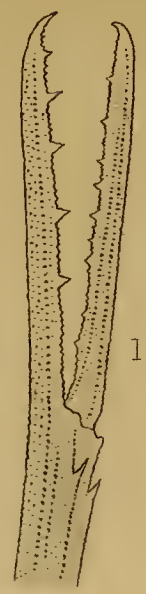
### PLATE XLVI.

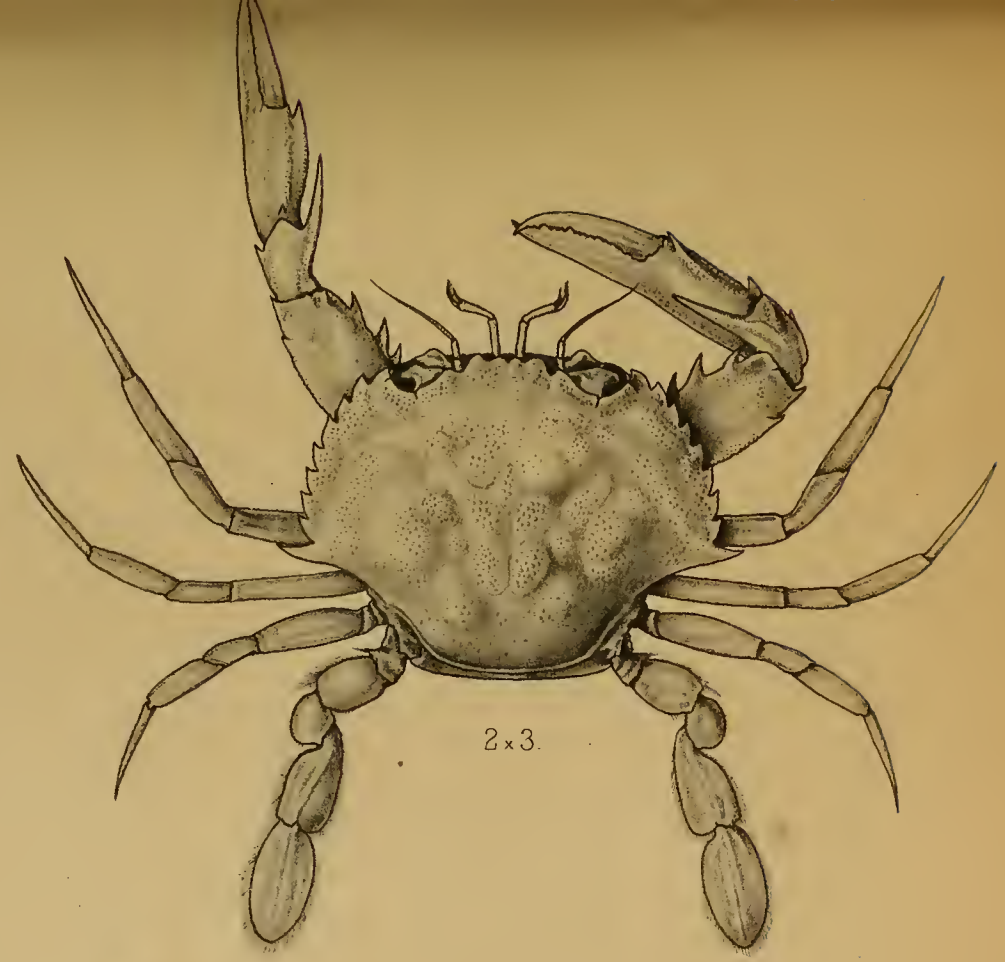
***Figs. 1, 1a.***—*Lupocyclus strigosus*, Alcock, "Carcinological Fauna of India," Journal of the Asiatic Society of Bengal, Vol. LXVIII, Part 2, 1899, p. 24.

***Fig. 2.***—*Neptunus petreus*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom. cit.*, p. 37.

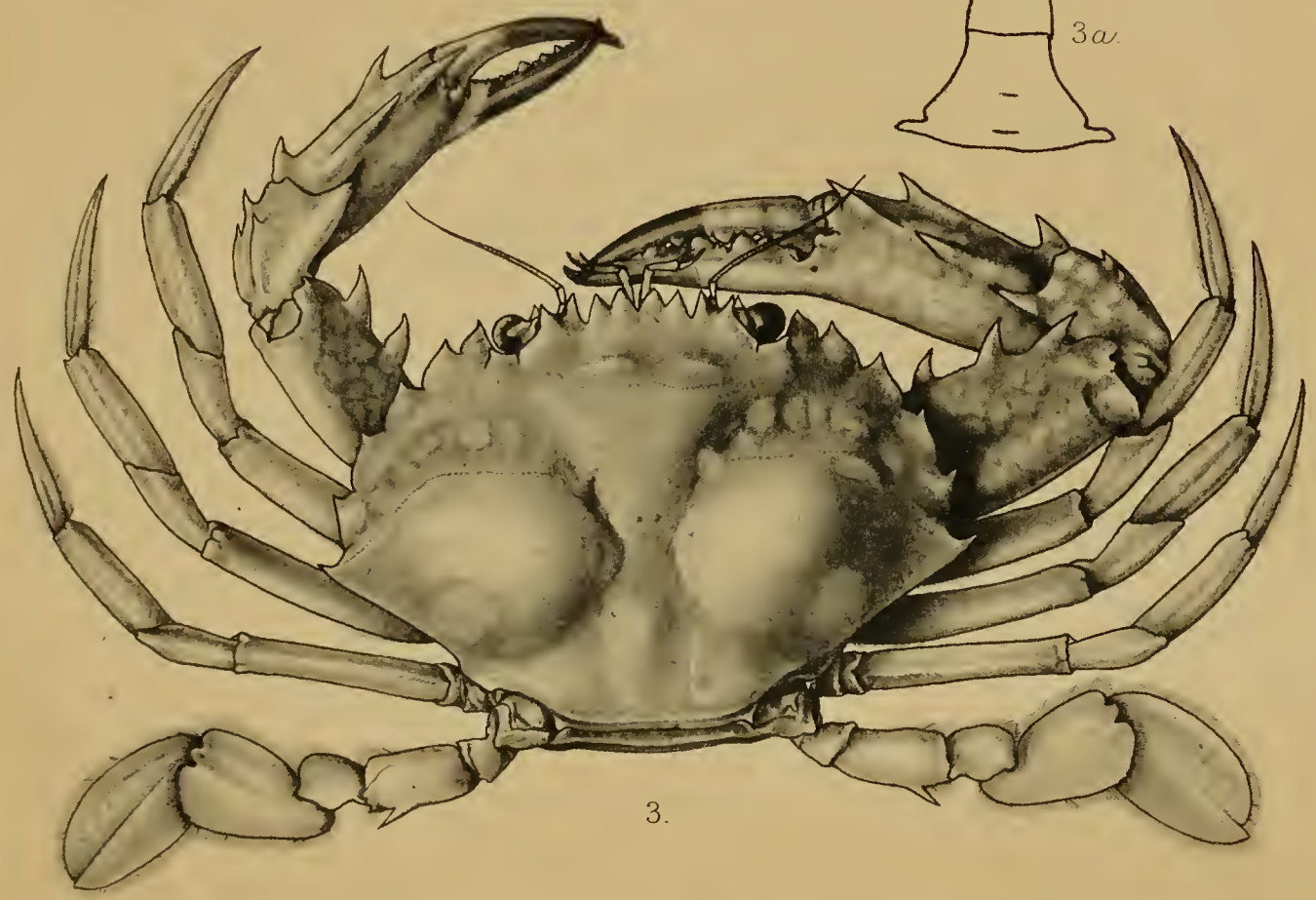
***Figs. 3, 3a.***—*Charybdis* (*Goniosoma*) *Rivers-Andersoni*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom. cit.*, p. 53.

***Fig. 4.***—*Charybdis* (*Gonioneptunus*) *investigatoris*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom. cit.*, p. 70.







1. Lupocyclus strigosus. 2. Neptunus petreus. 3. Charybdis rivers-andersoni. 4. Charybdis (Gonioneptunus) investigatoris.

A.C. Chowdhary, del.

Photogravure, Survey of India Offices, Calcutta, May, 1900.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE XLVII.

***Figs. 1, 1a.***—*Thalamita investigatoris*, Alcock, "Carcinological Fauna of India," Journal of the Asiatic Society of Bengal, Vol. LXVIII, Part 2, 1899, p. 85.

***Figs. 2, 2a.***—*Thalamita exetastica*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom. cit.*, p. 86.

***Figs. 3, 3a.***—*Thalamita imparimanus*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom. cit.*, p. 87.

***Figs. 4, 4a.***—*Thalamita Hanseni*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom cit.*, p. 88.


1. Thalamita investigatoris. 2. Thalamita exetastica. 3. Thalamita imparimanus. 4. Thalamita hanseni.

A.C. Chowdhary, del.

Photogravure, Survey of India Offices, Calcutta, May, 1900.

## EXPLANATION OF PLATE.

# CRUSTACEA.

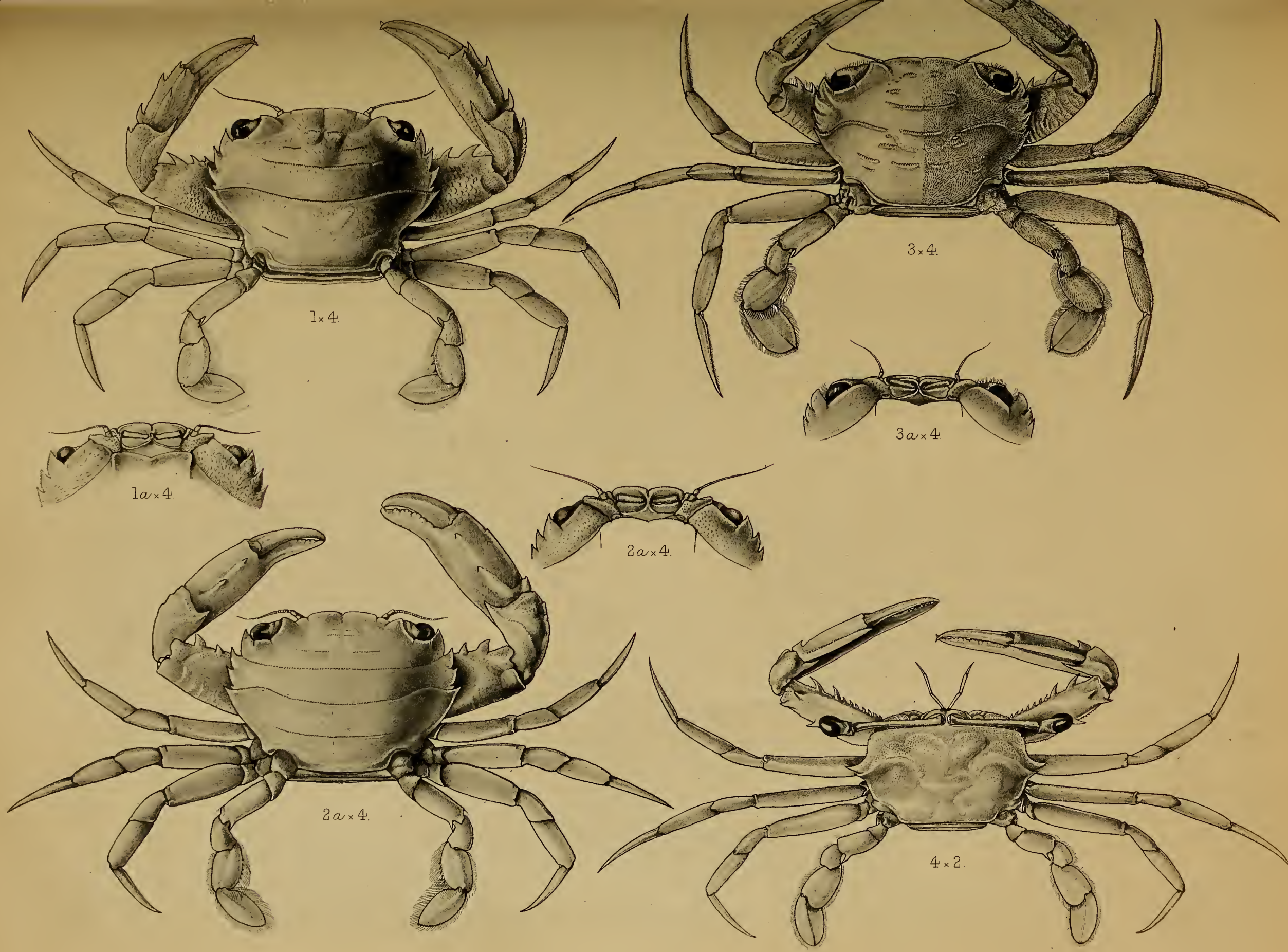
### PLATE XLVIII.

***Figs. 1, 1a.***—*Thalamita Wood-Masoni*, Alcock, "Carcinological Fauna of India," Journal of the Asiatic Society of Bengal, Vol. LXVIII, Part 2, 1899, p. 90.

***Figs. 2, 2a.***—*Thalamita Wood-Masoni*, var. *taprobanica*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom. cit.*, p. 90.

***Figs. 3, 3a.***—*Thalamita oculea*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom. cit.*, p. 91.

***Fig. 4.***—*Podophthalmus nacreus*, Alcock, "Carcinological Fauna of India," J. A. S. B., *tom. cit.*, p. 93.




1. Thalamita wood-masoni. 2. Thalamita wood-masoni var. taprobanica. 3. Thalamita oculea. 4 Podophthalmus nacreus.

A.C. Chowdhary, del.

Photogravure, Survey of India Offices, Calcutta, May 1900.

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

## ROYAL INDIAN MARINE SURVEY SHIP

# INVESTIGATOR,

UNDER THE COMMAND OF

COMMANDER T. H. HEMING, R.N.

---

CRUSTACEA.—Part IX, Plates XLIX—LV.
MOLLUSCA.—Part III, Plates IX—XIII.

UNDER THE DIRECTION OF

A. ALCOCK, M.B., LL.D., F.R.S., SUPERINTENDENT OF THE INDIAN MUSEUM,
FORMERLY SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY,

AND OF

A. F. McARDLE, B.A., M.B., SURGEON-NATURALIST TO THE
INDIAN MARINE SURVEY.



Published under the Authority of Captain W. S. Goodridge, R.N., C.I.E.,
Director of the Royal Indian Marine.

CALCUTTA:
OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.
1901.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE XLIX.

***Fig. 1.***—*Aristeus (Hemipeneus) crassipes*, Wood-Mason, ♀. See Alcock, Descriptive Catalogue of the Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 33.

***Fig. 2.***—*Aristeus (Hemipeneus) crassipes*, Wood-Mason, ♂. *Op. cit.*, p. 33.

***Fig. 3.***—*Aristeus semidentatus*, Spence Bate ♂ *Op. cit.*, p. 31.

***Fig. 4.***—*Aristeus (Hemipeneus) carpenteri*, Wood-Mason, ♀. *Op. cit.*, p. 32.

***Fig. 5.***—*Peneus (Parapeneus) rectacutus*, Spence Bate, ♂. *Op. cit.*, p. 17.

***Fig. 6.***—*Solenocera (Parasolenocera) annectens*, Wood-Mason, *Op. cit.*, p. 21.


1. Aristeus (Hemipeneus) crassipes, ♀. 2. Aristeus (Hemipeneus) crassipes ♂. 3. Aristeus semidentatus ♂

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE L.

***Figs. 1, 1a.-b.***—*Sergestes bisulcatus*, Wood-Mason, ♀. See Alcock, Descriptive Catalogue of the Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 49.

***Figs. 2, 2a.-b.***—*Peneus (Metapeneus) coniger*, Wood-Mason, ♂. *Op. cit.*, p. 16.

***Fig. 3.***—*Eryonicus indicus*, A. & And. *Op. cit.*, p. 176.

***Figs. 4, 4a.***—*Calocaris alcocki*, McArdle. *Op. cit.*, p. 190.

***Fig. 5.***—*Engystenopus palmipes*, A. & And. *Op. cit.*, p. 144.


1. Sergestes bisulcatus, ♀. 2. Metapeneus coniger, ♂ 3. Eryonicus indicus. 4. Calocaris alcocki. 5. Engystenopus palmipes.

A.C.Chowdhary & S.C.Mondul del.

Photogravure. Survey of India Offices, Calcutta, July 1901.

## EXPLANATION OF PLATE

# CRUSTACEA.

### PLATE LI.

***Fig. 1.***—*Heterocarpus tricarinatus*, A. & And. ♀. See Alcock, Descriptive Catalogue of the Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 107.

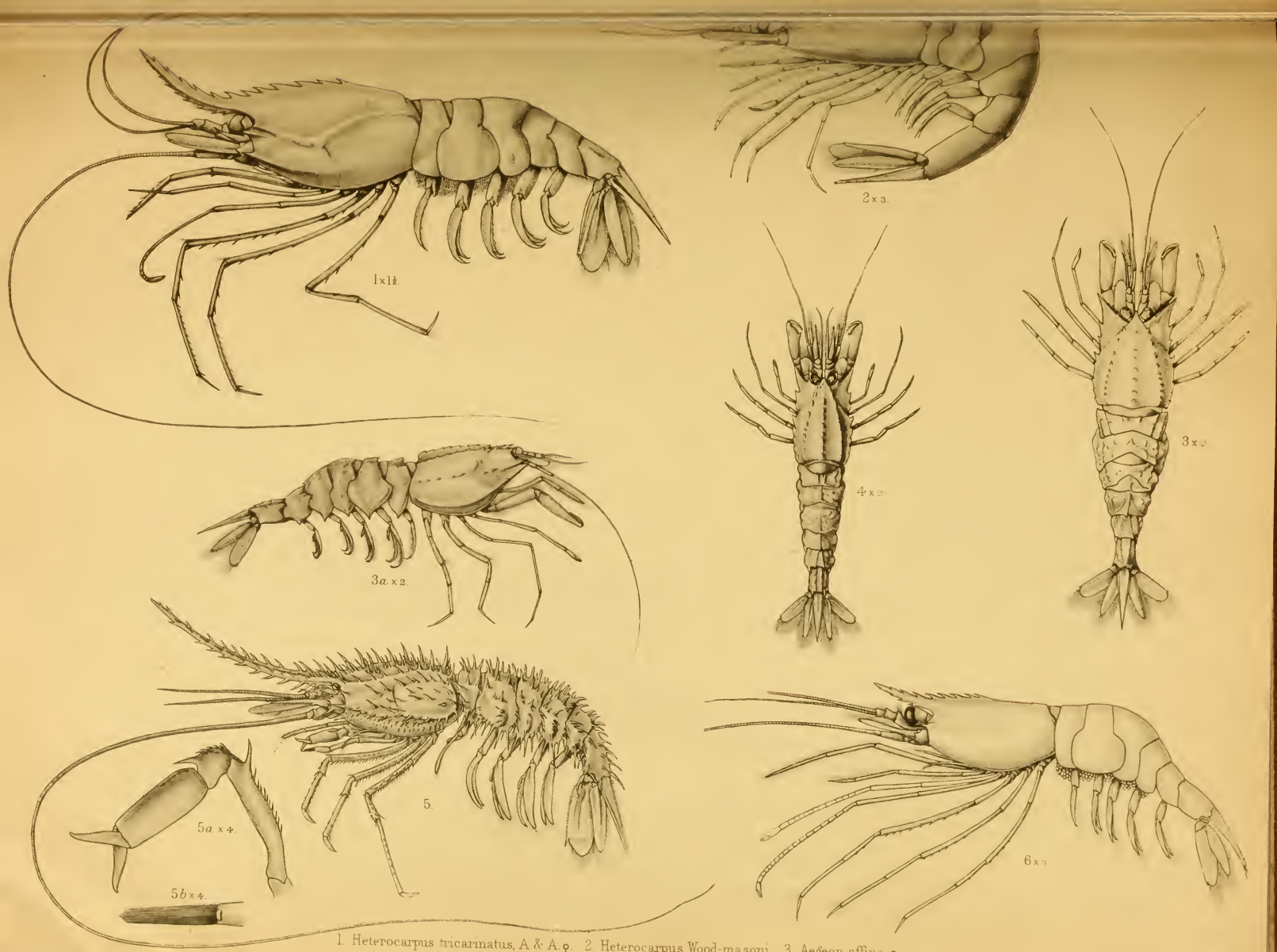
***Fig. 2.***—*Heterocarpus wood-masoni*, Alcock. *Op. cit.*, p. 108.

***Fig. 3, 3a.***—*Aegeon affine*, Alcock, ♀. *Op. cit*, p. 118.

***Fig. 4.***—*Aegeon affine*, Alcock, ♂. *Op. cit.*, p. 118.

***Figs. 5, 5a.-b.***—*Psalidopus huxleyi*, Wood-Mason. *Op. cit*, p. 112.

***Fig. 6.***—*Pandalus (Plesionika) bifurca*, Alc. & And. *Op. cit.*, p. 98.




1. Heterocarpus tricarinatus, A & A. ♀. 2. Heterocarpus Wood-masoni. 3. Aegeon affine, ♀.
4. Aegeon affine, ♂. 5. Psalidopus huxleyi, ♀. 6. Pandalus (Plesionika) bifurca.

Chowdhury & S. C. Mandal del.

Photogravure, Survey of India Offices, Calcutta May 1906.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE LII.

***Fig. 1.***—*Parapasiphæa latirostris*, Wood-Mason. See Alcock, Descriptive Catalogue of Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 65.

***Fig. 2.***—*Pandalus (Plesionika) alcocki*, Anderson, ♂. *Op. cit.*, p. 97.

***Fig. 3.***—*Ephyrina hoskynii*, Wood-Mason. *Op. cit.*, p. 84.

***Fig. 4.***—*Pandalus (Plesionika) alcocki*, Anderson, ♀. *Op. cit.*, p. 97.

***Fig. 5.***—*Psathyrocaris fragilis*, Wood-Mason. *Op. cit.*, p. 69.

***Figs. 6, 6a.-b.***—*Phye alcocki*, Wood-Mason. *Op. cit.*, p. 61.

***Fig. 7.***—*Sympasiphæa annectens*, Alcock. *Op. cit.*, p. 63.


1. Parapasiphæa latirostis ♀. 2. Pandalus (Plesionika) alcocki, ♂. 3. Ephyrina hoskynii, W-M. 4. Pandalus (Plesionika) alcocki ♀.
5. Psathyrocaris fragilis, W-M. 6. Phye alcocki, W-M. 7. Sympasiphæa annectens.

## EXPLANATION OF PLATE.

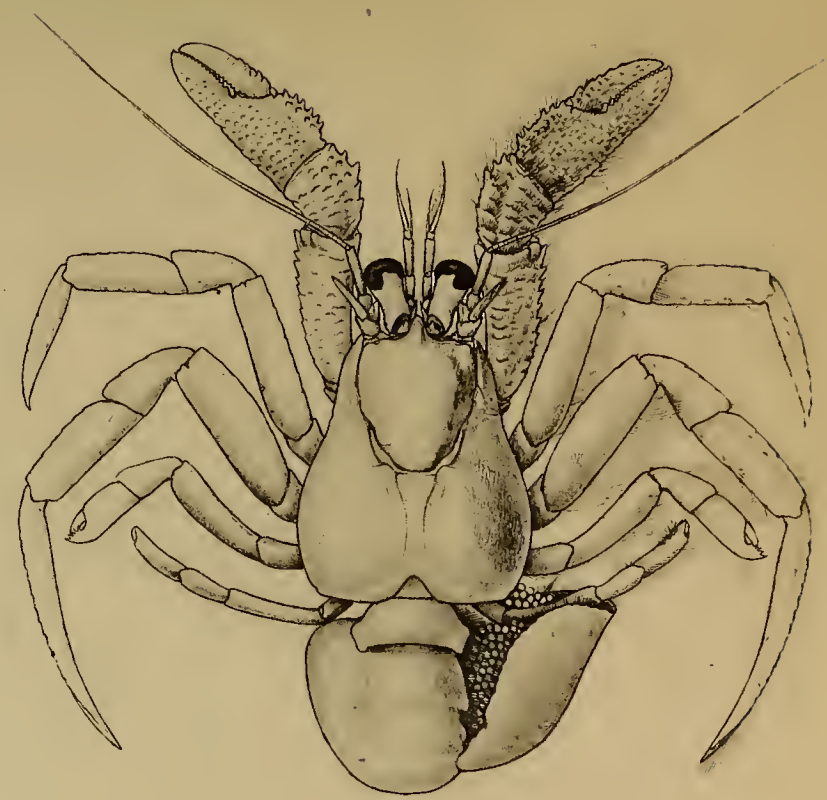
# CRUSTACEA.

### PLATE LIII.

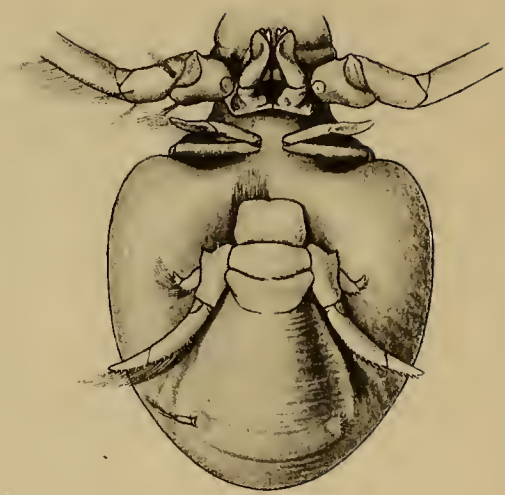
***Figs. 1, 1a.***—*Chlænopagurus andersoni*, Alcock, ♂. Alcock, Descriptive Catalogue of Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 229

***Fig. 2.***—*Chlænopagurus andersoni*, Alcock. ♀. *Op. cit.*, p. 229.

1×1½.



2×1½.



1a×1½.

1. Chlænopagurus andersoni. ♂. 2. Chlænopagurus andersoni. ♀.

## EXPLANATION OF PLATE.

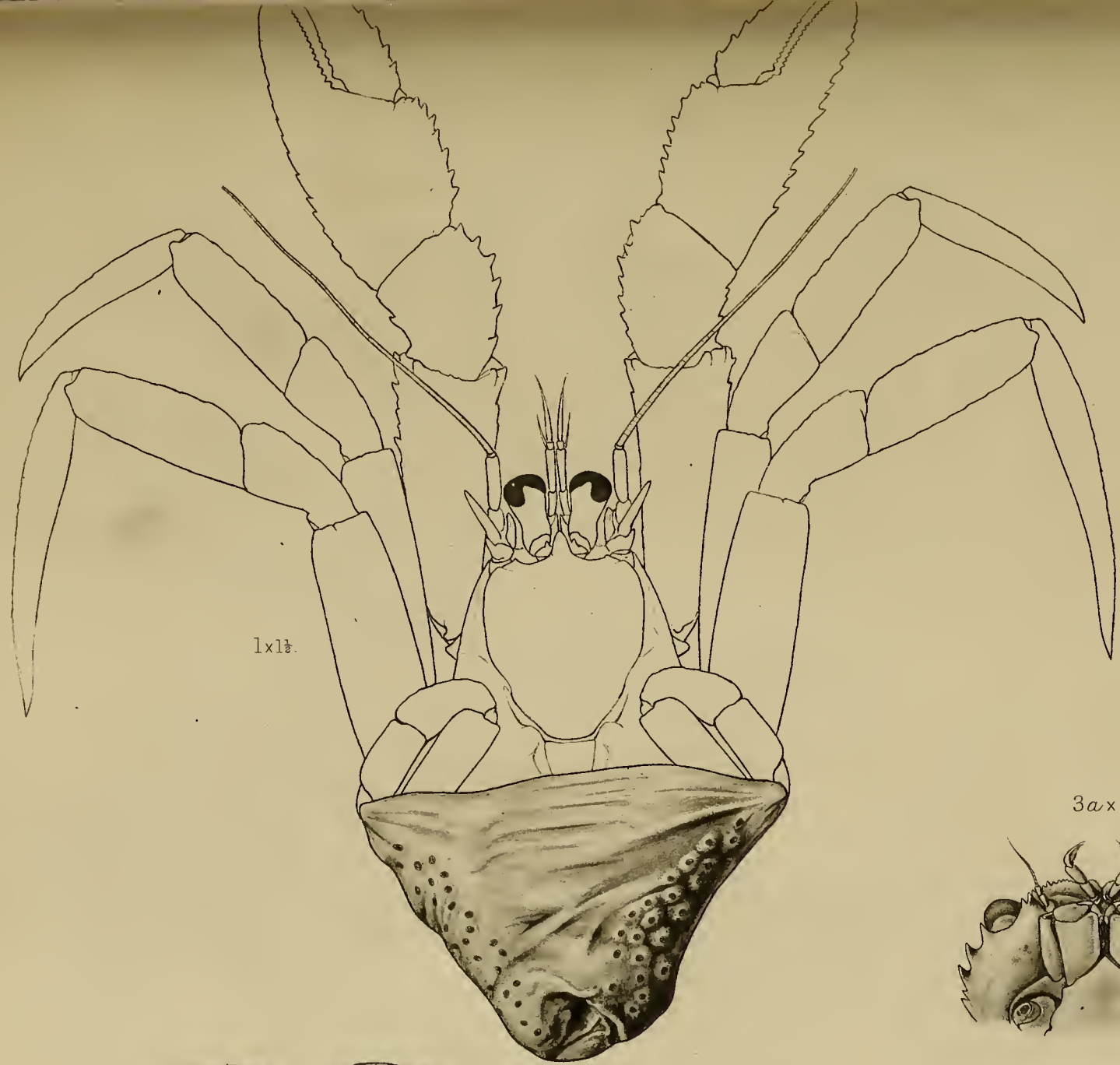
# CRUSTACEA.

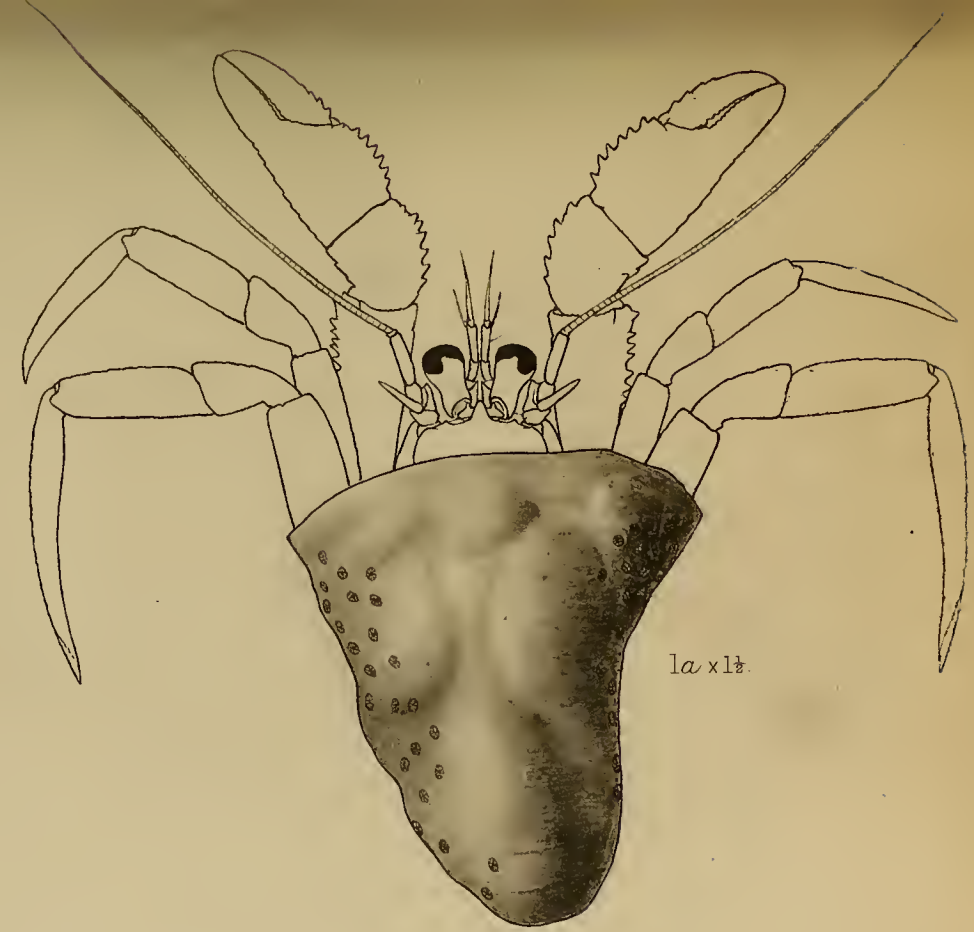
### PLATE LIV.

***Figs. 1, 1a.***—*Chlænopagurus andersoni*, Alcock, Descriptive Catalogue of Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 229.

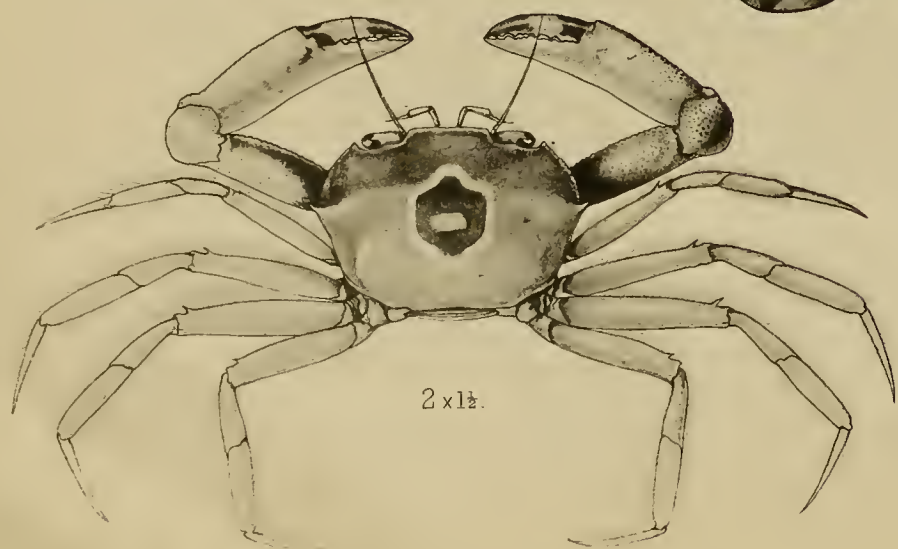
***Fig. 2.***—*Psopheticus insignis*, Alcock, Materials for a Carcinological Fauna of India, No. 6. The Brachyura Catometopa or Grapsoidea. Journal of the Asiatic Society of Bengal, Vol. LXIX, part 2, 1900, p. 311.

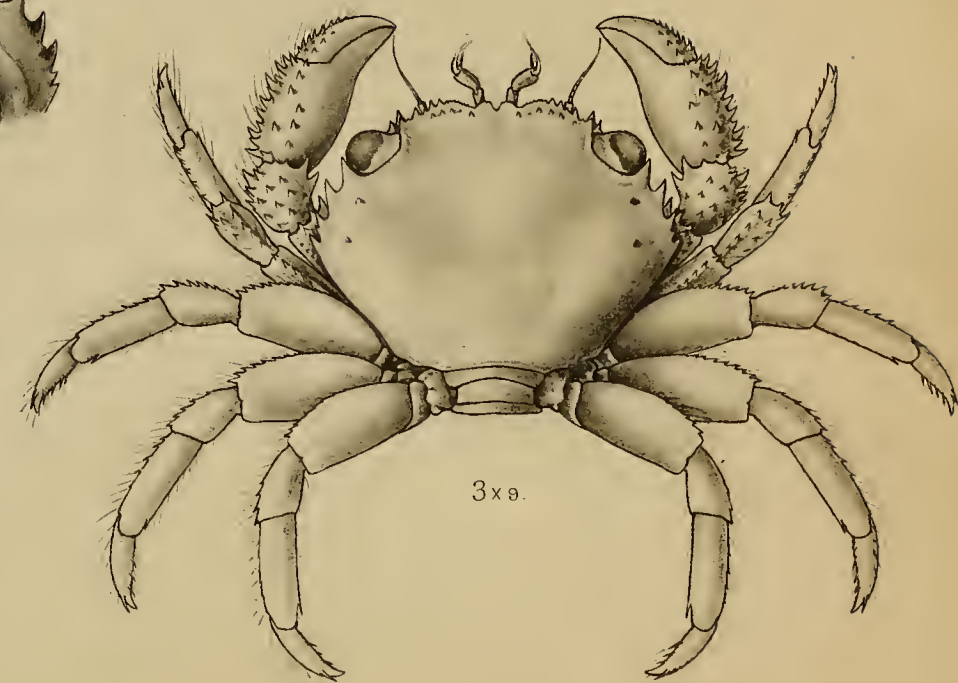
***Figs. 3, 3a.***—*Domecia glabra*, Alcock, Journal of the Asiatic Society of Bengal, Vol. LXVIII, part 2, 1899, p. 117.








1. Chlænopagurus andersoni. 2. Psopheticus insignis. 3. Domecia glabra.

S. C. Mondul & A. C. Chowdhary, del

Photogravure, Survey of India Offices, Calcutta, May, 1901.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE LV.

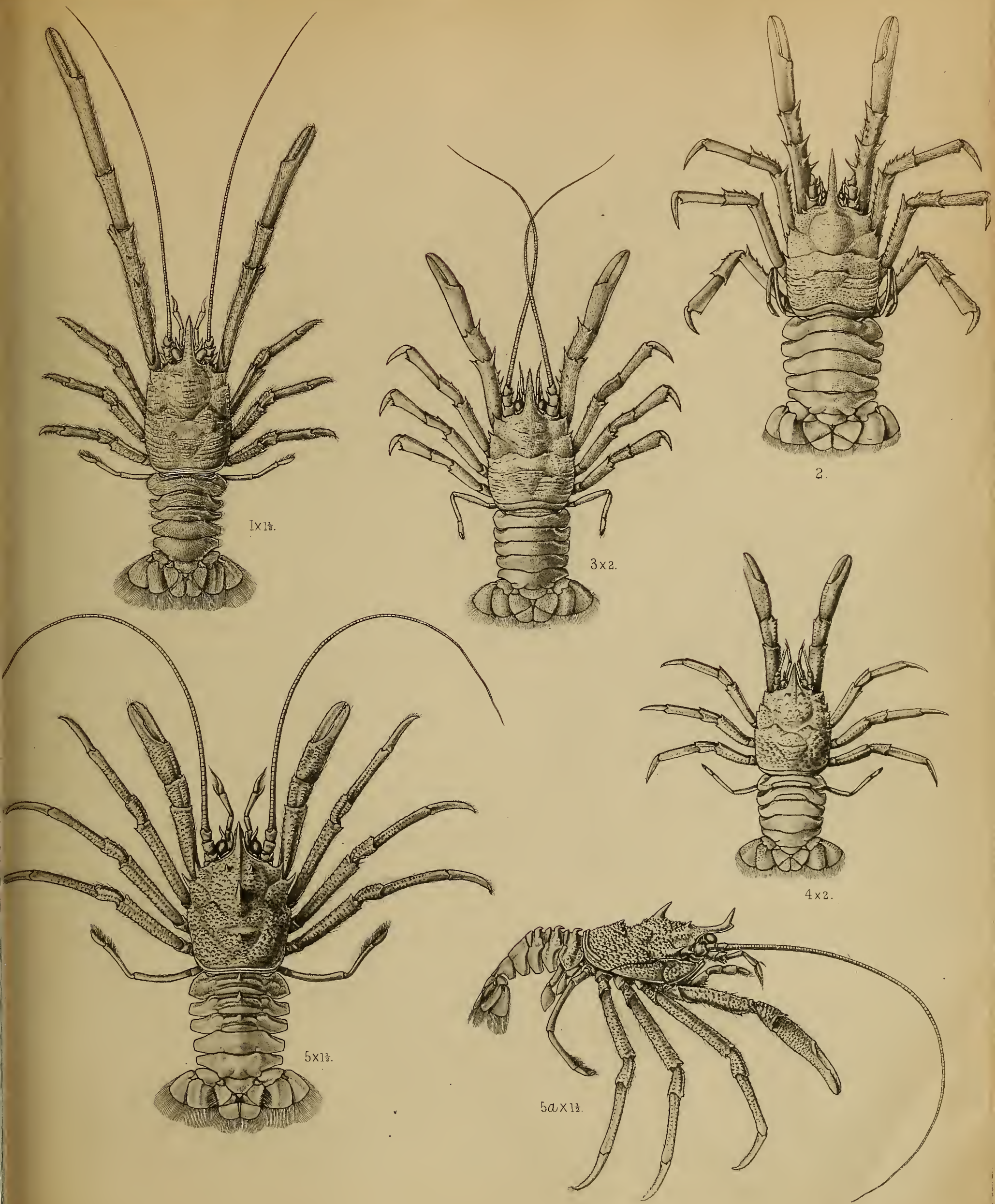
***Fig. 1.***—*Munidopsis wardeni*, Anderson. See Alcock, Descriptive Catalogue of Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 257.

***Fig. 2.***—*Bathyankyristes spinosus*, Alc. & And. *Op. cit.*, 273. *(=Munidopsis Bathyankyristes tenax.)*

***Fig. 3.***—*Bathyankyristes levis*, Alc. & And. *Op. cit*, p. 274.

***Fig. 4.***—*Munidopsis hemingi*, Alc. & And. *Op. cit.*, p. 251.

***Figs. 5, 5a.***—*Galacantha areolata*, Wood-Mason. *Op. cit.*, p. 275. *(=Galacantha rostrata*, A. Milne Edwards.*)*




Munidopsis wardeni. 2. Bathyankyristes spinosus. 3. Bathyankyristes levis. 4. Munidopsis hemingi. 5. Galacantha areolata.

Chowdhary & S.C. Mondul, del. Photogravure, Survey of India Offices, Calcutta, August 1901.

Investigator

Illustrations of the zoology of..

pt. 10 pl. 56-67

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE LVI.

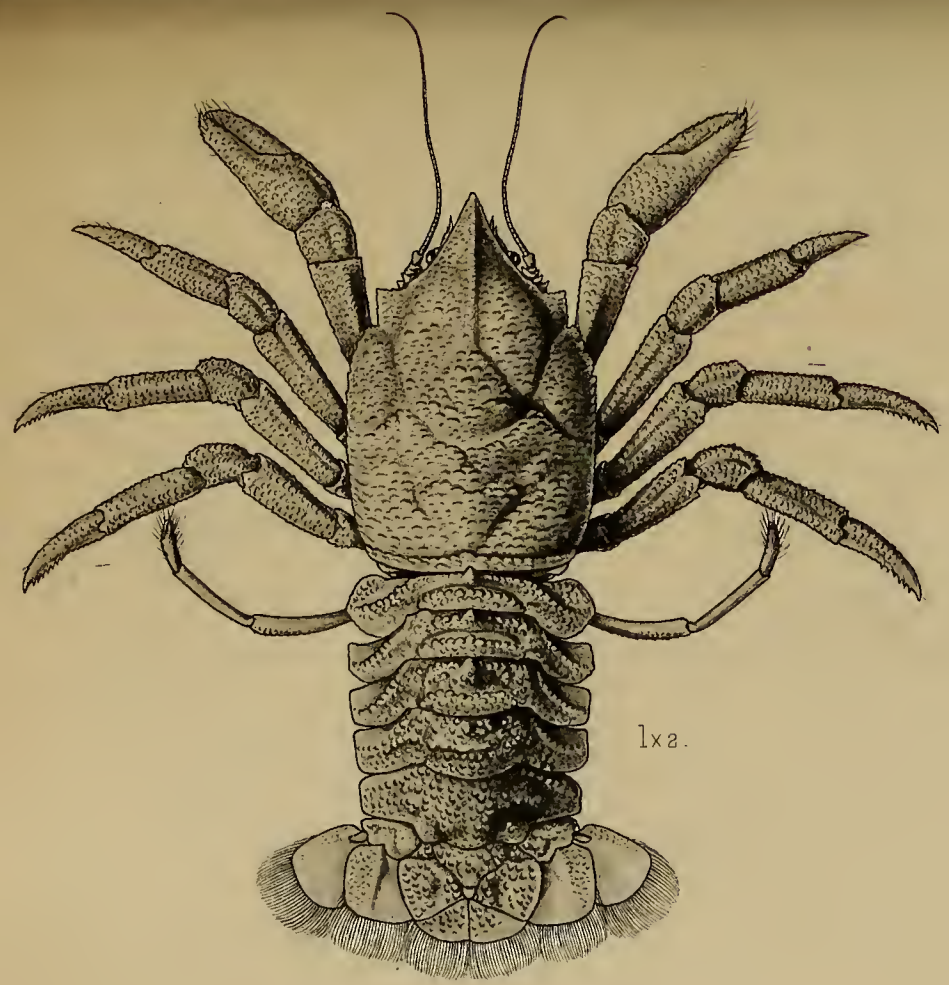
***Fig. 1.***—*Munidopsis (Orophorhynchus) granosa*, Alcock, Descriptive Catalogue of Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 266.

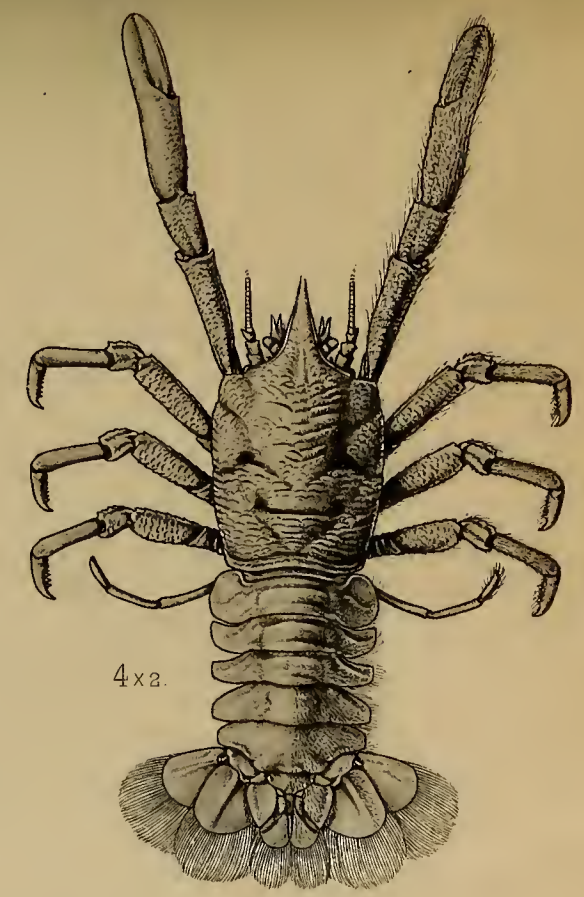
***Fig. 2.***—*Munidopsis (Orophorhynchus) edwardsii*, (Wood-Mason.) *Op. cit.*, p. 265.

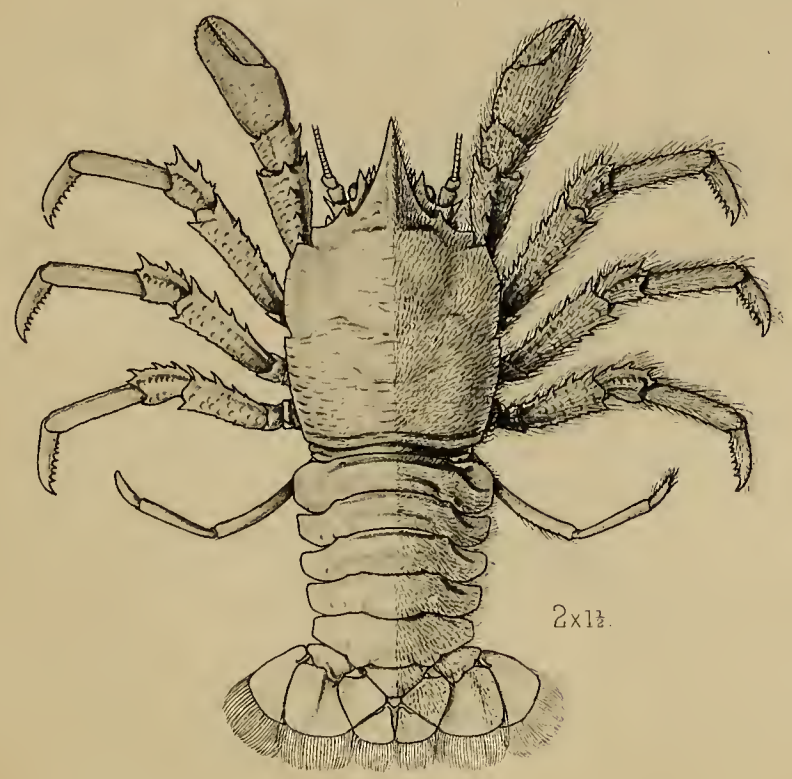
***Fig. 3.***—*Uroptychus nigricapillis*, Alcock. *Op. cit.*, p. 283.

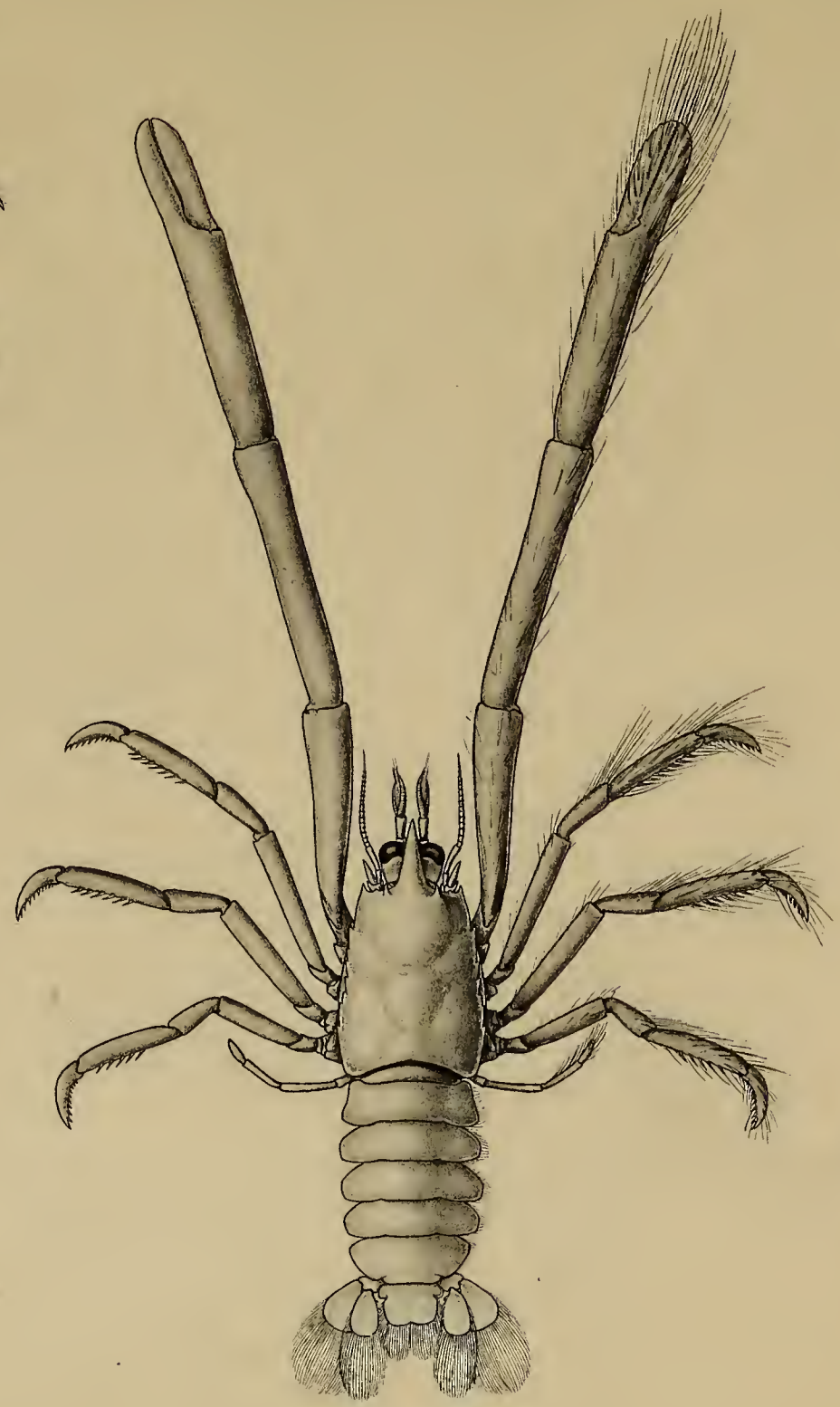
***Fig. 4.***—*Munidopsis (Elasmonotus) sinclairi*, McArdle, Annals and Magazine of Natural History, Series 7, Vol. viii, December, 1901, p. 524.

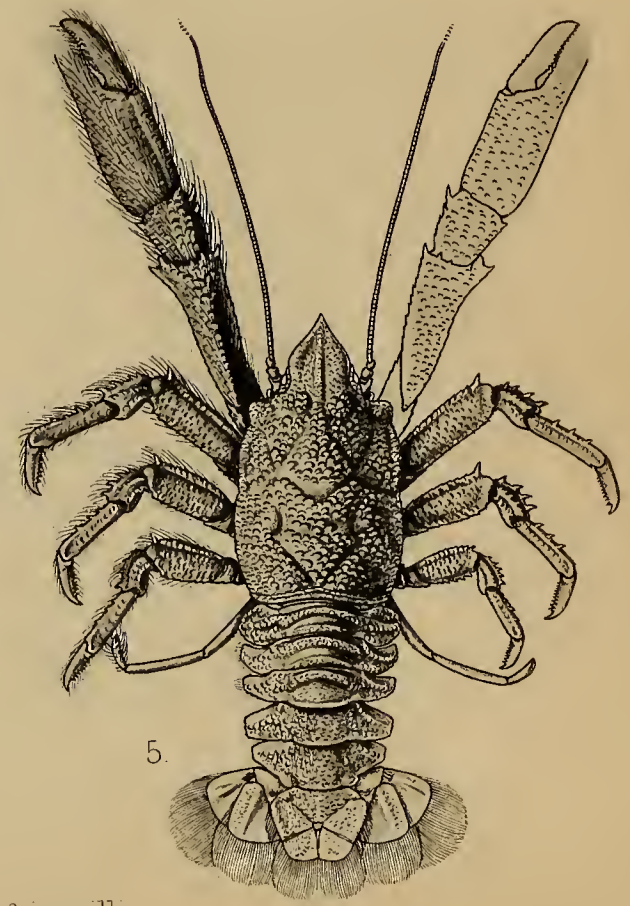
***Fig. 5.***—*Munidopsis orcina*, McArdle. *Op. cit.*, p. 523.




1. Munidopsis (Orophorhynchus) granosa. 2. Munidopsis (Orophorhynchus) edwardsii. 3. Uroptychus nigricapillis.
4. Munidopsis (Elasmonotus) sinclairi. 5. Munidopsis orcina.

S. C. Mondul. del.

Photogravure, Survey of India Offices, Calcutta, December, 1902.

## EXPLANATION OF PLATE

# CRUSTACEA.

### PLATE LVII.

***Figs. 1, 1a.***—*Uroptychus nanophyes*, McArdle, ♂ ♀. Annals and Magazine of Natural History, Series 7, Vol. viii, December, 1901, p. 525.

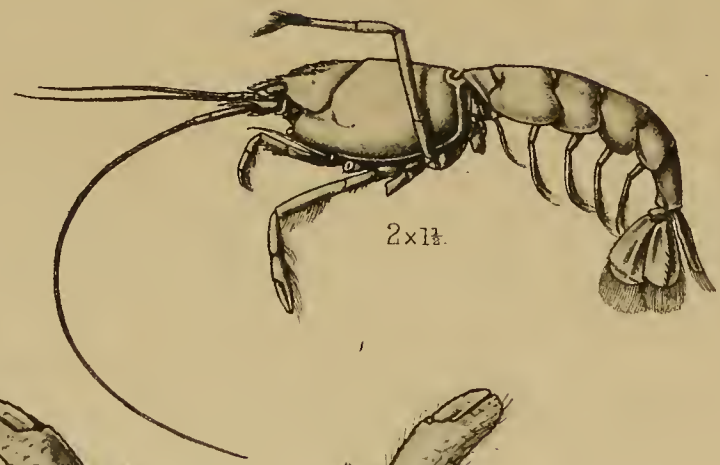
***Figs. 2, 2a.***—*Calastacus longispinis*, McArdle. *Op. cit.*, p. 522.

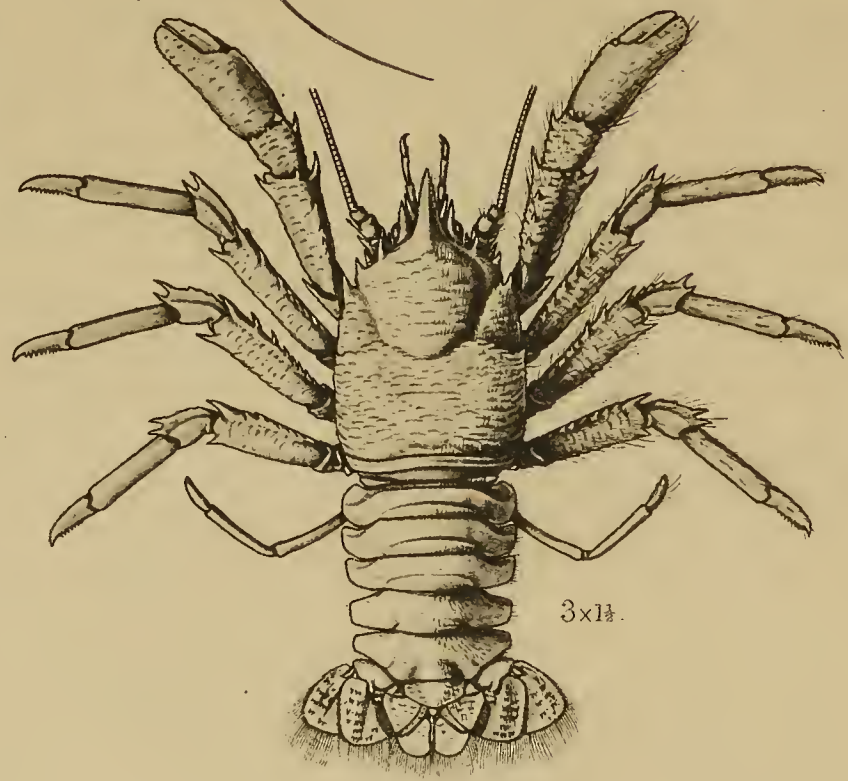
***Fig. 3.***—*Munidopsis (Orophorhynchus) ceratophthalmus*, Alcock, Descriptive Catalogue of Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 271.

***Fig. 4.***—*Gebicula exigua*, Alcock, *Op. cit.*, p. 202.

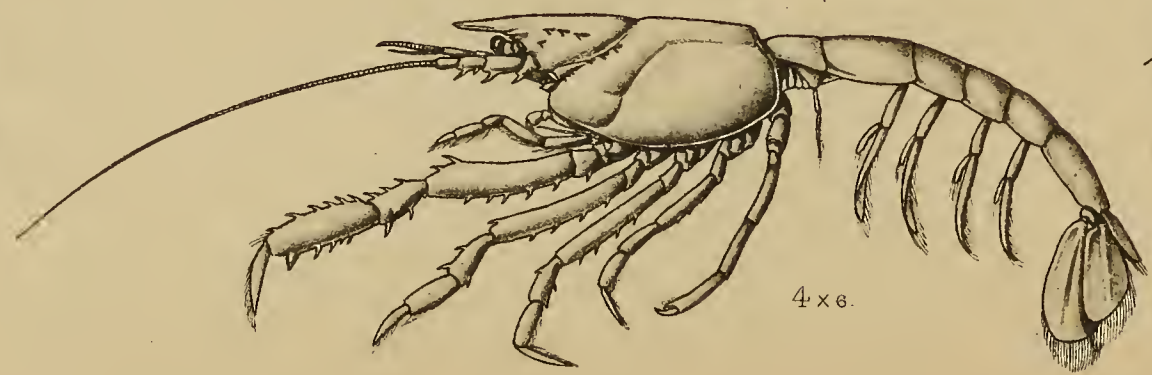
***Figs. 5, 5a.***—*Willemœsia indica*, Alcock. *Op. cit.*, p. 178.

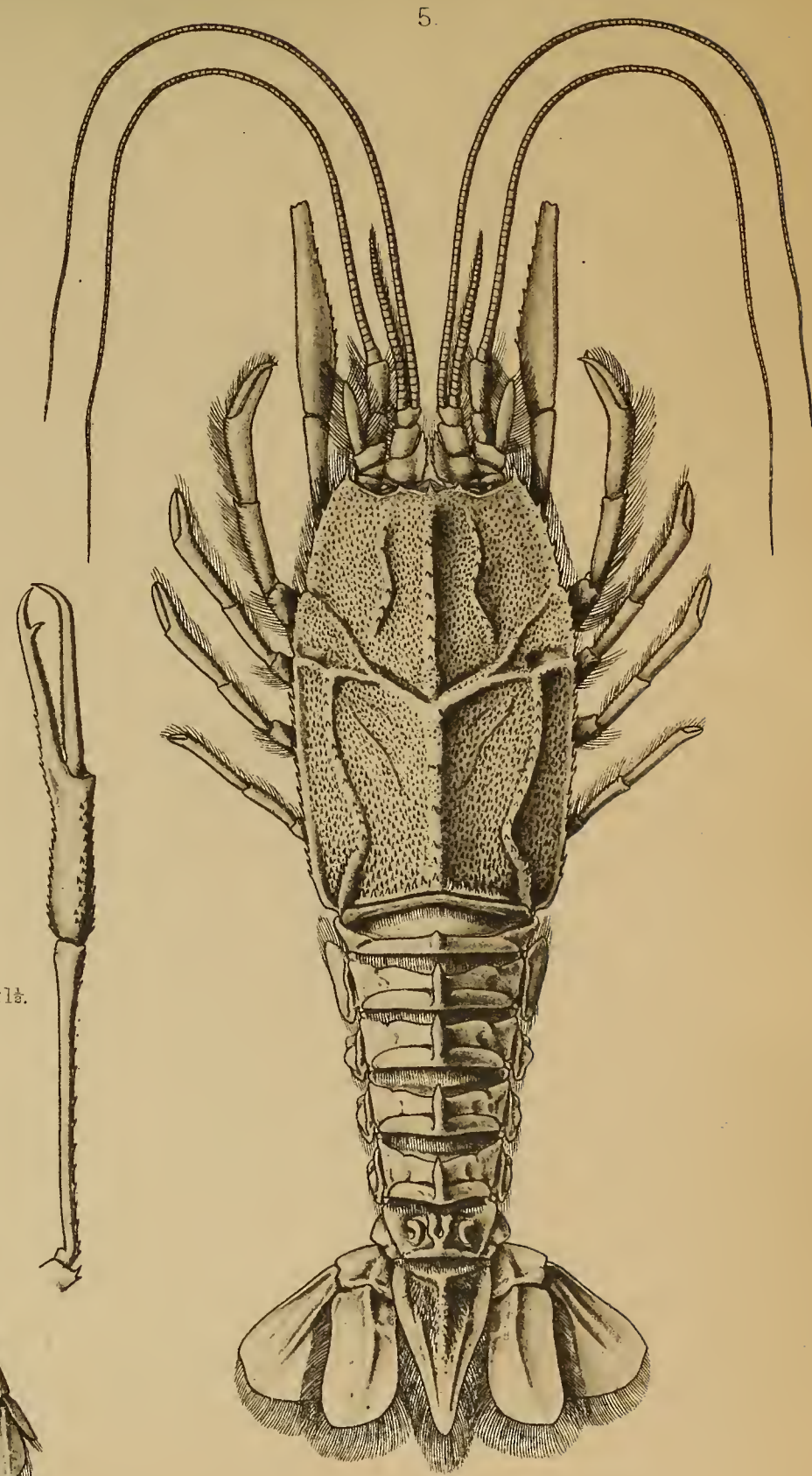









1. 1a. Uroptychus nanophyes. ♂. ♀. 2. Calastacus longispinis. 3. Munidopsis (Orophorhynchus) ceratophthalmus.
4. Gebicula exigua. 5. Willemœsia indica.

S. C. Mondul, del.

## EXPLANATION OF PLATE.

# CRUSTACEA.

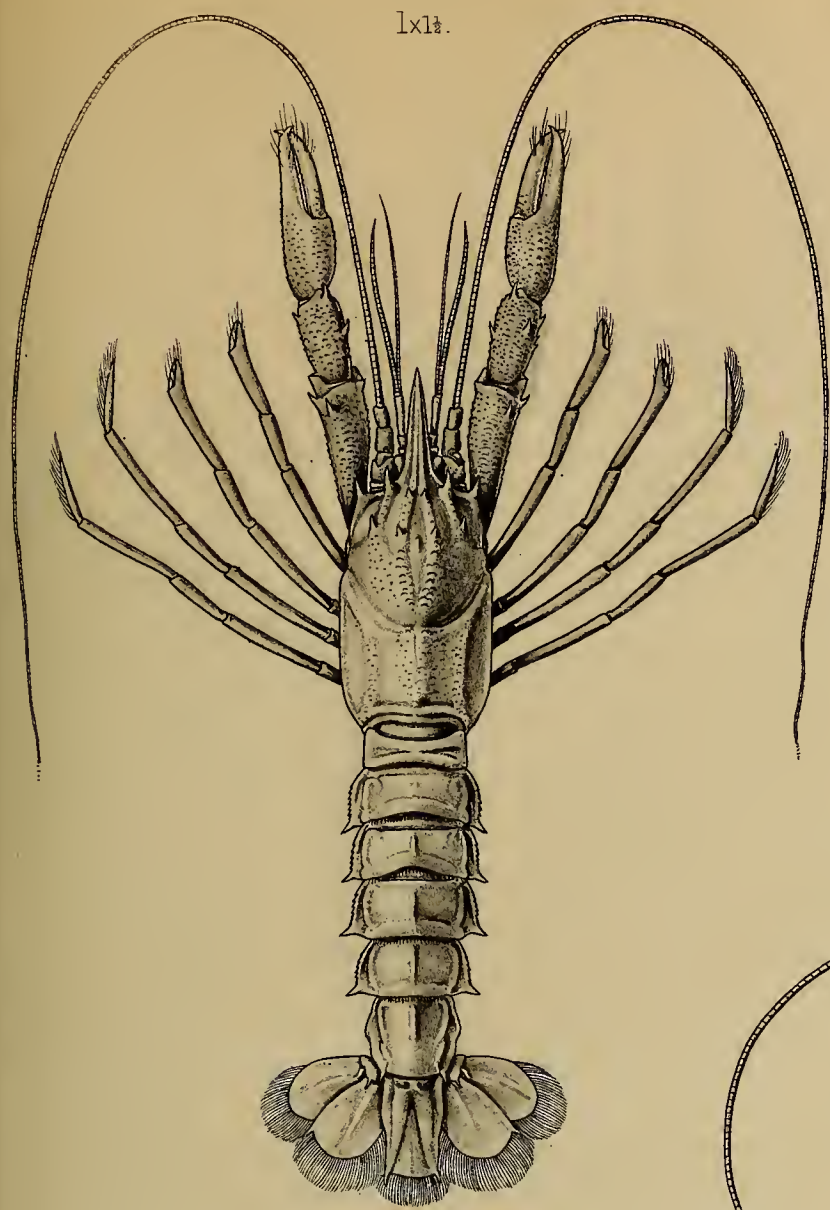
### PLATE LVIII.

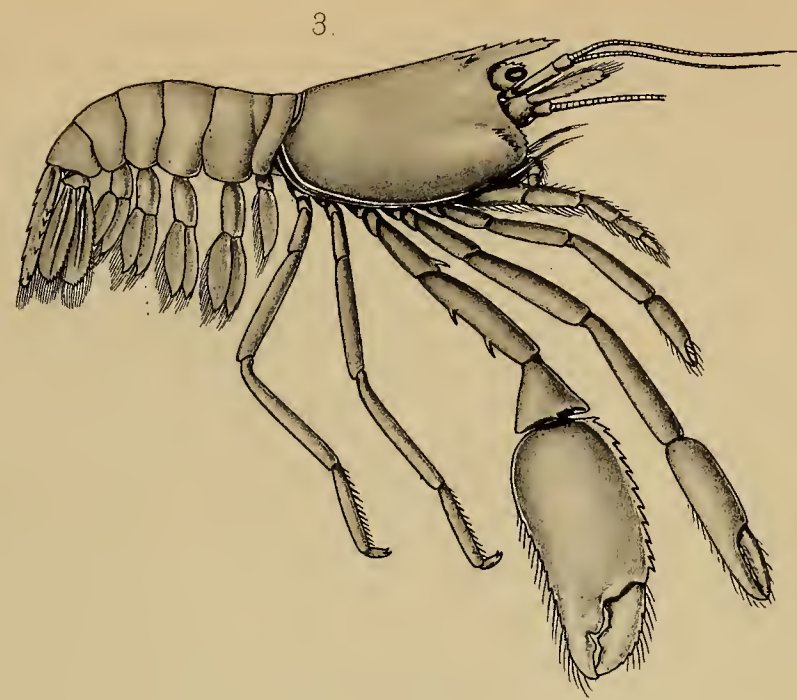
***Figs. 1, 1a.***—*Nephropsis ensirostris*, Alcock, Descriptive Catalogue of Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 162.

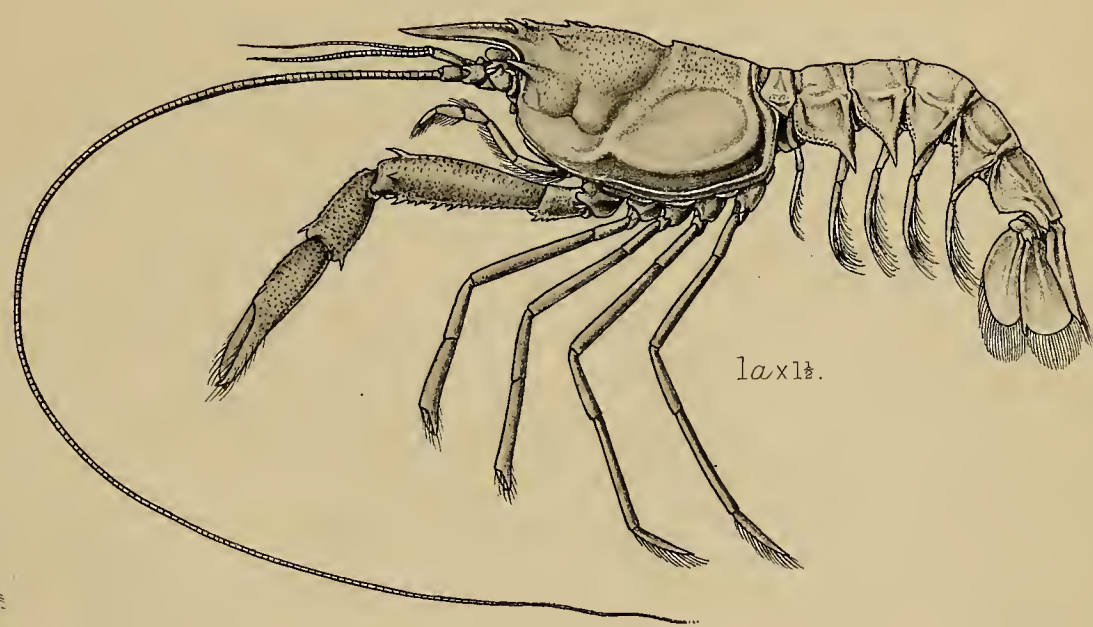
***Figs. 2, 2a.***—*Iconaxiopsis andamanensis*, Alcock. *Op. cit.*, p. 196.

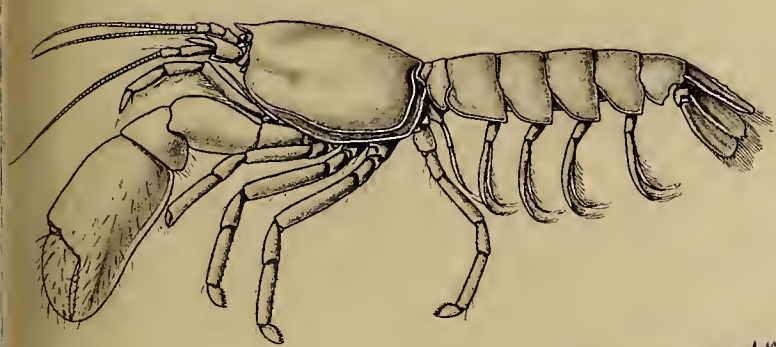
***Fig. 3.***—*Spongicola andamanica*, Alcock. *Op. cit.*, p. 148.

***Figs. 4.***—*Ptychogaster investigatoris*, Alc. & And. ♀. *Op. cit.*, p. 281.






1. Nephropsis ensirostris. 2. Iconaxiopsis andamanensis.
3. Spongicola andamanica. 4. Ptychogaster investigatoris, ♀.

S.C. Mondul, del.

Photogravure, Survey of India Offices, Calcutta, December, 1902.

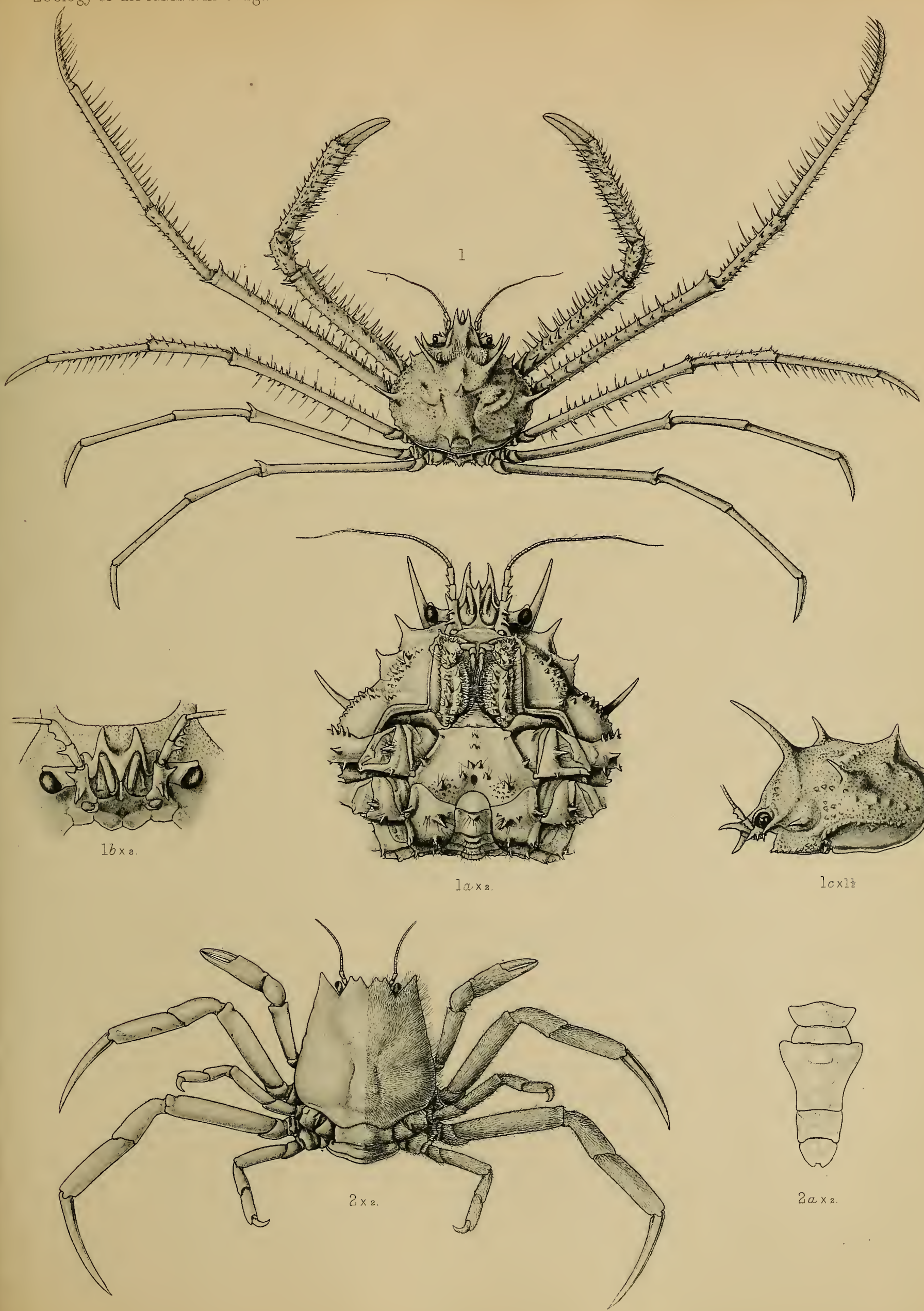
## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE LIX.

***Figs. 1, 1a, 1b, 1c.***—*Cyrtomaia goodridgei*, McArdle, ♂. Annals and Magazine of Natural History, Series 7, Vol. vi, November, 1900, p. 472.

***Figs. 2, 2a.***—*Ethusa hirsuta*, McArdle. *Op. cit.*, p. 474.




1. Cyrtomaia goodridgéi, ♂. 2. Ethusa hirsuta.

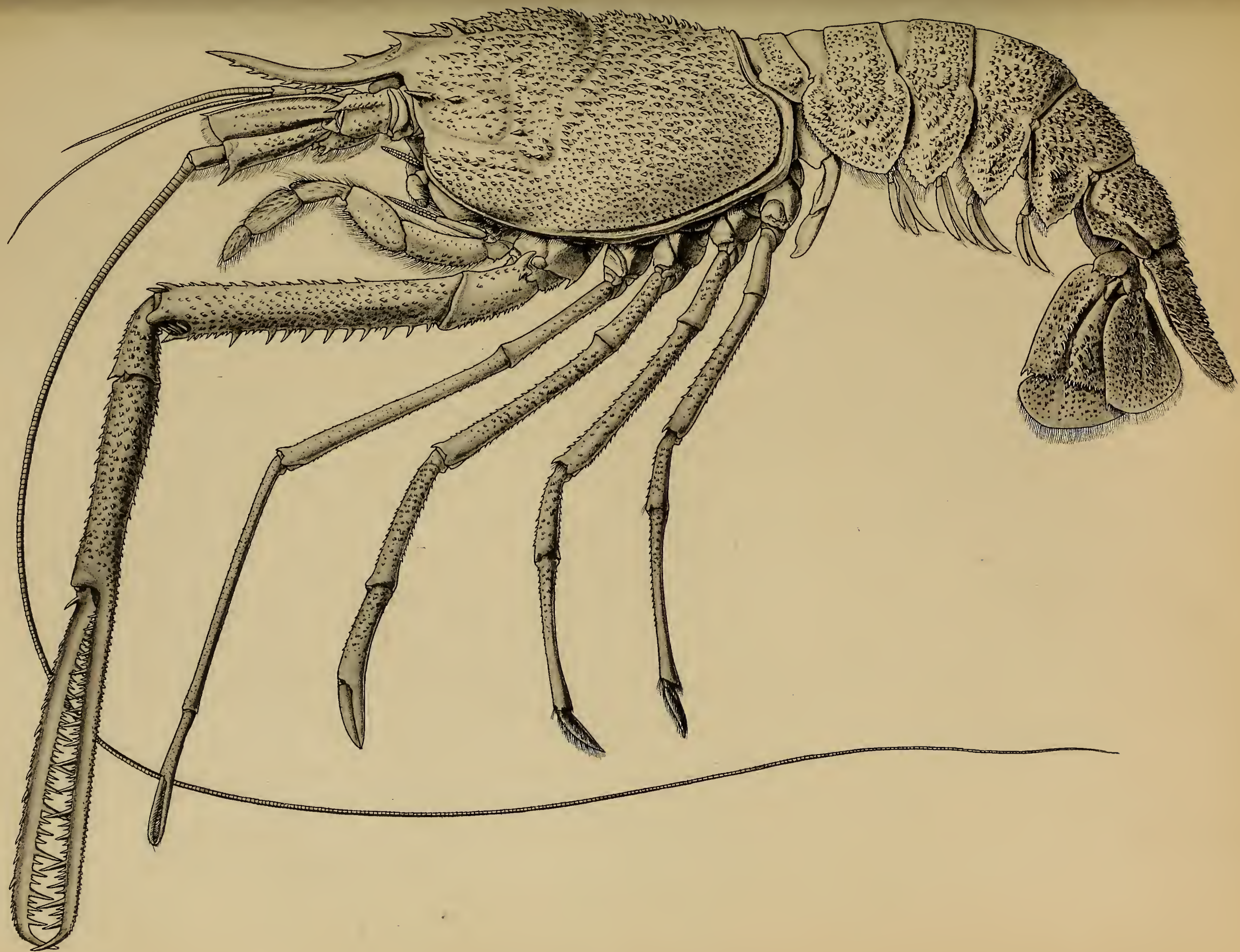
S.C. Mondul, del. Photogravure, Survey of India Offices, Calcutta, December 1902.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE LX.

*Phoberus cæcus*, var. *tenuimanus*, Spence Bate. See Alcock, Descriptive Catalogue of Indian Deep Sea Crustacea Decapoda Macrura and Anomala, p. 156.



Phoberus caecus, var. tenuimanus.

S. C. Mondul, del.

Photogravure, Survey of India Offices, Calcutta, January, 1903.

## EXPLANATION OF PLATE.

# CRUSTACEA.

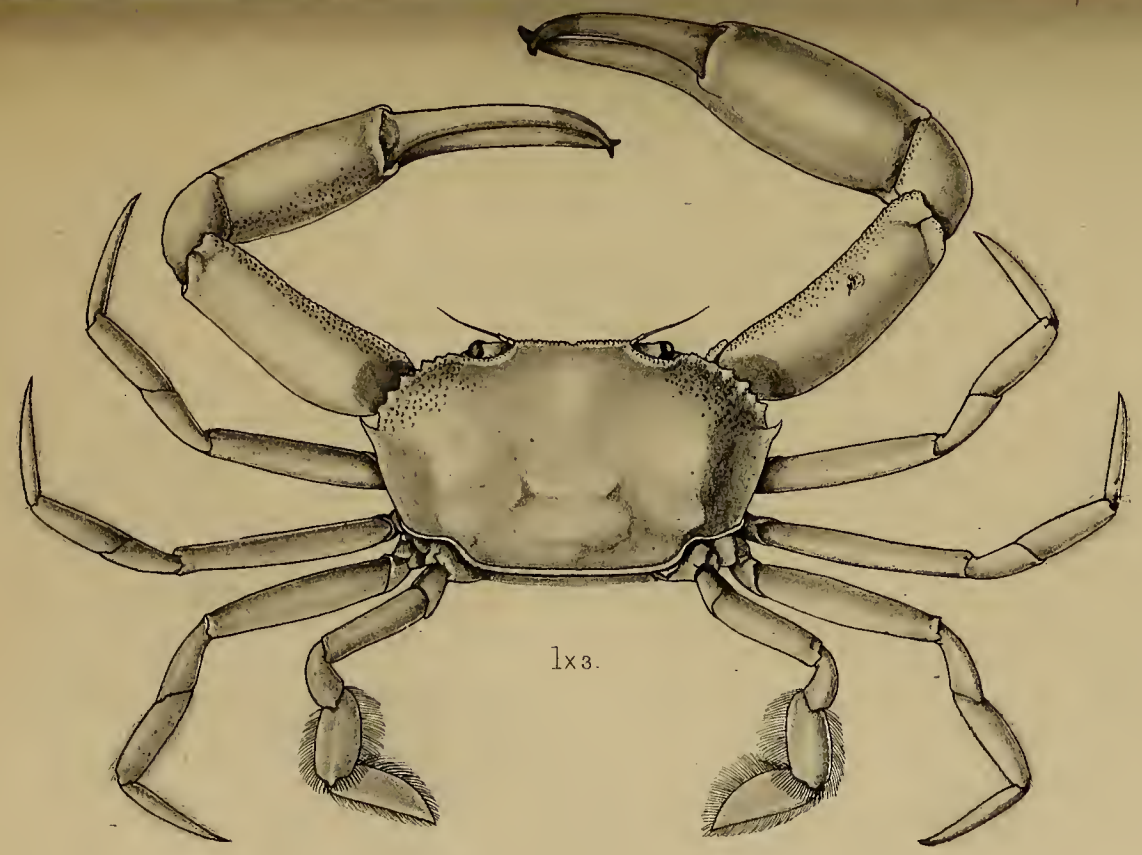
### PLATE LXI.

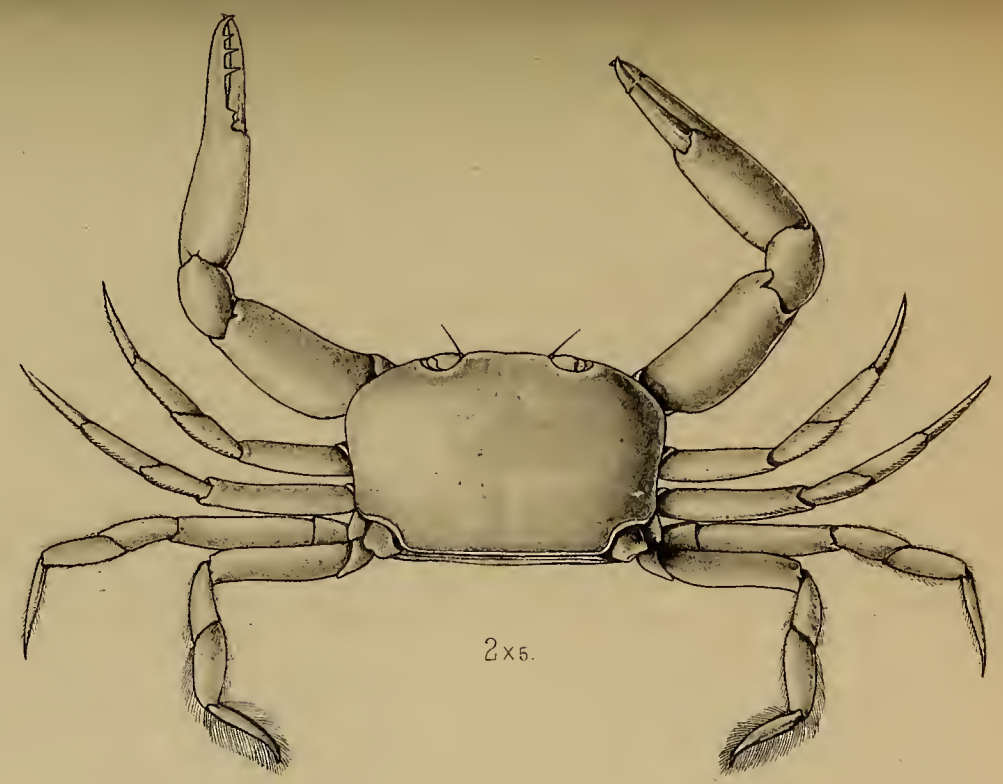
***Fig. 1.***—*Libystes edwardsi*, Alcock, Materials for a Carcinological Fauna of India, No. 6. The Brachyura Catometopa or Grapsoidea. Journal of the Asiatic Society of Bengal, Vol. LXIX, part 2, 1900, p. 306.

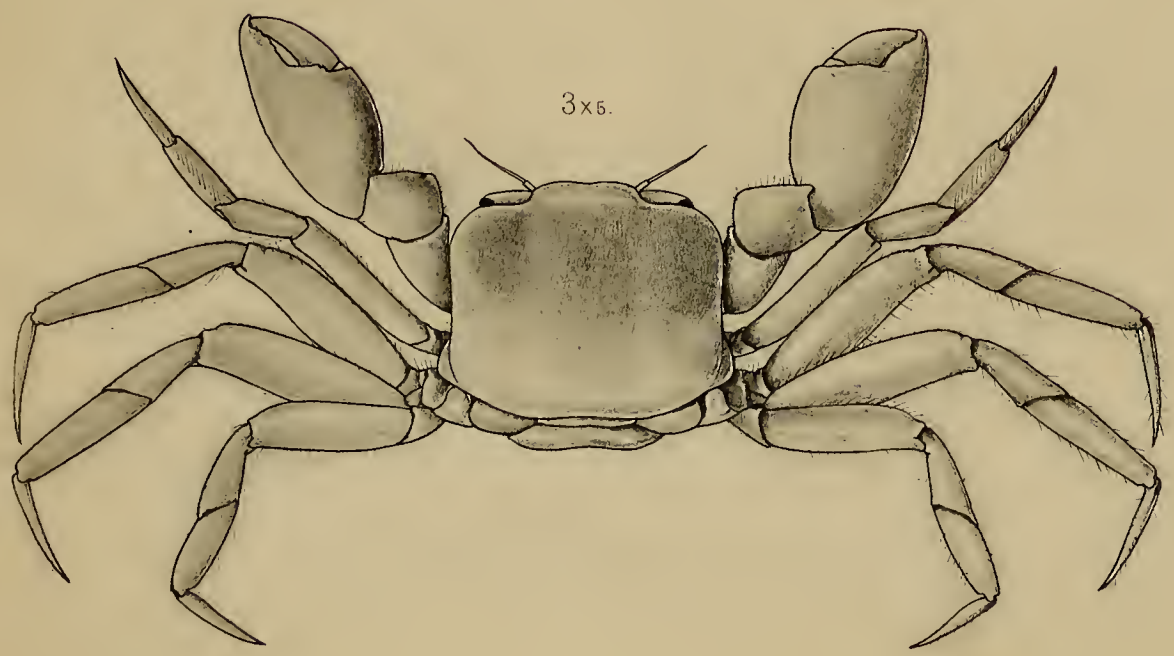
***Fig. 2.***—*Libystes alphonsi*, Alcock. *Op. cit.*, p. 306.

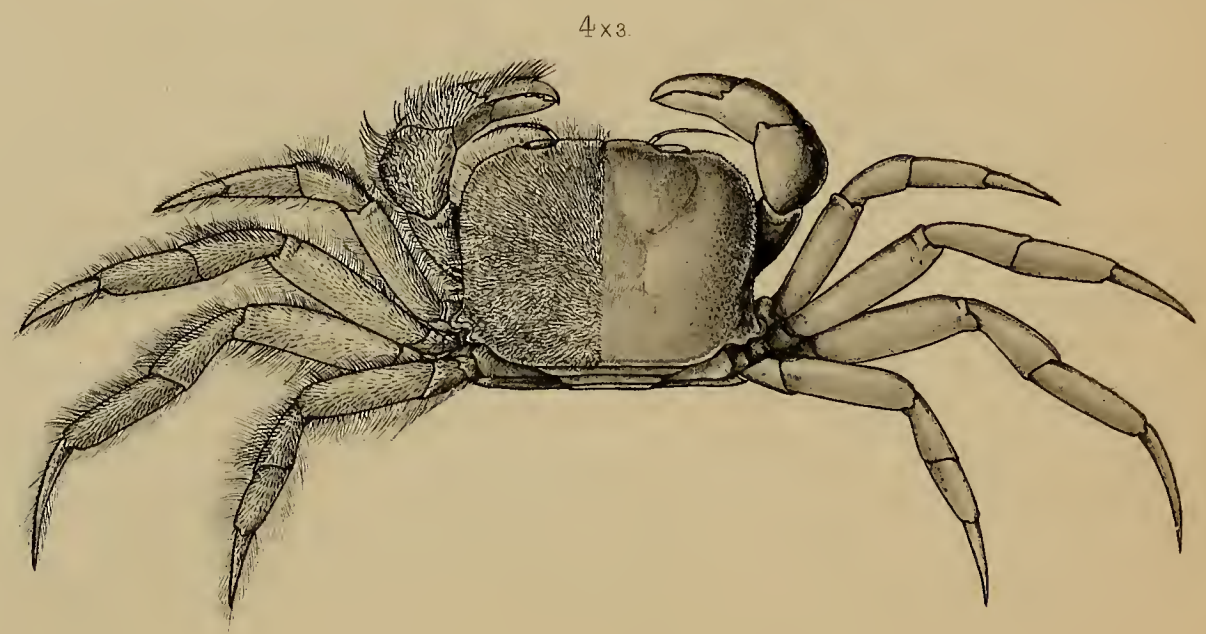
***Fig. 3.***—*Notonyx vitreus*, Alcock. *Op. cit.*, p. 319.

***Fig. 4.***—*Ceratoplax hispida*, Alcock. *Op. cit.*, p. 321.




1. Libystes edwardsi. 2. Libystes alphonsi. 3. Notonyx vitreus. 4. Ceratoplax hispida.

A.C. Chowdhary, del.

Photogravure, Survey of India. Offices, Calcutta, January, 1903.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE LXII.

***Figs. 1, 1a, 1b.***—*Lambdophallus sexpes*, Alcock, Materials for a Carcinological Fauna of India, No. 6. The Brachyura Catometopa or Grapsoidea. Journal of the Asiatic Society of Bengal, Vol. LXIX, part 2, 1900, p. 330.

***Figs. 2, 2a.***—*Chasmocarcinops gelasimoides*, Alcock, ♀. *Op. cit.*, p. 334.

***Figs. 3, 3a.***—*Chasmocarcinops gelasimoides*, Alcock, ♂, *loc. admodum cit.*

***Fig. 4.***—*Pinnoteres mactricola*, Alcock, ♂. *Op. cit.*, p. 339.

***Figs. 5, 5a, 5b.***—*Pinnoteres mactricola*, Alcock, ♀ *loc. admodum cit.*

***Figs. 6, 6a, 6b.***—*Pinnoteres purpureus*, Alcock, ♀. *loc. admodum cit.*


1. Lambdophallus sexpes. 2. Chasmocarcinops gelasimoides, ♀. 3. Chasmocarcinops gelasimoides, ♂.
4. Pinnoteres mactricola, ♂. 5. Pinnoteres mactricola, ♀. 6 Pinnoteres purpureus, ♀.

S. C. Mondul & A. C. Chowdhary, del.

Photogravure, Survey of India Offices, Calcutta, December, 1902.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE LXIII.

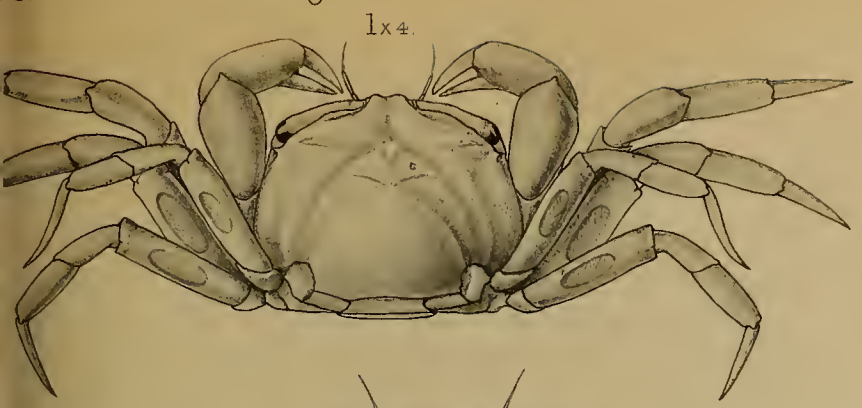
***Figs. 1, 1a, 1b.***—*Dotilla affinis*, Alcock, Materials for a Carcinological Fauna of India, No. 6. The Brachyura Catometopa or Grapsoidea. Journal of the Asiatic Society of Bengal, Vol. LXIX, part 2, 1900, p. 365.

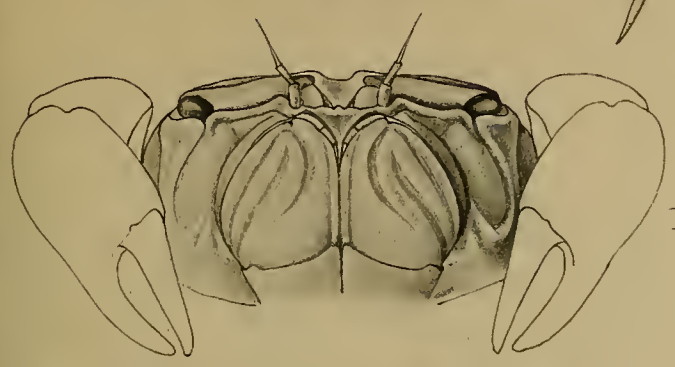
***Figs. 2, 2a.***—*Dotilla clepsydrodactylus*, Alcock. *Op. cit.*, p. 367.

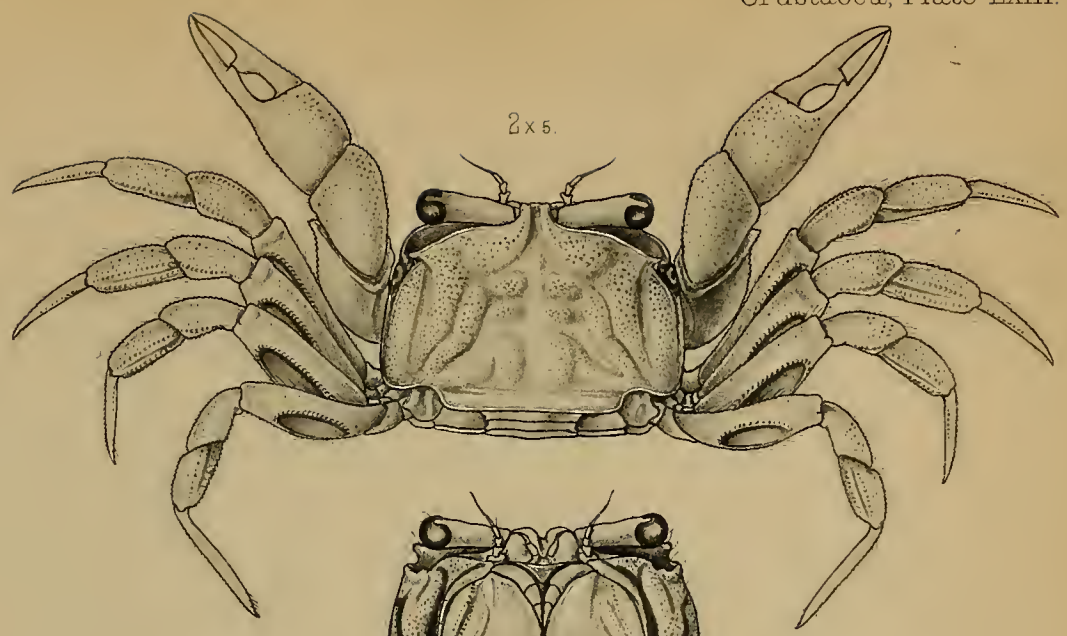
***Figs. 3, 3a.***—*Dotilla blanfordi*, Alcock. *Op. cit.*, p. 366.

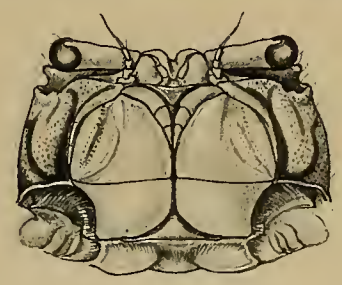
***Figs. 4, 4a, 4b.***—*Scopimera investigatoris*, Alcock. *Op. cit.*, p. 369.

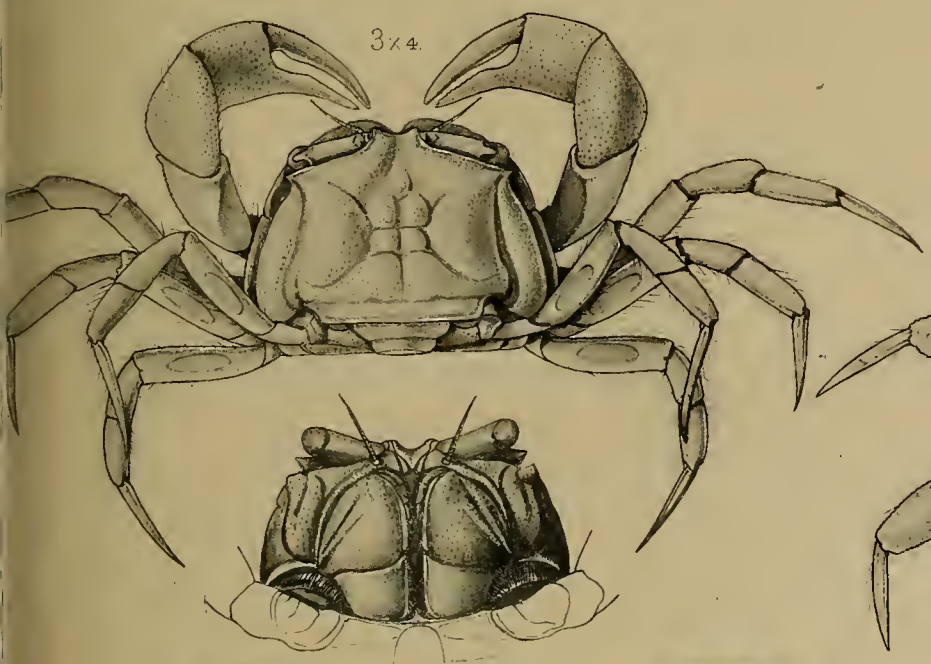
***Figs. 5, 5a, 5b.***—*Scopimera crabricauda*, Alcock. *Op. cit.*, p. 370.

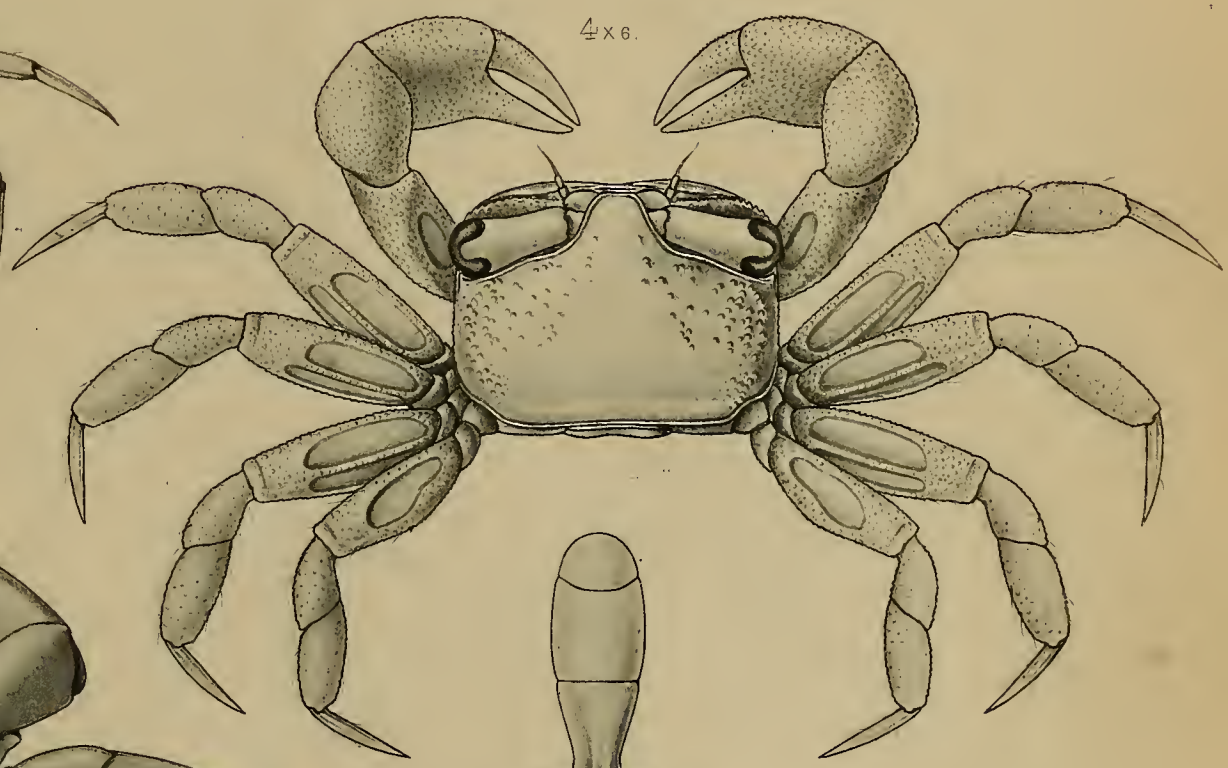


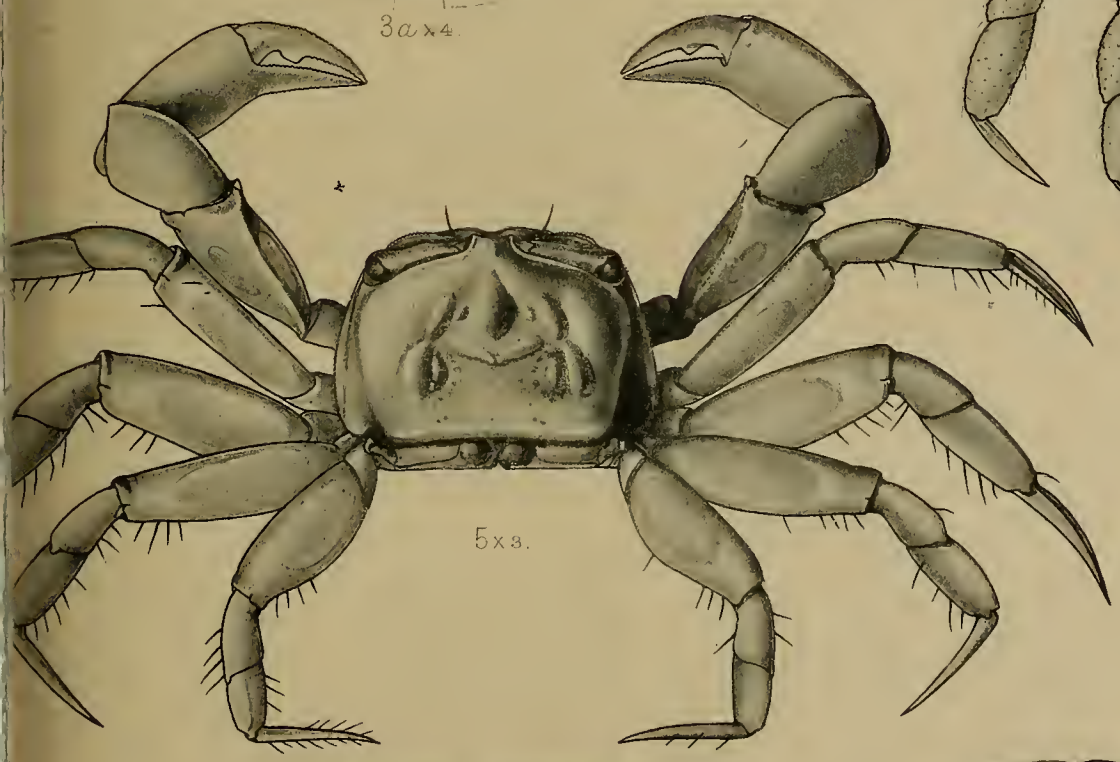



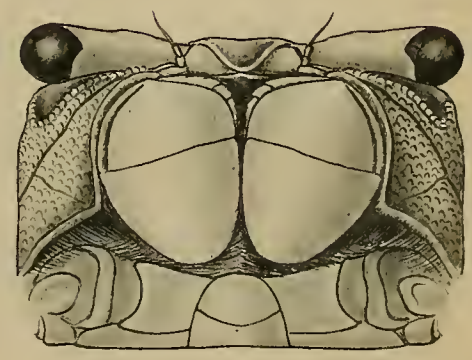



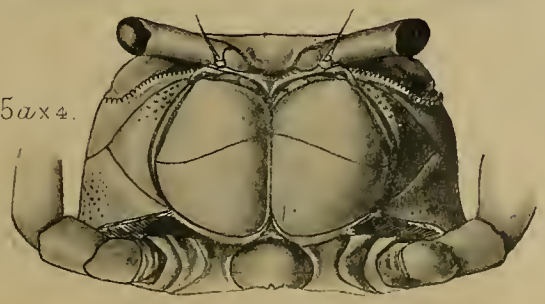



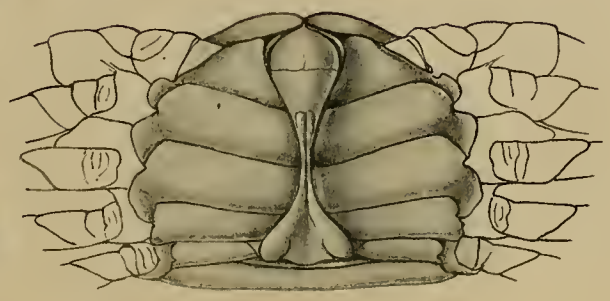








1. Dotilla affinis. 2. Dotilla clepsydrodactylus. 3. Dotilla blanfordi.

4. Scopimera investigatoris. 5. Scopimera crabricauda.

Photogravure, Survey of India Offices Calcutta December 1902.

Photogravure, Survey of India Offices, Calcutta, January, 1905.

## EXPLANATION OF PLATE.

# CRUSTACEA.

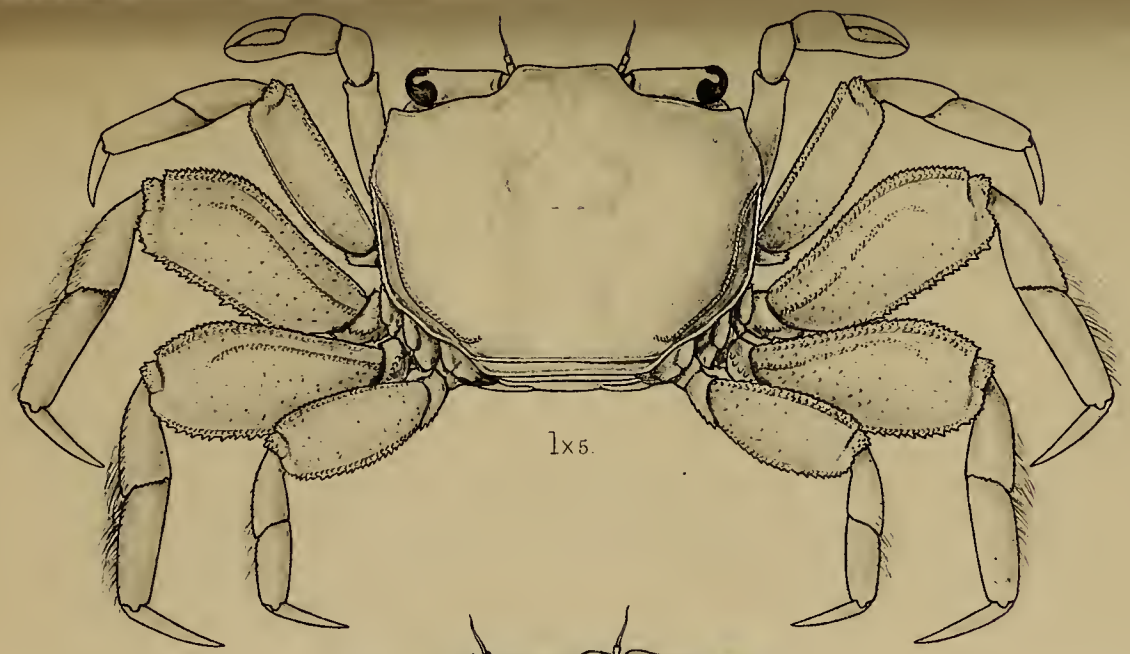
### PLATE LXIV.

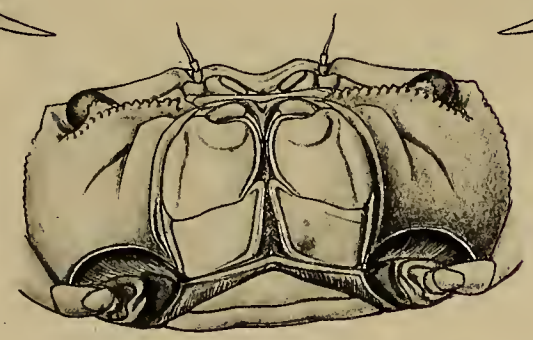
***Figs. 1, 1a.***—*Clistostoma dotilliforme*, Alcock, Materials for a Carcinological Fauna of India, No. 6. The Brachyura Catometopa or Grapsoidea. Journal of the Asiatic Society of Bengal, Vol. LXIX, part 2, 1900, p. 373.

***Figs. 2, 2a, 2b, 2c.***—*Tylodiplax indica*, Alcock, *Op. cit.*, p. 374.

***Fig. 3.***—*Hymenicus wood-masoni*, Alcock, ♂. *Op. cit.*, p. 388.

***Fig. 4.***—*Elamena sindensis*, Alcock, ♂. *Op. cit.*, p. 386.



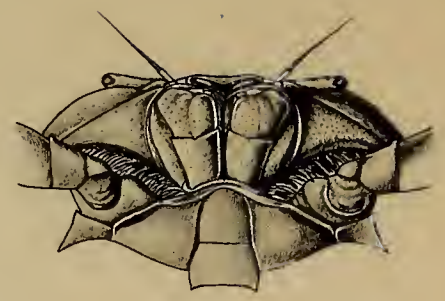



1a x 8.

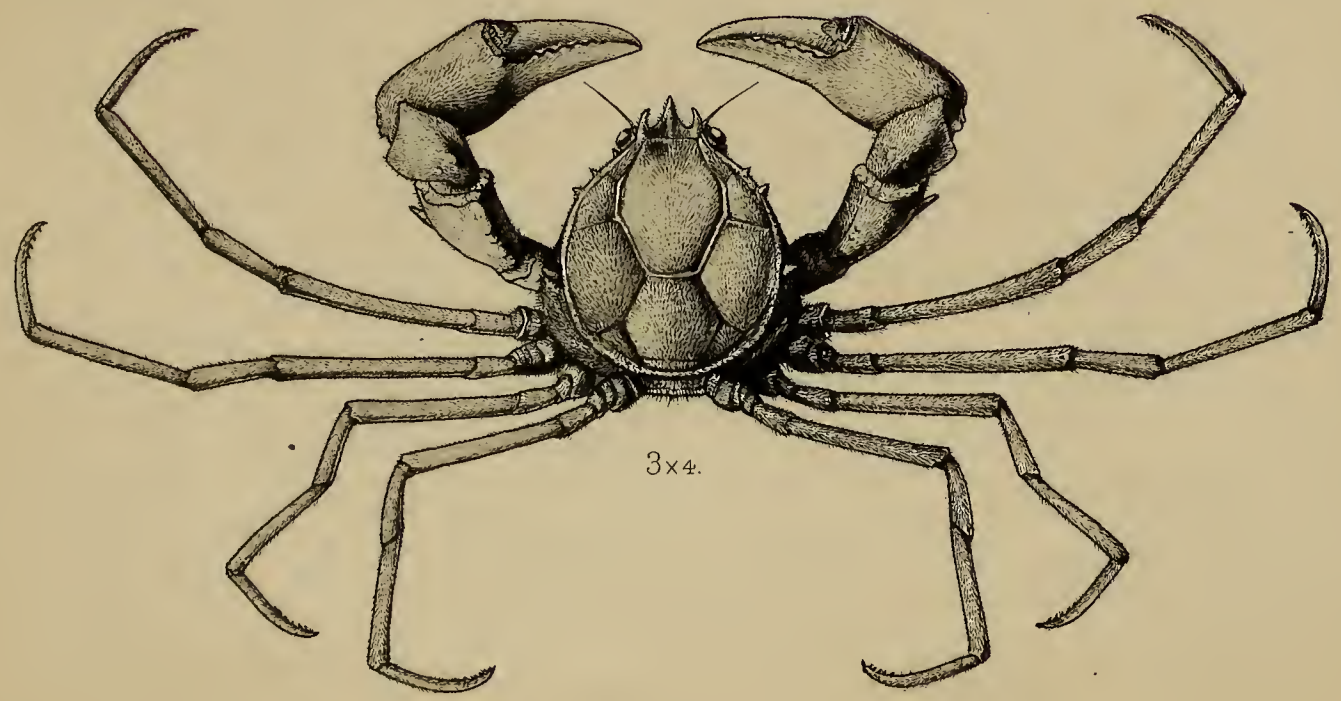
2x3.

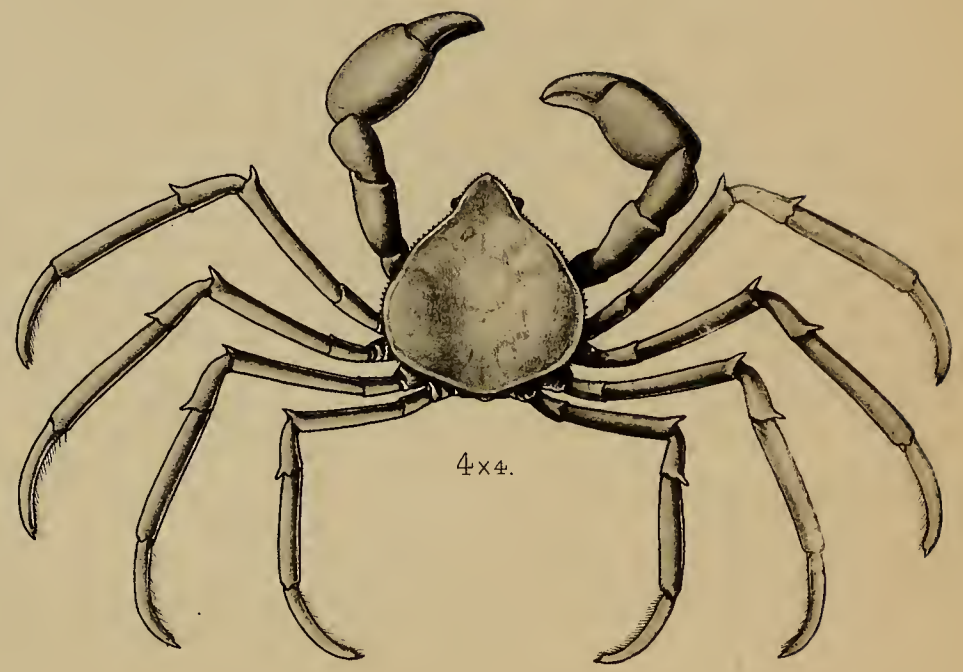
2b x 5.

2c.



2a x 4.




1. Clistostoma dotilliforme. 2. Tylodiplax indica. 3. Hymenicus wood-masoni, ♂. 4. Elamene sindensis, ♂

A. C. Chowdhary, del.

Photogravure, Survey of India Offices, Calcutta, January, 1903

## EXPLANATION OF PLATE.

# CRUSTACEA.

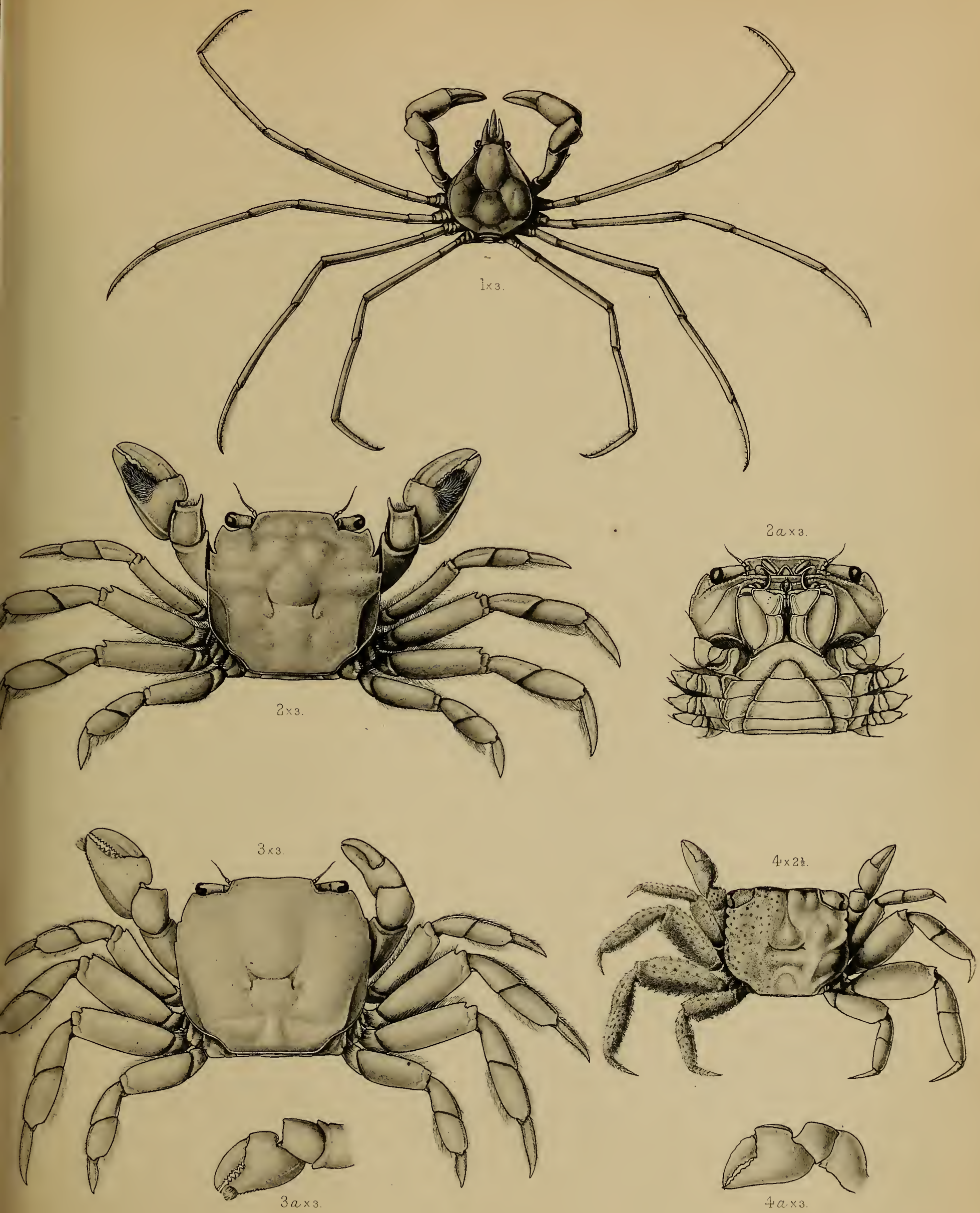
### PLATE LXV.

***Fig. 1.***—*Hymenicus inachoides*, Alcock ♂. Materials for a Carcinological Fauna of India, No. 6. The Brachyura Catometopa or Grapsoidea. Journal of the Asiatic Society of Bengal, Vol. LXIX, part 2, 1900, p. 388.

***Figs. 2, 2a.***—*Ptychognathus onyx*, Alcock. *Op. cit.*, p. 404.

***Figs. 3, 3a.***—*Ptychognathus andamanica*, Alcock, *loc. admodum cit.*

***Figs. 4, 4a.***—*Sesarma lanatum*, Alcock ♂. *Op. cit.*, p. 418.




1. Hymenicus inachoides, ♂. 2. Ptychognathus onyx.
3. Ptychognathus andamanica. 4. Sesarma lanatum, ♂.

## EXPLANATION OF PLATE.

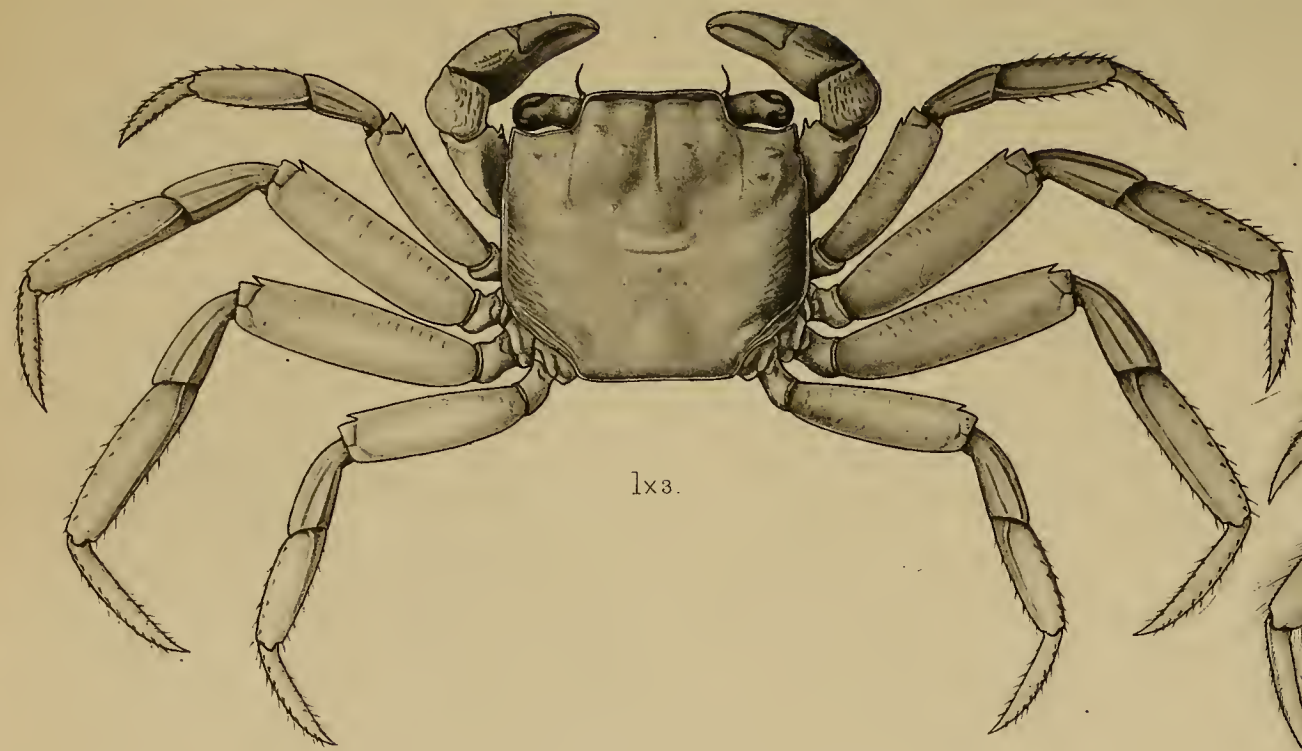
# CRUSTACEA.

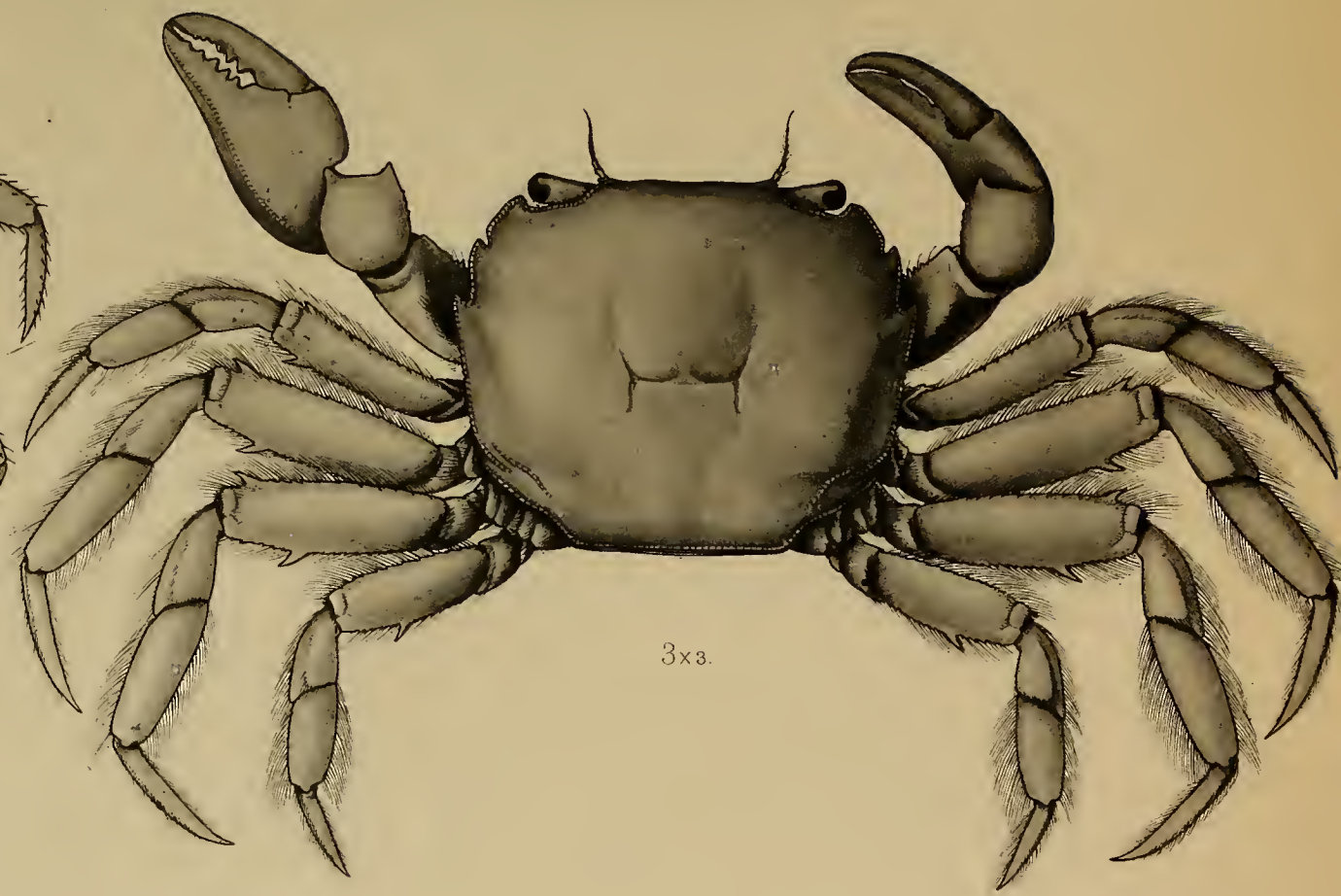
### PLATE LXVI.

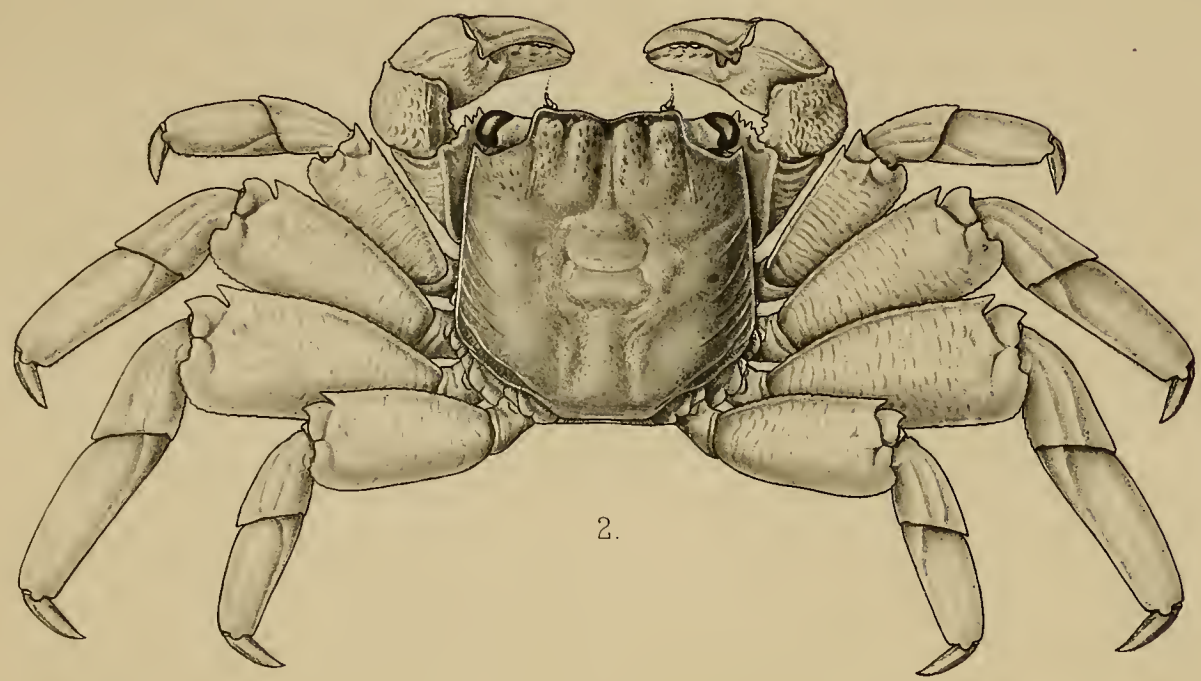
***Fig. 1.***—*Sesarma finni*, Alcock, Materials for a Carcinological Fauna of India, No. 6. The Brachyura Catometopa or Grapsoidea. Journal of the Asiatic Society of Bengal, Vol. LXIX, part 2, 1900, p. 424.

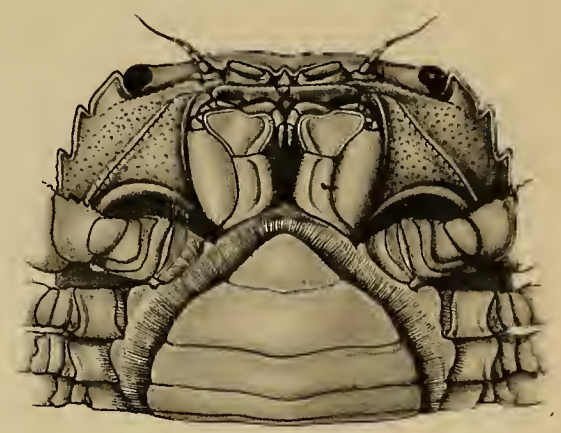
***Fig. 2.***—*Sesarma latifemur*, Alcock. *Op. cit.*, p. 421.

***Figs. 3, 3a.***—*Pyxidognathus fluviatilis*, Alcock, *Op. cit.*, p. 408.



3a x3.

1. Sesarma finni. 2. Sesarma latifemur. 3. Pyxidognathus fluviatilis.

S.C. Mondul. del.

Photogravure, Survey of India Offices, Calcutta, January, 1903.

## EXPLANATION OF PLATE.

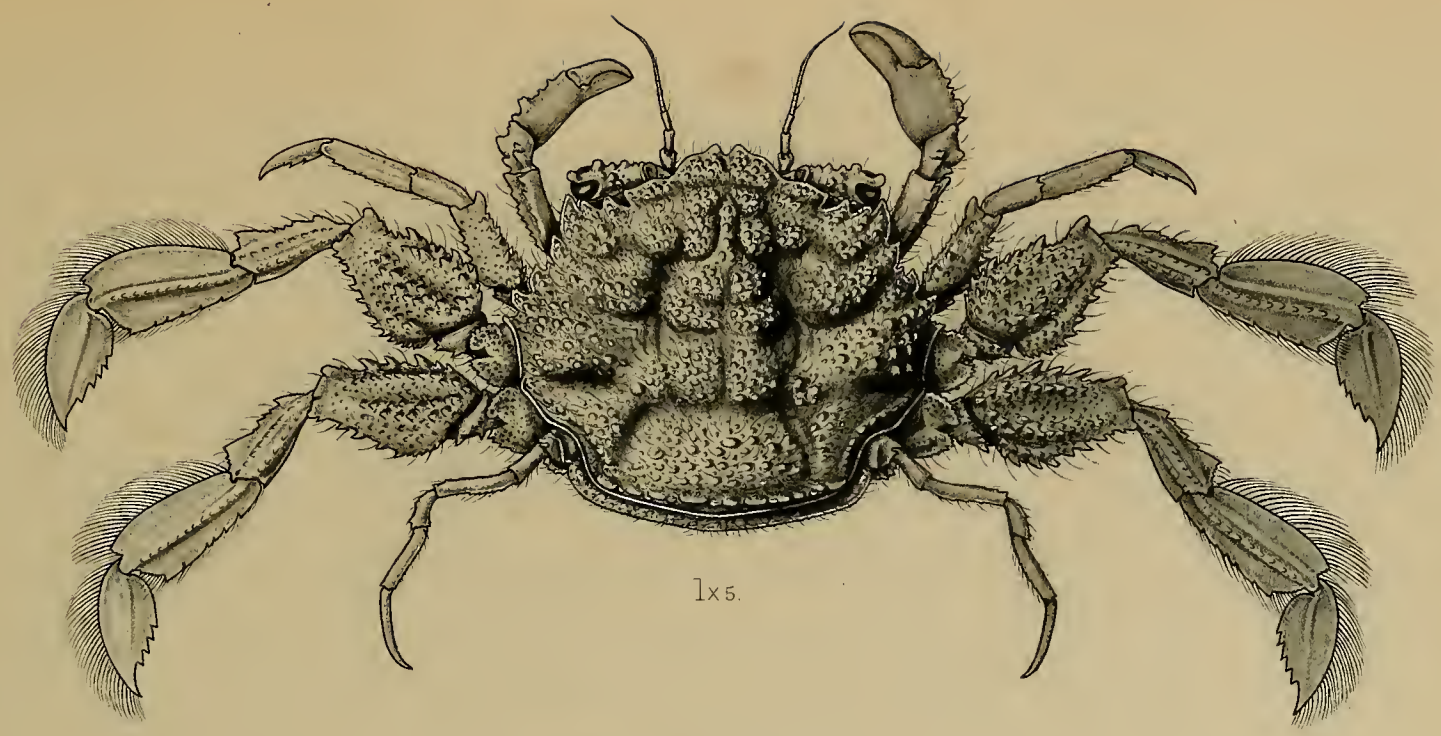
# CRUSTACEA.

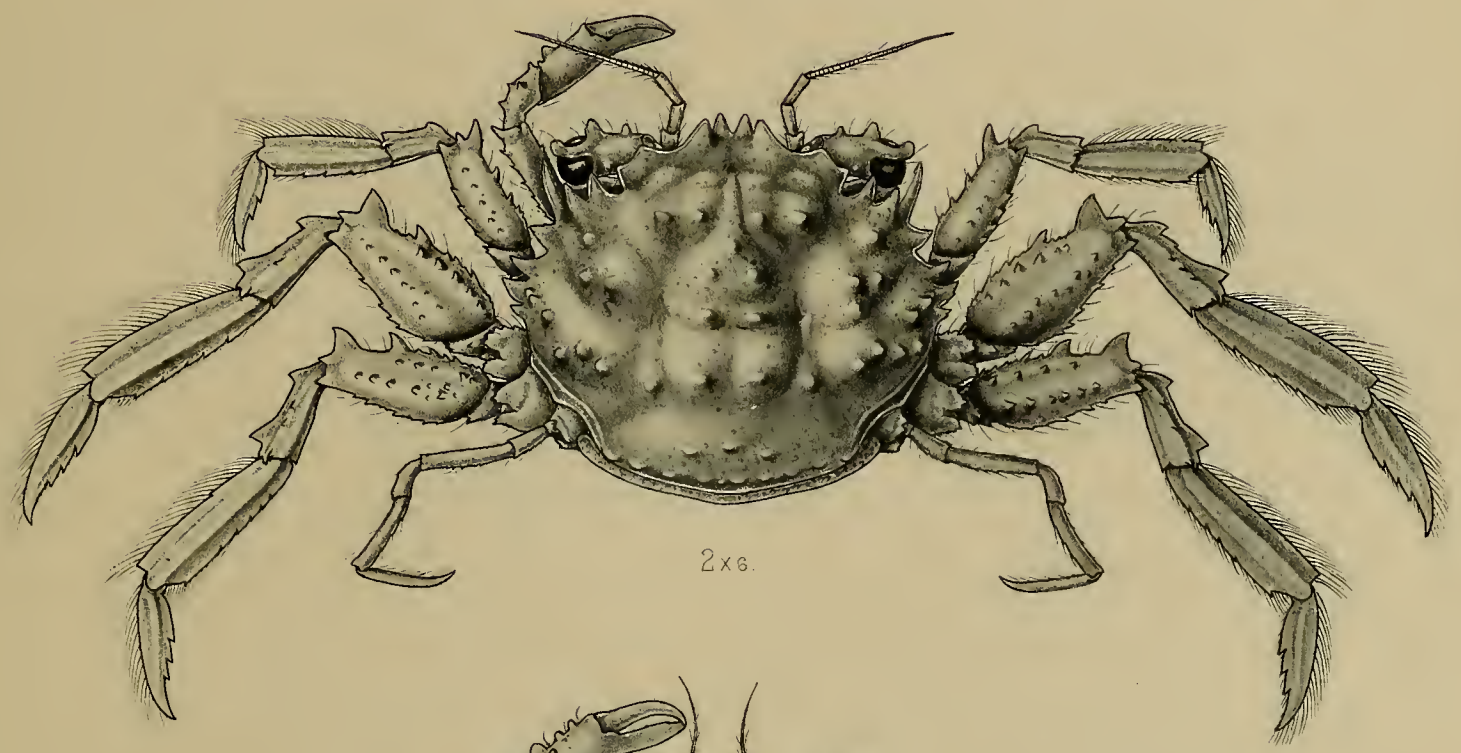
### PLATE LXVII.

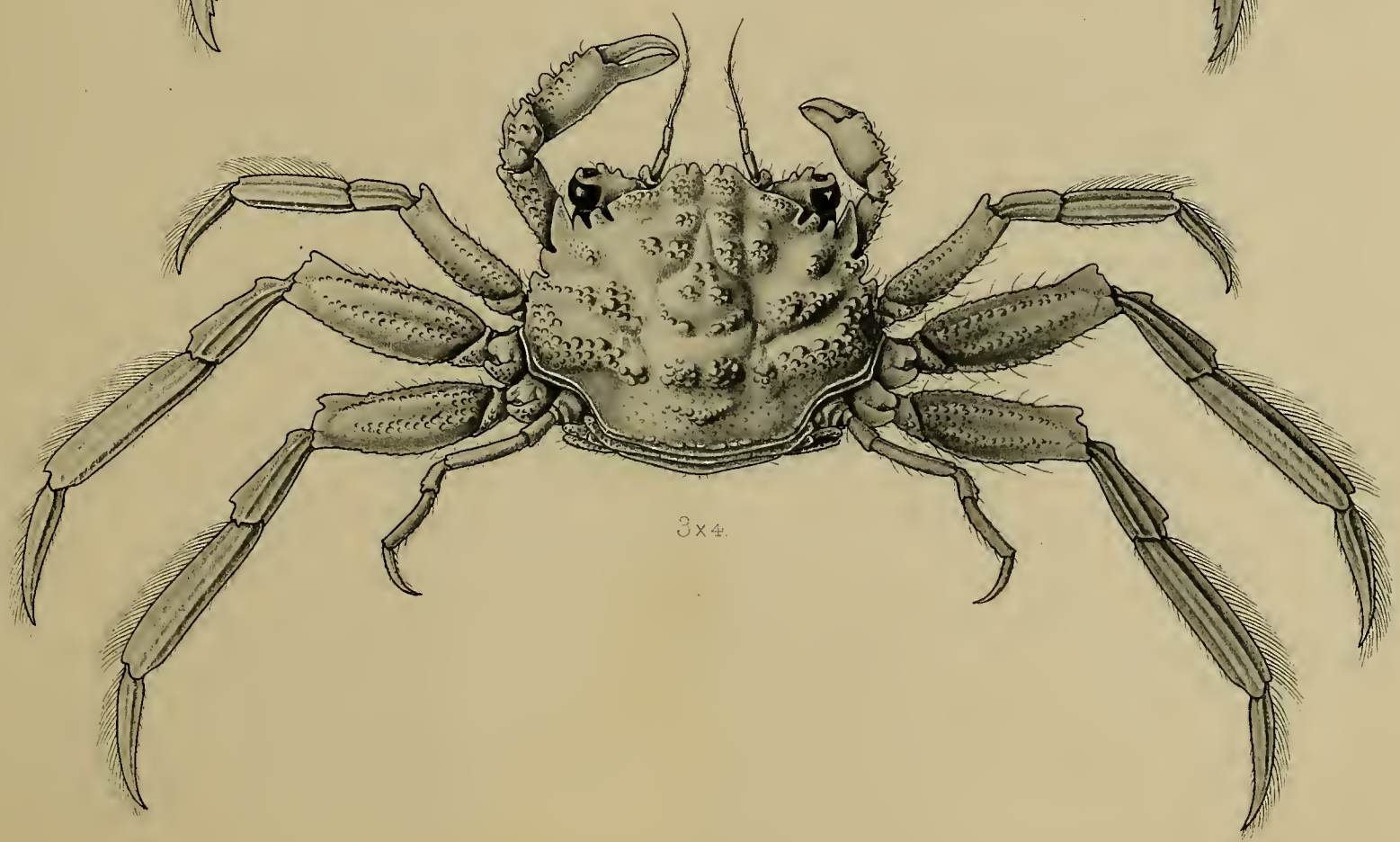
***Fig. 1.***—*Palicus serripes*, Alc. & And. Alcock, Materials for a Carcinological Fauna of India, No. 6. The Brachyura Catometopa or Grapsoidea. Journal of the Asiatic Society of Bengal, Vol. LXIX, part 2, 1900, p. 454.

***Fig. 2.***—*Palicus investigatoris*, Alcock. *Op. cit.*, p. 455.

***Fig. 3.***—*Palicus wood-masoni*, Alcock. *Op. cit.*, p. 453.




1. Palicus serripes. 2. Palicus investigatoris. 3. Palicus wood-masoni.

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

## ROYAL INDIAN MARINE SURVEY SHIP

# INVESTIGATOR,

UNDER THE COMMAND OF

CAPTAIN T. H. HEMING, R.N. *(Retired)*

---

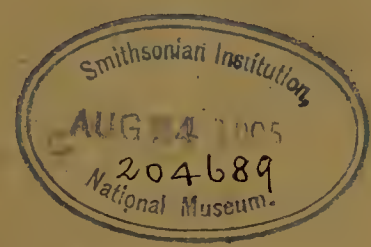
CRUSTACEA—Part XI, Plates LXVIII—LXXVI.
FISHES—Part VIII, Plates XXXVI—XXXVIII.

UNDER THE DIRECTION OF

A. ALCOCK, M.B., LL.D., F.R.S., C.I.E., SUPERINTENDENT OF THE INDIAN MUSEUM,
FORMERLY SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY,

AND OF

A. C. MACGILCHRIST, M.A., M.B., CH. B., SURGEON-NATURALIST
TO THE INDIAN MARINE SURVEY.




Published under the Direction of Captain G. H. Hewett, R.N.,
Director of the Royal Indian Marine.

CALCUTTA:
OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.
1905.

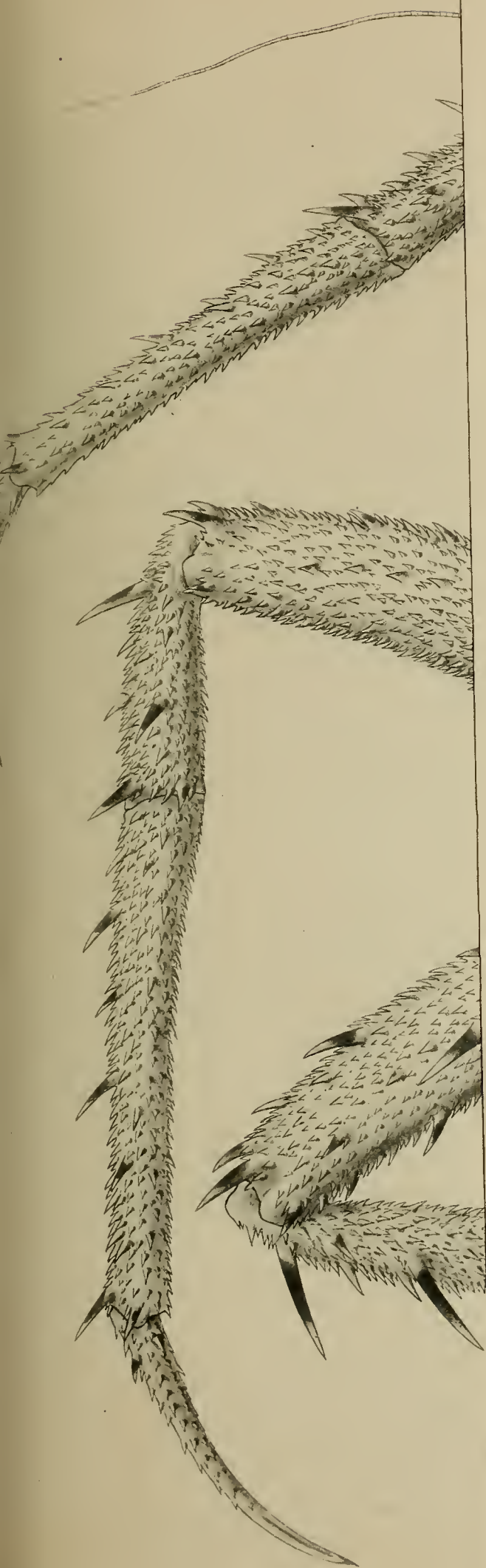
Sold by the Superintendent of the Indian Museum.

## EXPLANATION OF PLATE.

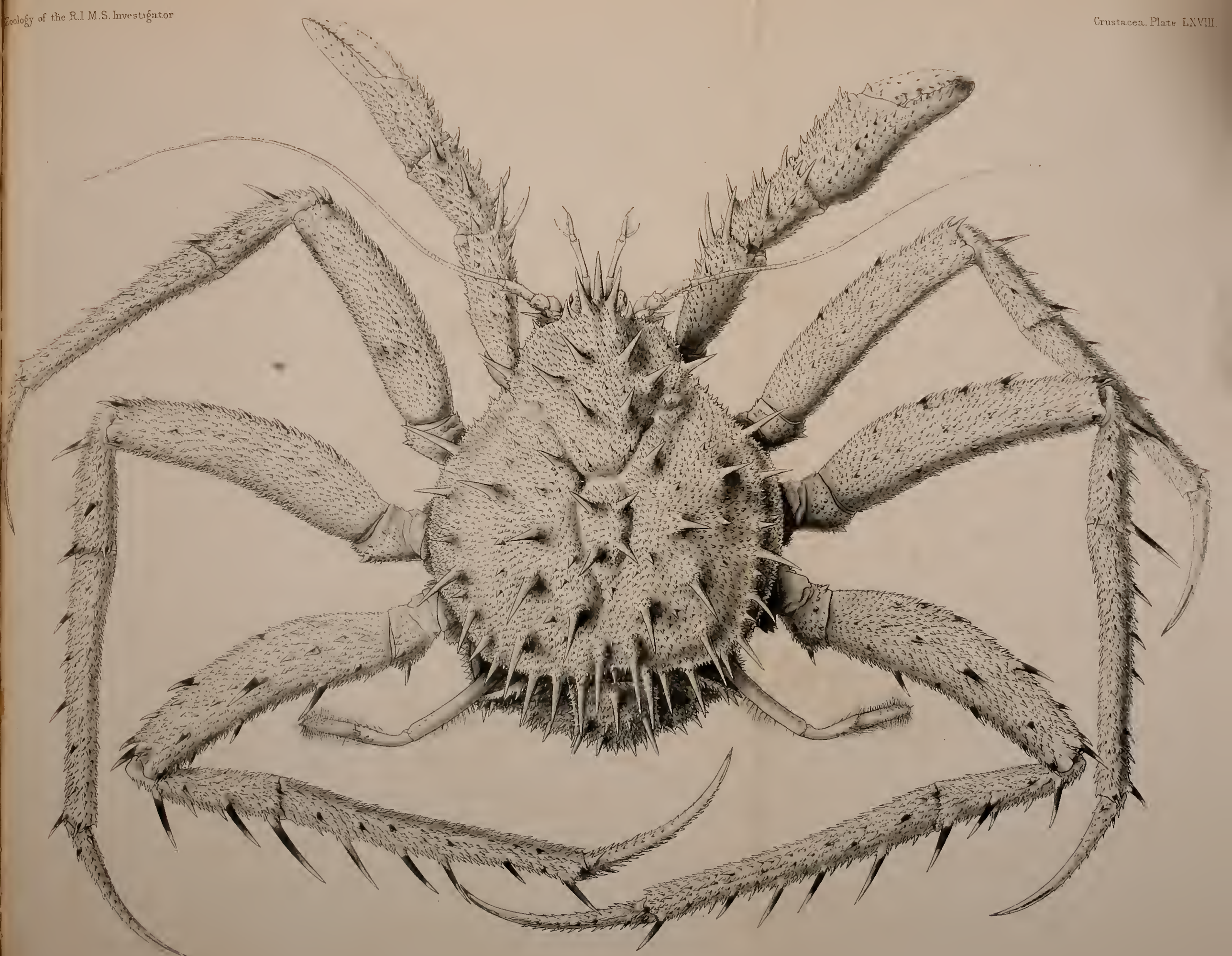
# CRUSTACEA.

### PLATE LXVIII.

*Lithodes agassizii*, S. I. Smith, Bull. Mus. Comp. Zool., X, 1882, p. 8.



togravure.



Lithodes Agassizii, ♀ S. I. Smith natural size

Survey of India Offices, Calcutta, January 1905

## EXPLANATION OF PLATE.

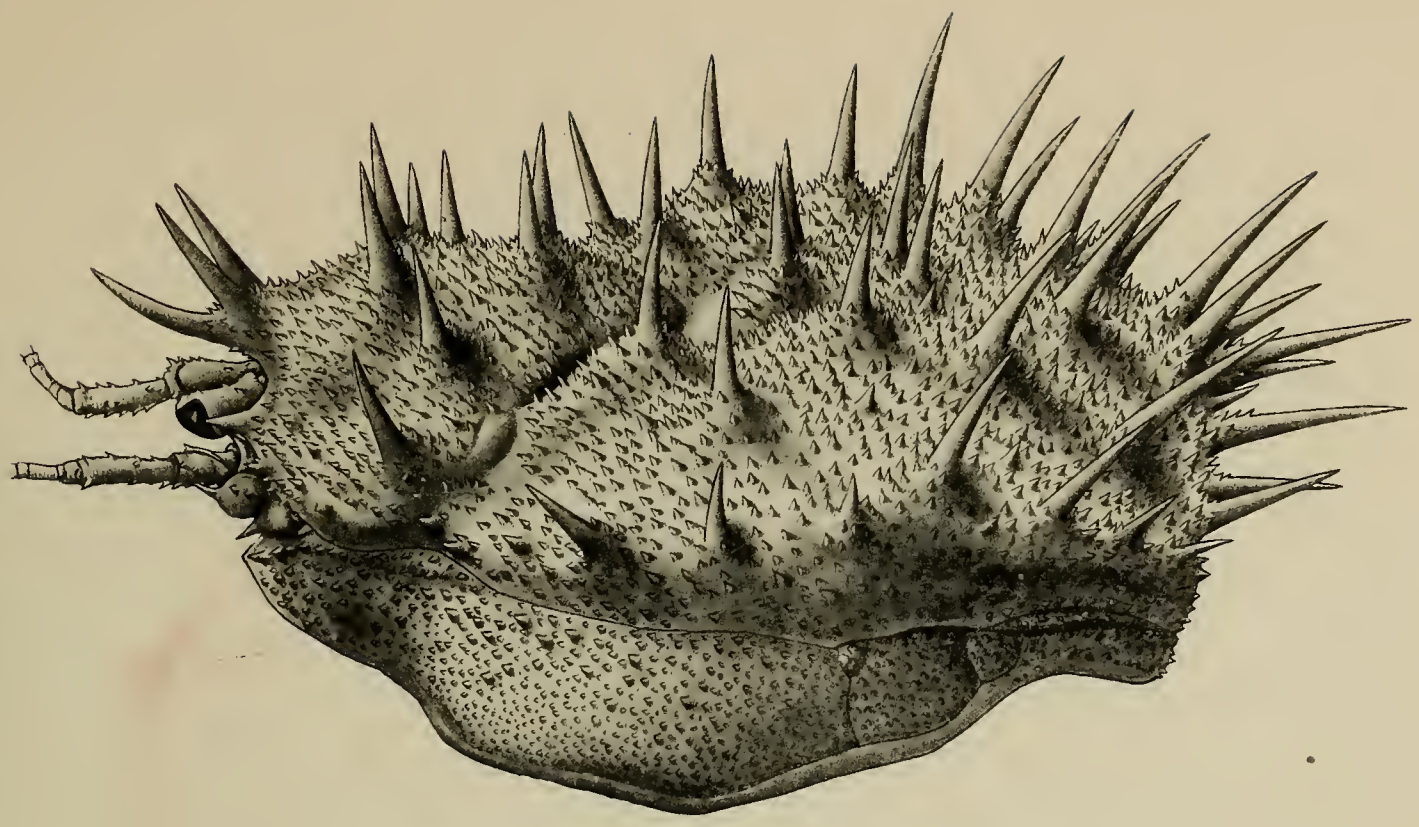
# CRUSTACEA.

### PLATE LXIX.

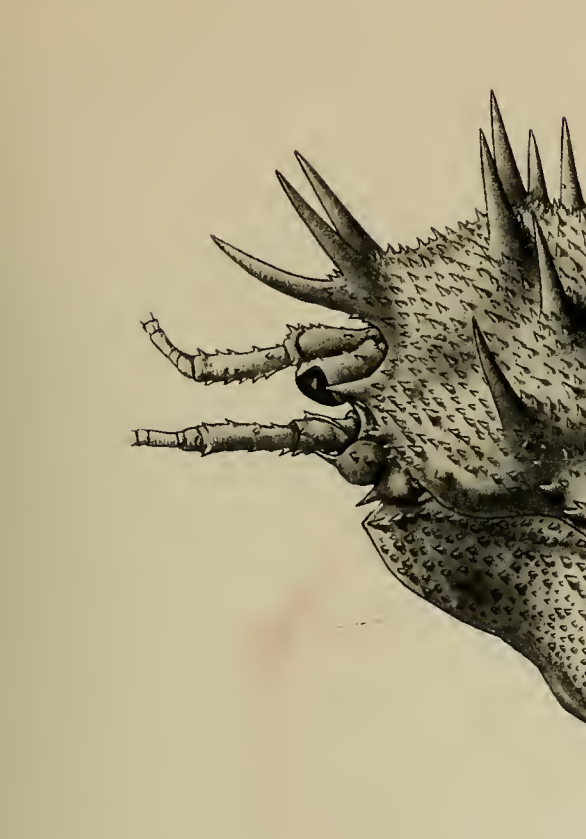
***Fig. 1.***—*Lithodes agassizii*, S. I. Smith, Bull. Mus. Comp. Zool., X, 1882, p. 8.

***Figs. 2, 2a.***—*Chiroplatæa macgilchristi*, Alcock, Catalogue of Indian Decapod Crustacea, Pt. II, Anomura, Fasc. I, Pagurides, 1905, p. 18.

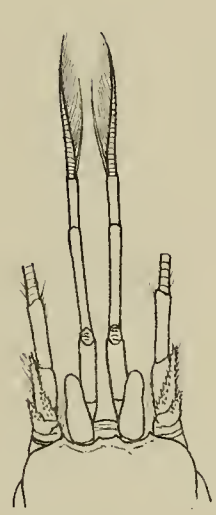
***Figs. 3, 3a.***—*Cancellus investigatoris*, Alcock, *Op. cit.*, p. 77.



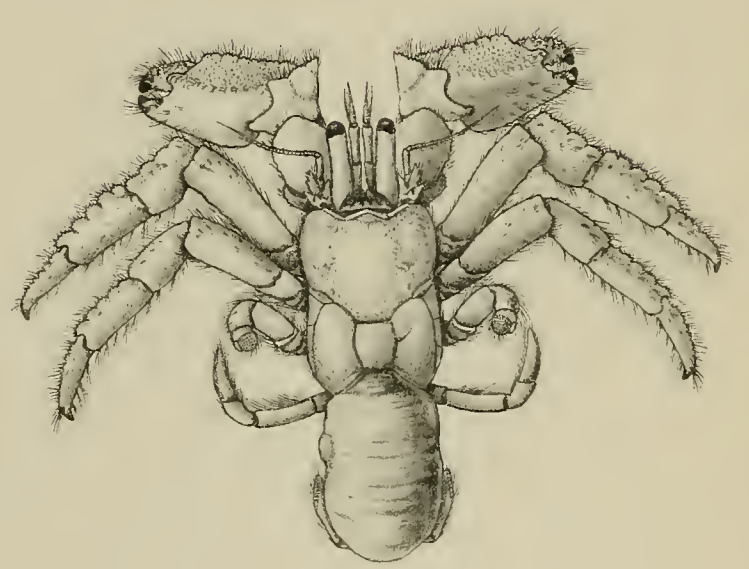
1.



2 x 1½.



2*a* x 3.



3*a* x 3.

3 x 3.

1. Lithodes agassizii, natural size. 2, 2*a*. Chiroplatæa macgilchristi, ♀. 3, 3*a*. Cancellus investigatoris, ♂.

Photogravure, Survey of India Offices, Calcutta, January 1905.

## EXPLANATION OF PLATE.

# CRUSTACEA.

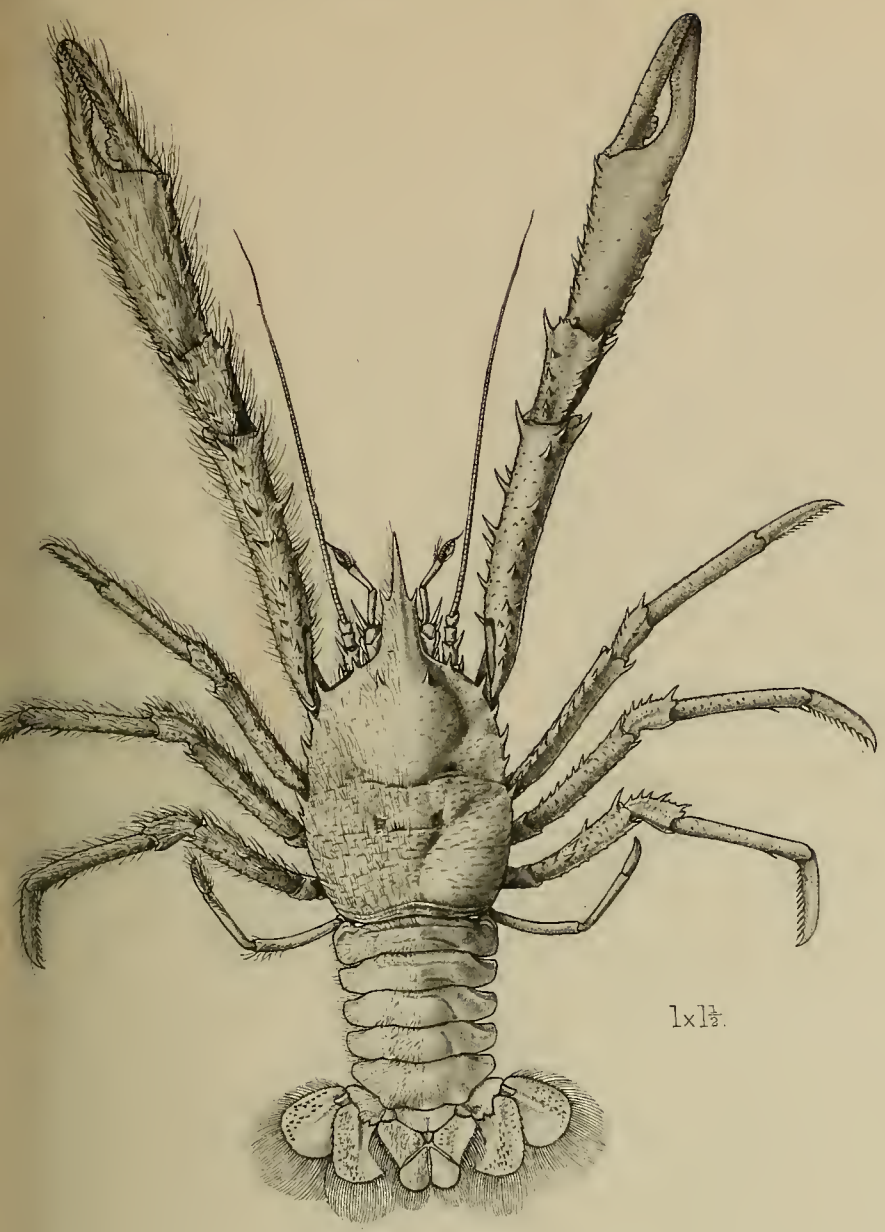
### PLATE LXX.

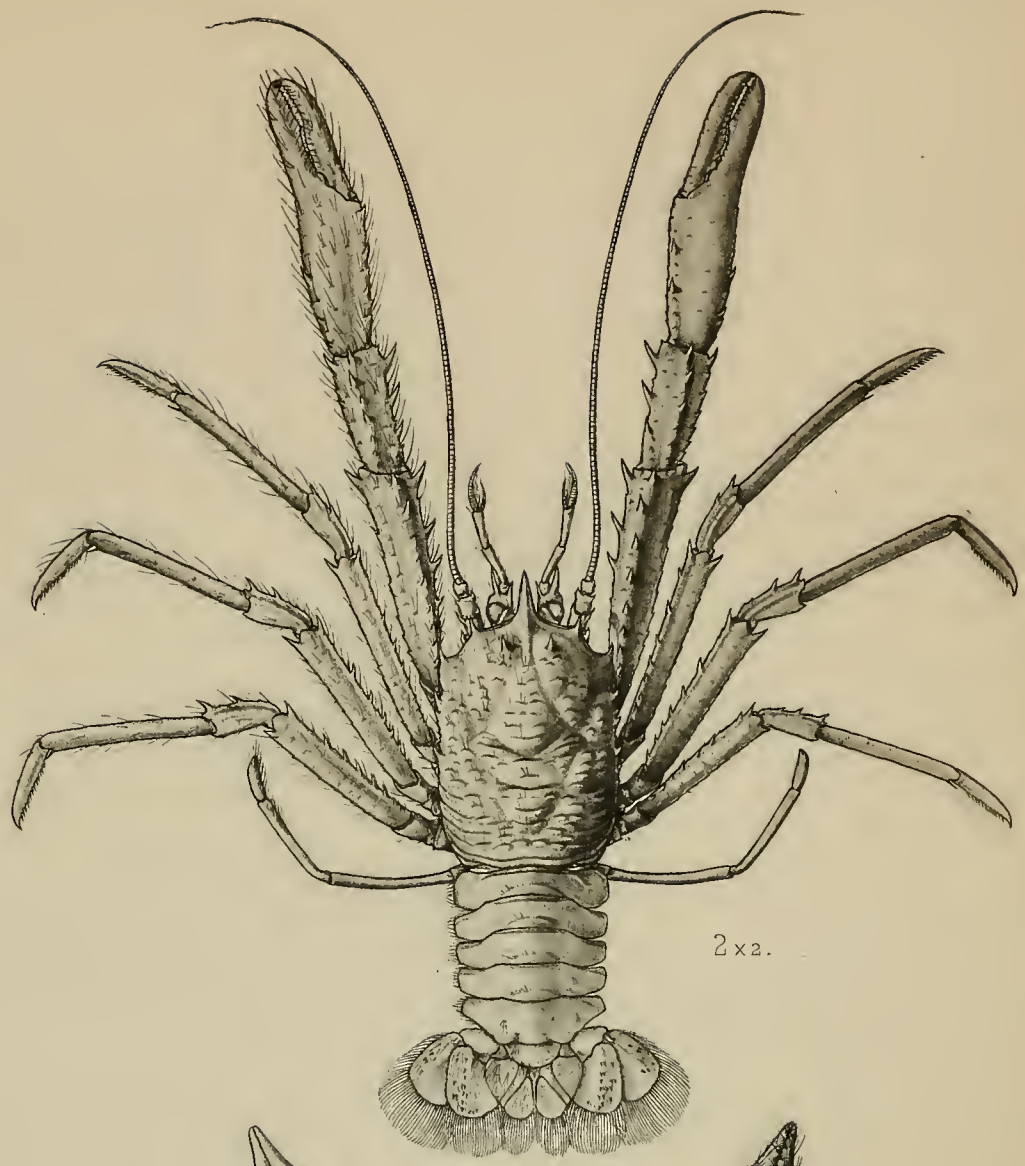
***Fig. 1.***—*Munidopsis trifida*, Henderson, Annals and Magazine of Natural History, Series 5, Vol. XVI, 1885, p. 415; and Challenger Anomura, 1888, p. 156, pl. xvi. fig 2.

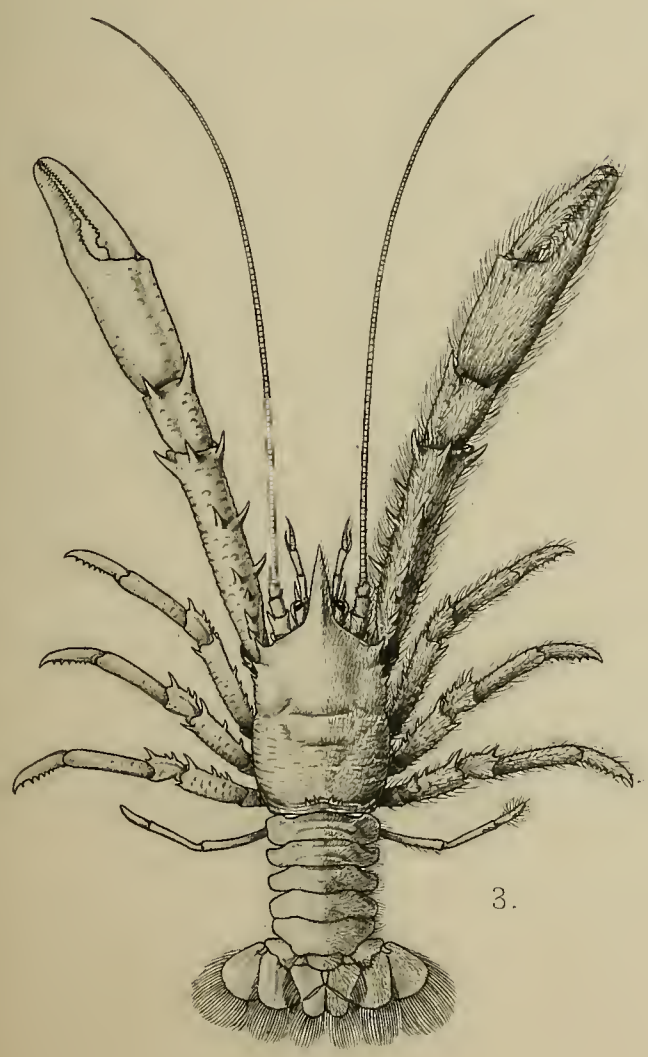
***Fig. 2.***—*Munidopsis spinipes*, MacGilchrist, Ann. and Mag. Nat. Hist., Ser. 7, Vol. XV, March, 1905, p. 247.

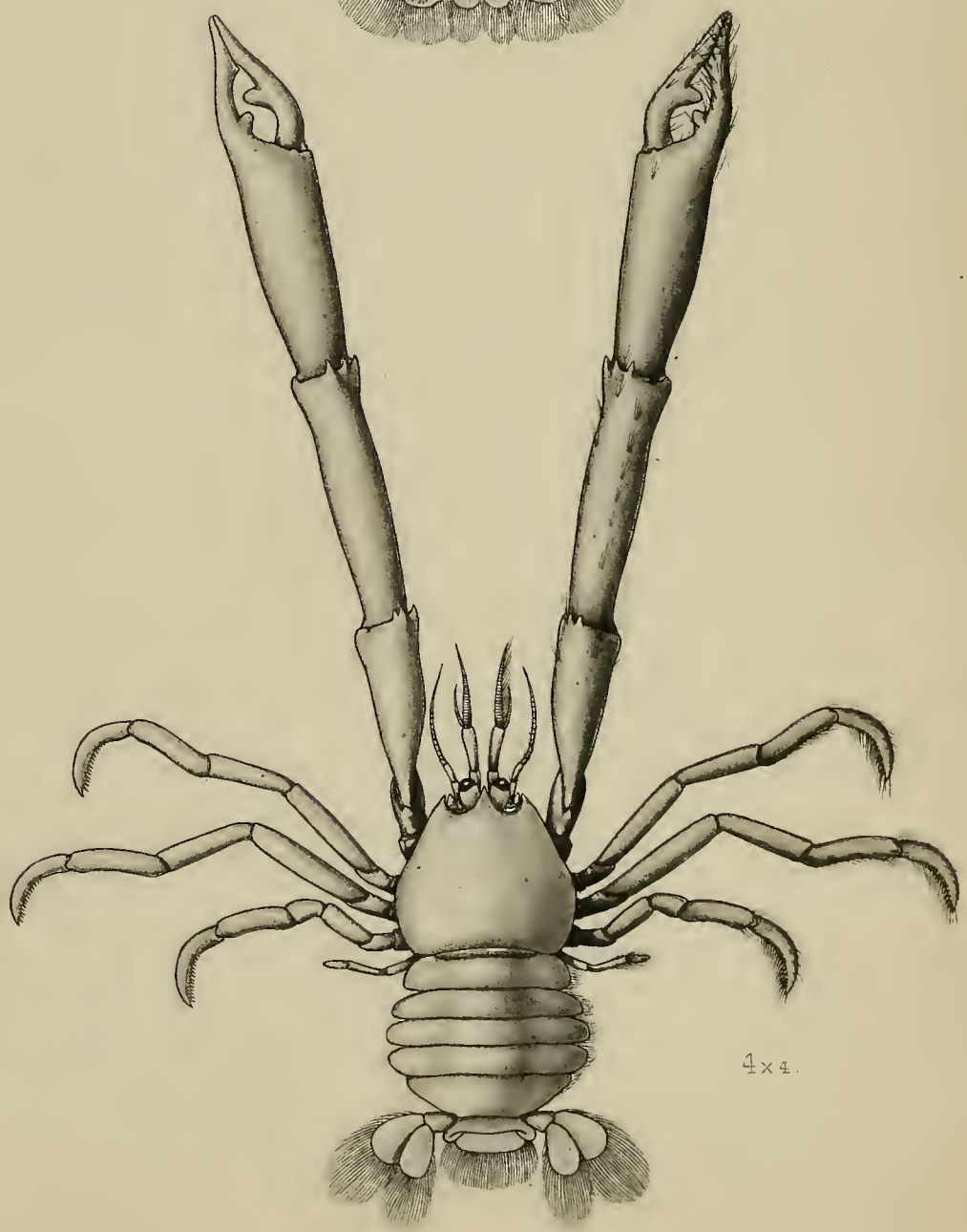
***Fig. 3.***—*Munidopsis dasypus*, Alcock, Ann. Mag. Nat. Hist., April, 1894, p. 329; and Cat. Indian Deep Sea Crust. Macrura and Anomala, 1901, p. 252.

***Fig. 4.***—*Uroptychus glyphodactylus*, MacGilchrist, Ann. Mag. Nat. Hist., March, 1905, p. 249.




1. Munidopsis (Galathodes) trifida.
2. Munidopsis spinipes, ♀.
3. Munidopsis dasypus, ♂.
4. Uroptychus glyphodactylus, ♂.

ogravure. Survey of India Offices, Calcutta, March 1905.

EXPLANATION OF PLATE.

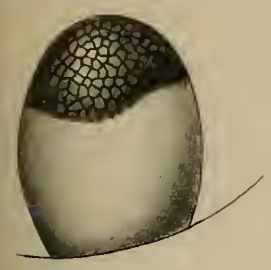
# CRUSTACEA.

## PLATE LXXI.

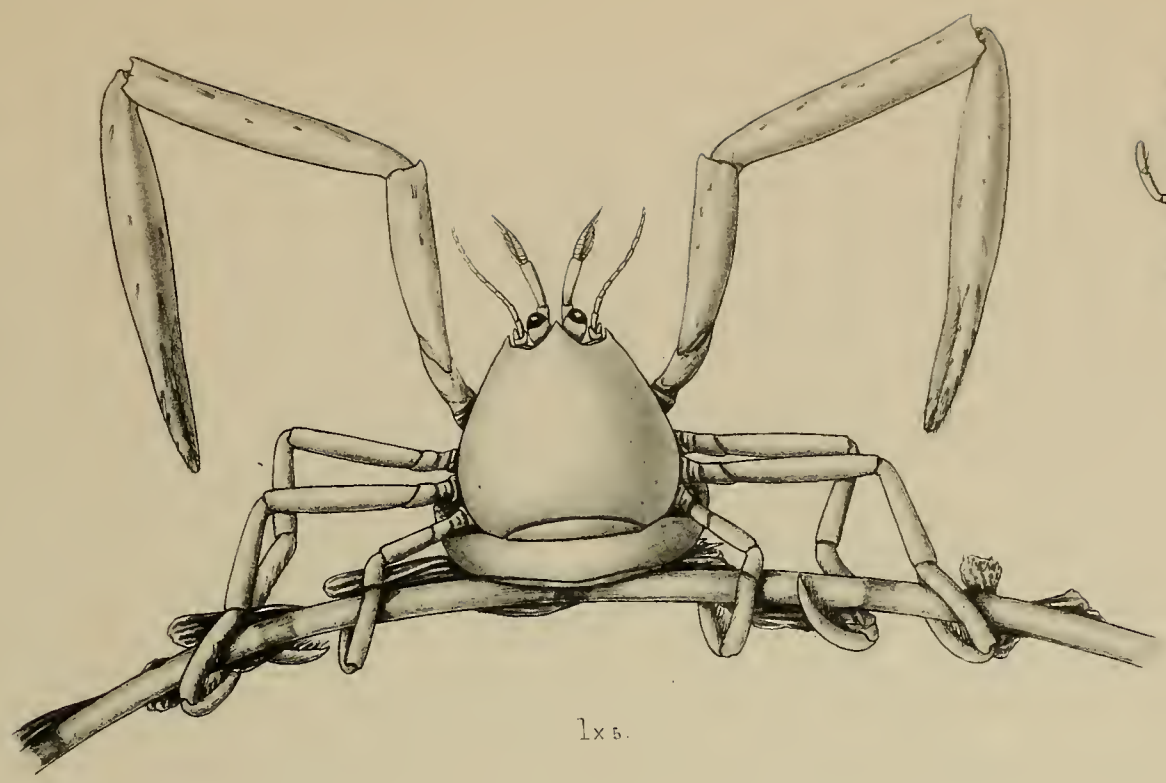
***Figs. 1, 1a, 1b, 1c, 1d.***—*Uroptychus glyphodactylus*, MacGilchrist, Ann. Mag Nat. Hist., March, 1905, p. 249.

***Figs. 2, 2a.***—*Heterocarpus longirostris*, MacGilchrist, *Op. cit.*, p. 237.

***Fig. 3.***—*Iconaxiopsis laccadivensis*, Alcock and Anderson, J. A. S. B., Vol. LXIII, pt 2, 1894, p. 162; and Alcock, Cat. Indian Deep Sea Crust. Macrura and Anomala, 1901, p. 195.



1a x 30.

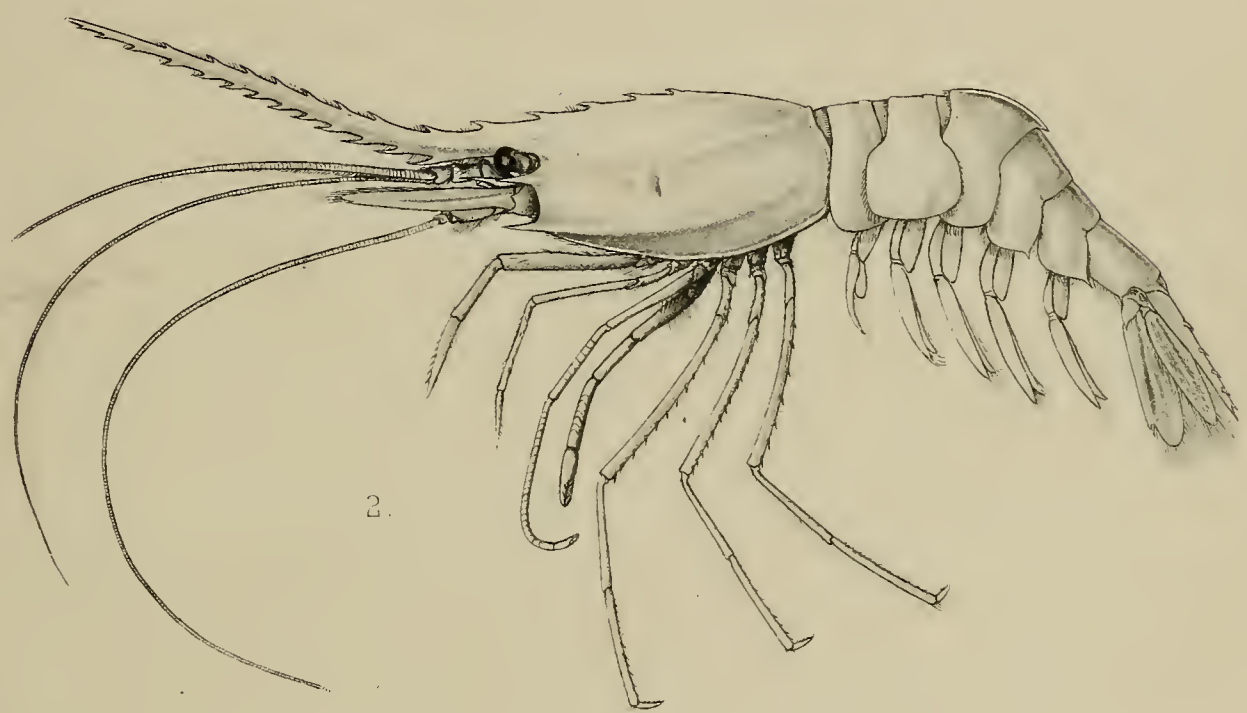


1 x 5.

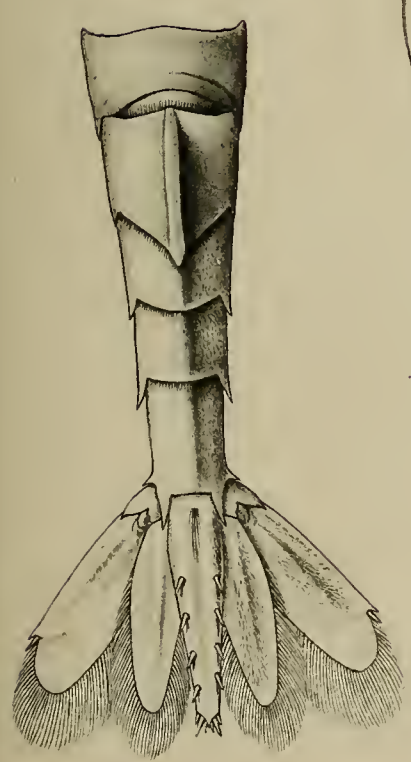
1c x 5.

1b x 72.

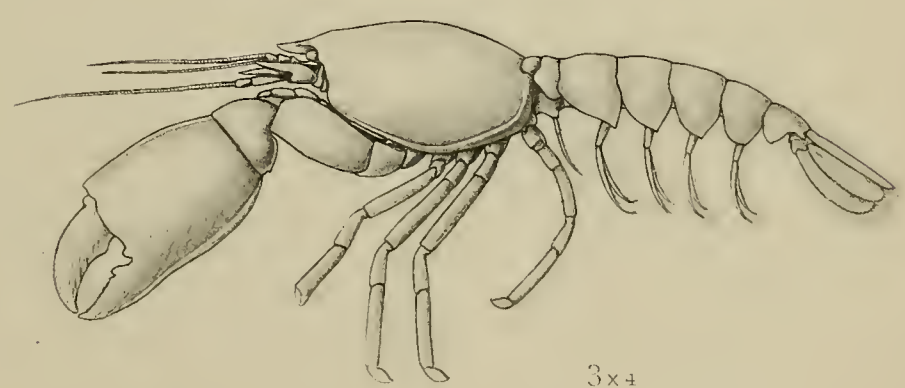
1d x 5.



2.



2a x 1½.



3 x 4

1, 1a, 1b. Uroptychus glyphodactylus ♀. 1c, 1d. Uroptychus glyphodactylus, ♂.
2, 2a. Heterocarpus longirostris. ♂. 3. Iconaxiopsis laccadivensis.

Photogravure. Survey of India Offices, Calcutta, February 1905.

## EXPLANATION OF PLATE.

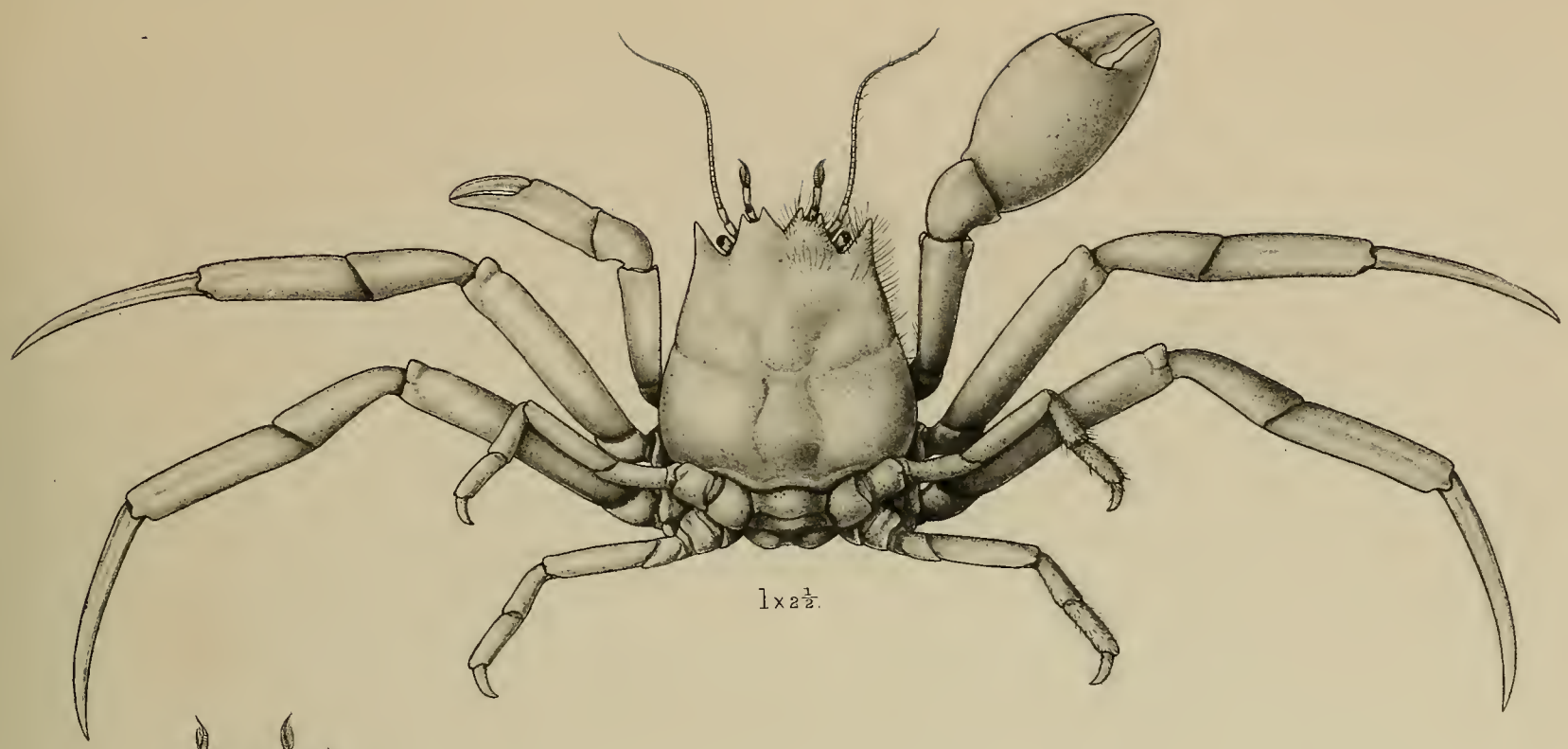
# CRUSTACEA.

### PLATE LXXII.

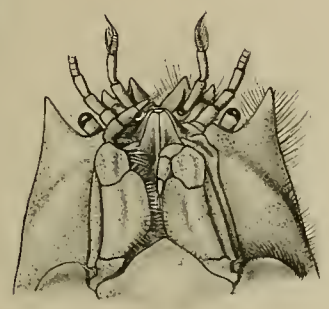
***Figs. 1, 1a.***—*Ethusa hirsuta*, McArdle, Ann. Mag. Nat. Hist., Ser. 7, Vol. VI, Nov., 1900, p. 474.

***Figs. 2, 2a.***—*Ethusa desciscens*, Alcock, Carc. Faun. Ind., Oxyst p. 286, and Investigator Deep Sea Brachyura, 1899, p. 35.

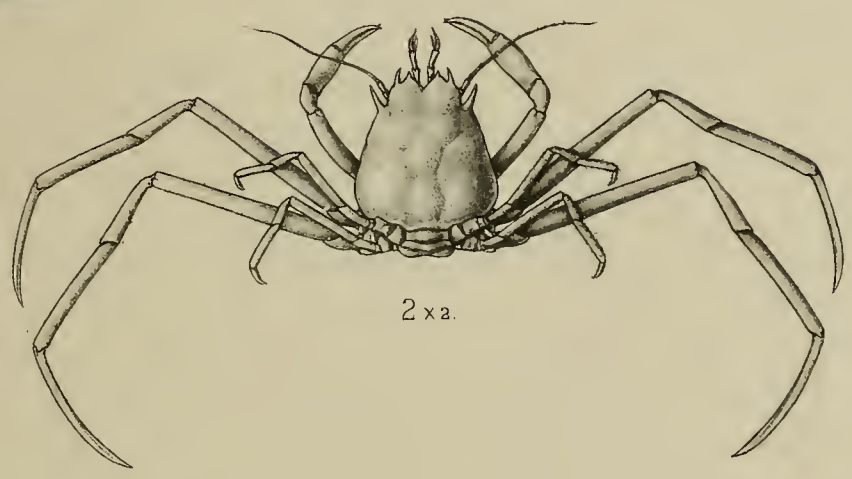
***Figs. 3, 3a.***—*Ethusa investigatoris*, Alcock, *Op. cit.*, p. 285, and Investigator Deep Sea Brachyura, 1899, p. 34.



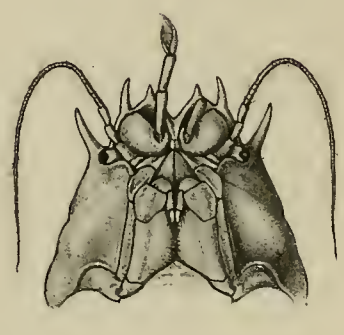
1 x 2½.



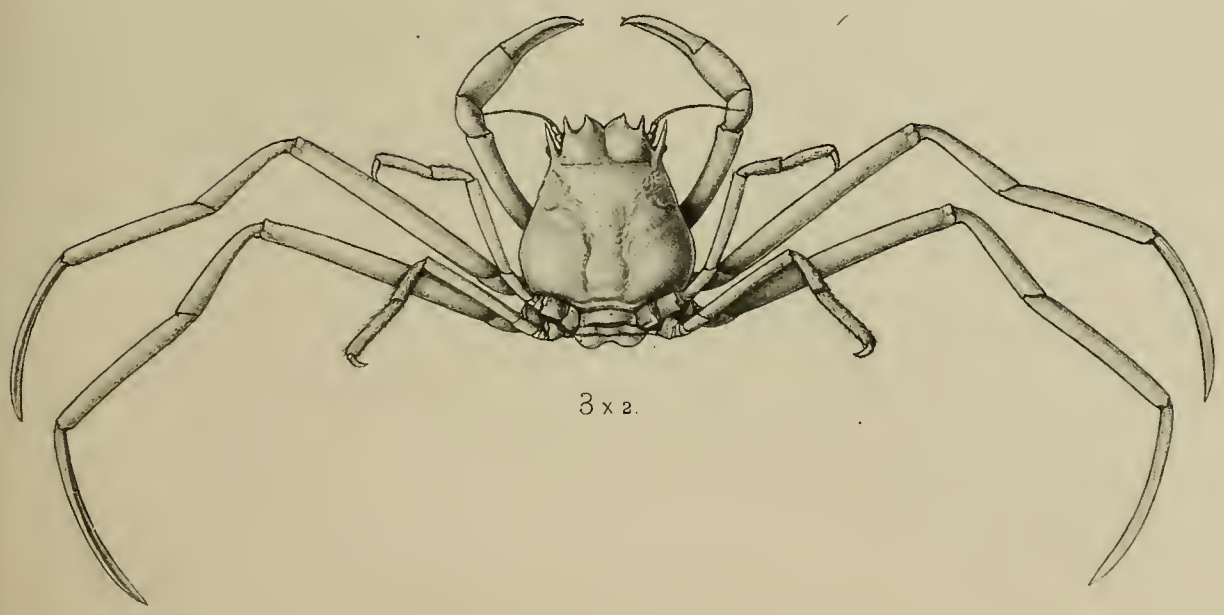
1a x 3.



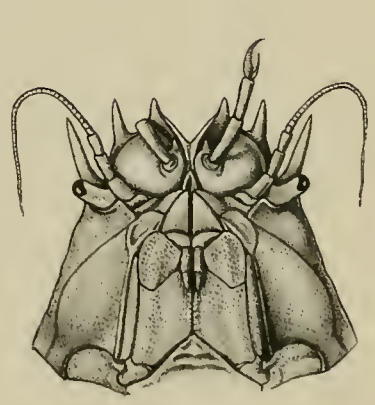
2 x 2.



2a x 4.



3 x 2.



3a x 4.

1. 1a. Ethusa hirsuta. ♂ 2. 2a Ethusa desciscens. ♂

3. 3a. Ethusa investigatoris.

Photogravure. Survey of India Offices, Calcutta, February 1905.

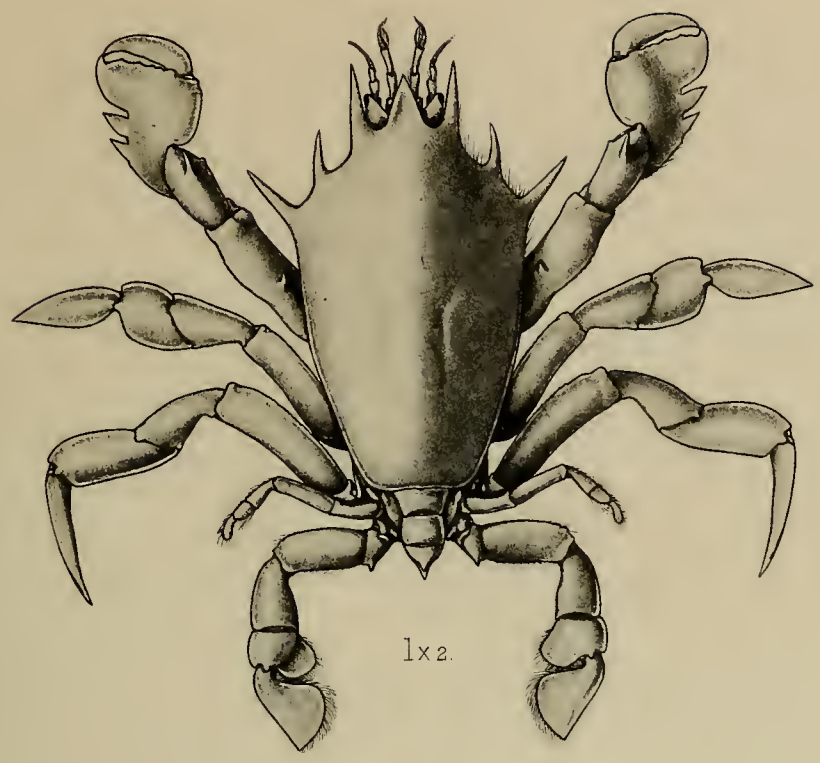
## EXPLANATION OF PLATE.

# CRUSTACEA.

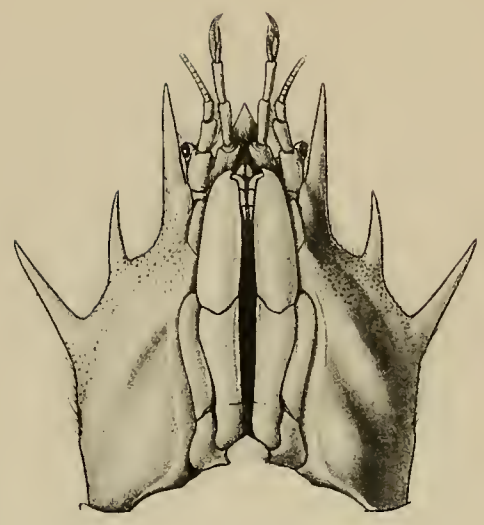
### PLATE LXXIII.

***Figs. 1, 1a.***—*Lyreidus channeri*, Wood-Mason, J. A. S. B., Vol. LVI, 1887, pt. 2, p. 206; and Alcock, Investigator Deep Sea Brachyura, 1899, p. 38.

***Figs. 2, 2a, 2b.***—*Ixoides cornutus*, MacGilchrist, Ann. Mag. Nat. Hist., March, 1905, p. 255.

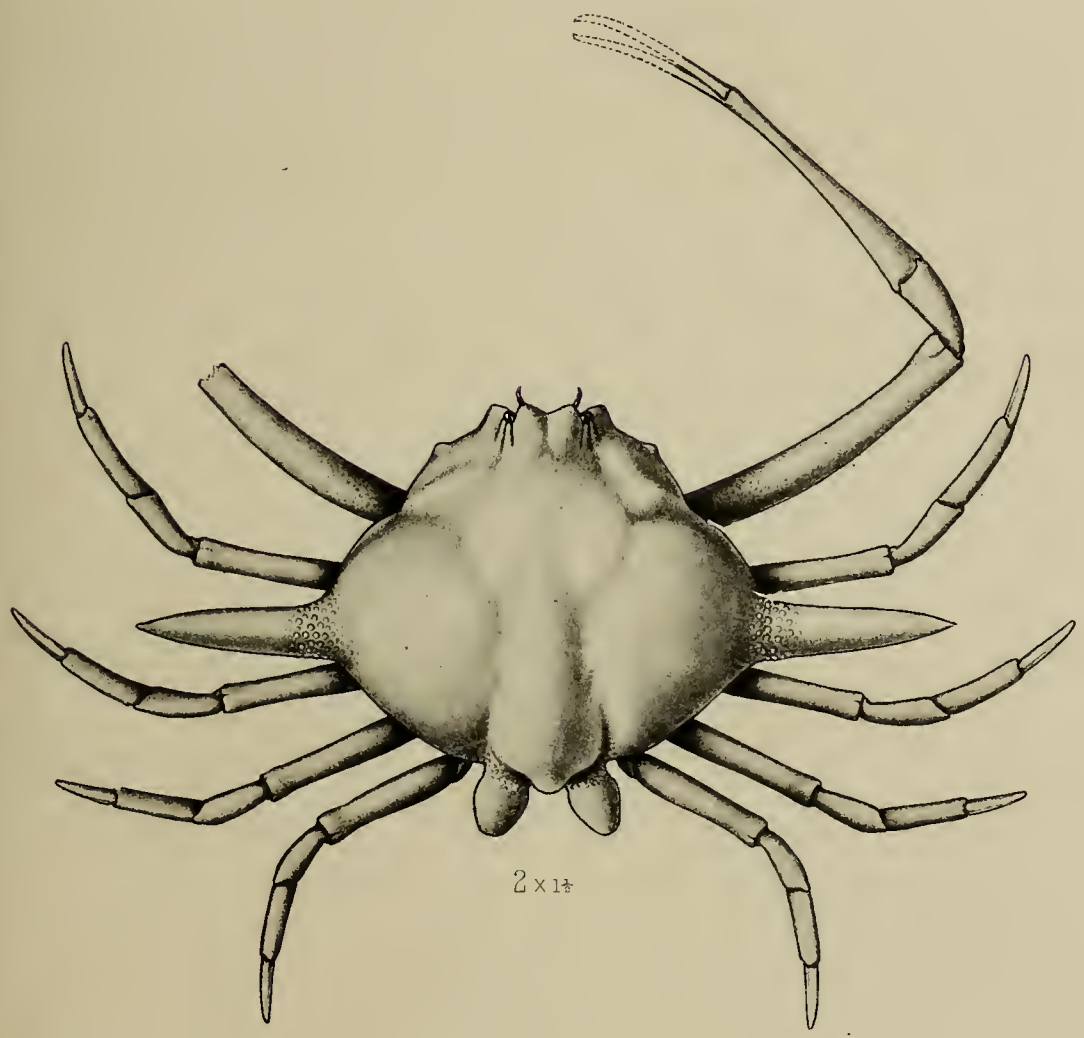


1 x 2.



1*a* x 3.

2*b*.



2 x 1½

2*a* x 2.

1, 1*a*. Lyreidus channeri, ♂. 2, 2*a*, 2*b*. Ixoides cornutus, ♂.

Photogravure Survey of India Offices, Calcutta. January 1905.

## EXPLANATION OF PLATE.

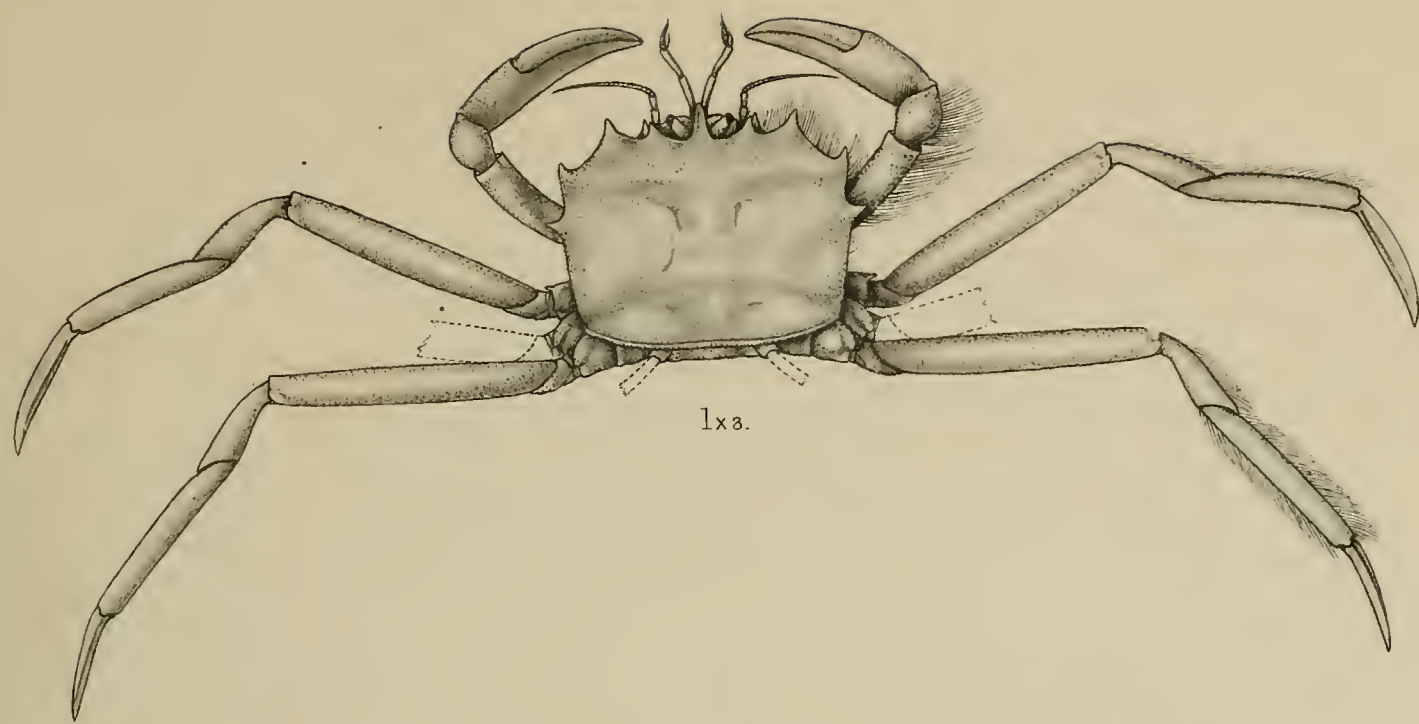
# CRUSTACEA.

### PLATE LXXIV.

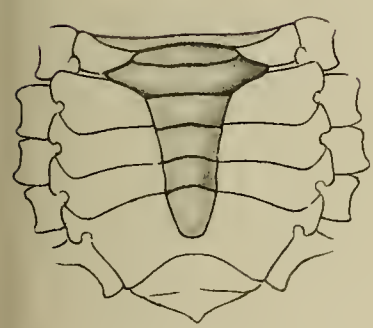
***Fig. 1.***—*Ptenoplax dentata*, MacGilchrist, Ann. Mag. Nat. Hist., March, 1905, p. 266.

***Figs. 2, 2a.***—*Ceratoplax granulosa*, MacGilchrist, *Op. cit.*, p. 263.

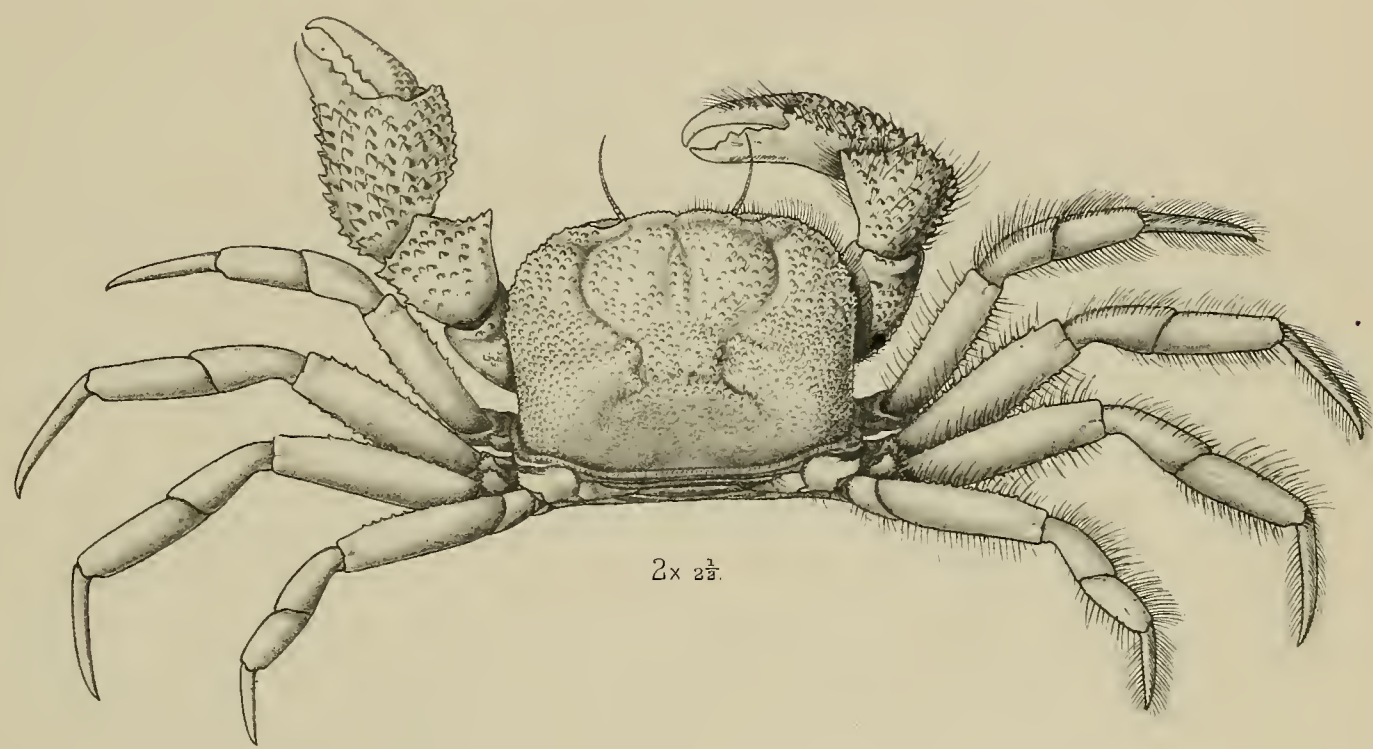
***Figs. 3, 3a.***—*Camatopsis rubida*, Alcock and Anderson, Ann. Mag. Nat. Hist, Jan., 1889, p. 13; and Alcock, Investigator Deep Sea Brachyura, 1899, p. 76, pl. iv. fig. 3.



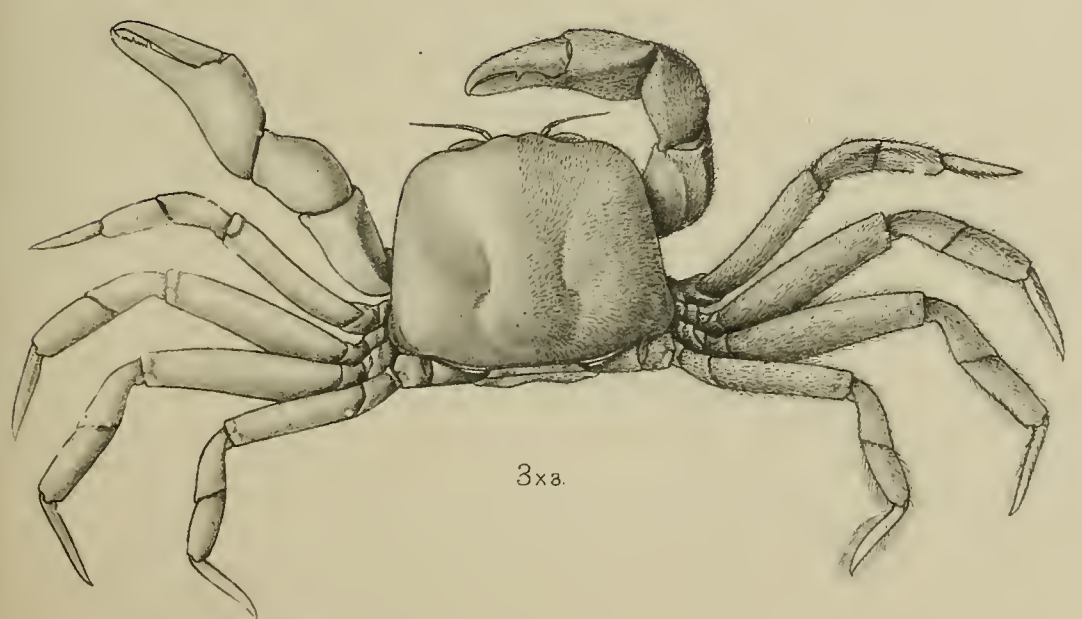
1x3.



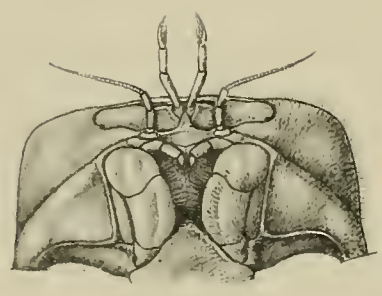
2a x3.



2x $2\frac{1}{2}$.



3x3.



3a x4.

1. Ptenoplax dentata. ♂.

2. 2a. Ceratoplax granulosa. ♂.

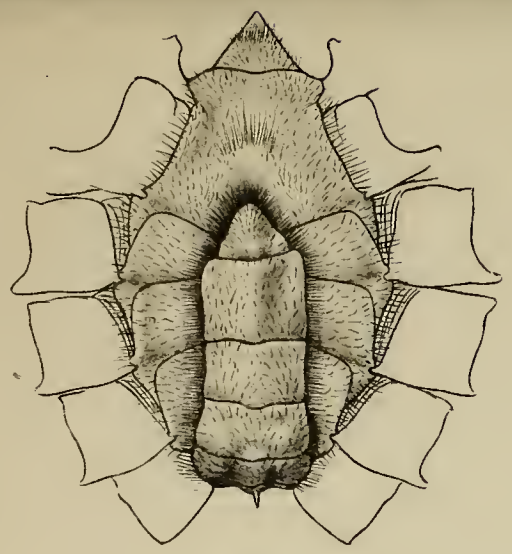
3. 3a. Camatopsis rubida, ♂.

## EXPLANATION OF PLATE.

# CRUSTACEA.

### PLATE LXXV.

***Figs. 1, 1a, 1b, 1c.***—*Trichopeltarium ovale*, Anderson, J. A. S. B., Vol. LXV, pt. 2, 1896, p. 103; and Ill. Zool. Investigator, Crust., pl. xxv. fig. 4 (female); and Alcock, Investigator Deep Sea Brachyura, 1899, p. 57.



1a x 1½.

1c x 1½.

1b x 1½.

1 x 1½.

Trichopeltarium ovale, ♂.

Photogravure

Survey of India Offices, Calcutta, January 1905.

## EXPLANATION OF PLATE.

# CRUSTACEA.

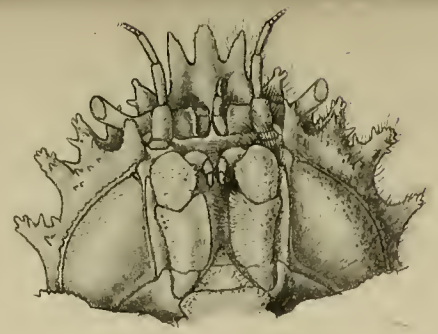
### PLATE LXXVI.

***Figs. 1, 2, 2a.***—*Trachycarcinus glaucus*, Alcock and Anderson, Ann. Mag. Nat. Hist., Jan., 1899, p. 8; and Alcock, Investigator Deep Sea Brachyura, 1899, p. 59, pl. ii. fig. 2.

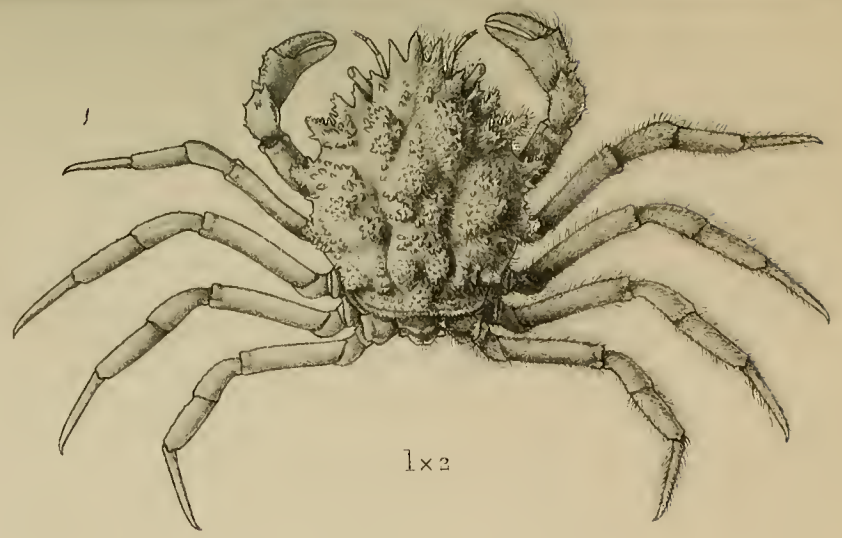
***Fig. 3.***—*Actumnus margarodes*, MacGilchrist, Ann. Mag. Nat. Hist., March, 1905, p. 260.

***Figs. 4, 4a.***—*Benthochascon hemingi*, Alcock and Anderson, *Op. cit.*, p. 10; and Alcock, Investigator Deep Sea Brachyura, 1899, p. 69, pl. iii. fig. 2.

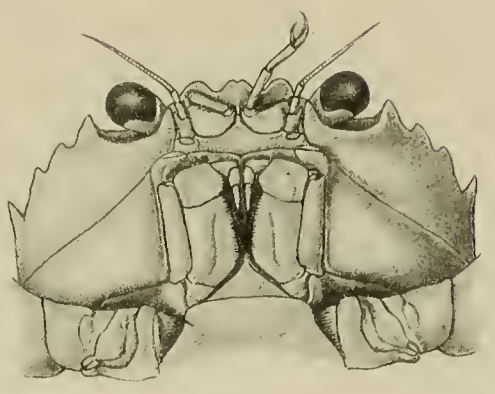
2 x 2



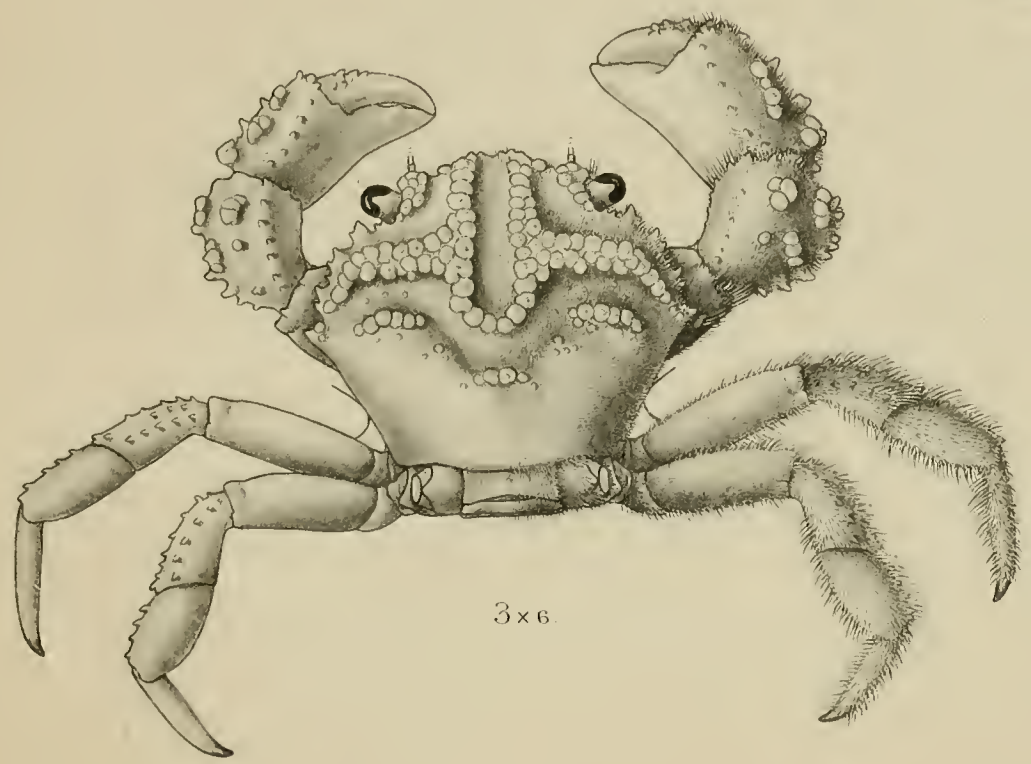
2a x 3



1 x 2



4a



3 x 6

4.

1. Trachycarcinus glaucus, ♀.
3. Actumnus margarodes, ♂.

2, 2a. Trachycarcinus glaucus, ♂.
4, 4a. Benthochascon Hemingi, ♀.

Photogravure

Survey of India Offices, Calcutta, January 1905

# ILLUSTRATIONS

OF THE

# ZOOLOGY

OF THE

## ROYAL INDIAN MARINE SURVEY SHIP

# INVESTIGATOR,

UNDER THE COMMAND OF

CAPTAIN T. H. HEMING, R.N. *(Retired).*

---

CRUSTACEA (MALACOSTRACA)—Pt. XII, Pls. LXXVII—LXXIX.

CRUSTACEA (ENTOMOSTRACA)—Pt. I, Pls. I—II.

MOLLUSCA—Pt. IV, Pls. XIV—XVIII.

UNDER THE DIRECTION OF

A. ALCOCK, M.B., LL.D., F.R.S., C.I.E., SUPERINTENDENT OF THE INDIAN MUSEUM, FORMERLY SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY,

N. ANNANDALE, B.A., D.Sc., C.M.Z.S., OFFG. SUPERINTENDENT OF THE INDIAN MUSEUM,

AND OF

A. C. MACGILCHRIST, M.A., M.B., CH.B., FORMERLY SURGEON-NATURALIST TO THE INDIAN MARINE SURVEY.

Published under the Direction of Captain G. H. Hewett, R.N.,
Director of the Royal Indian Marine.

CALCUTTA:

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, INDIA.

1907.

Sold by the Superintendent of the Indian Museum.

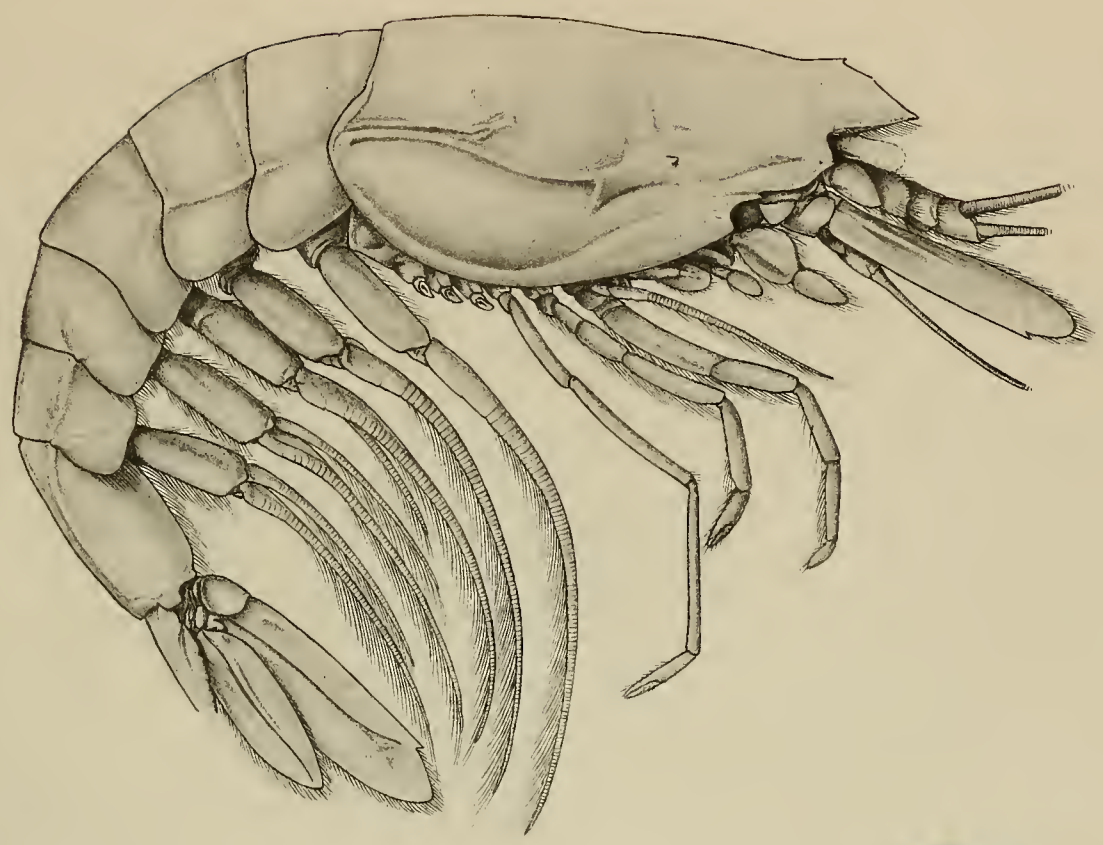
## EXPLANATION OF PLATE.

# CRUSTACEA (MALACOSTRACA).

### PLATE LXXVII.

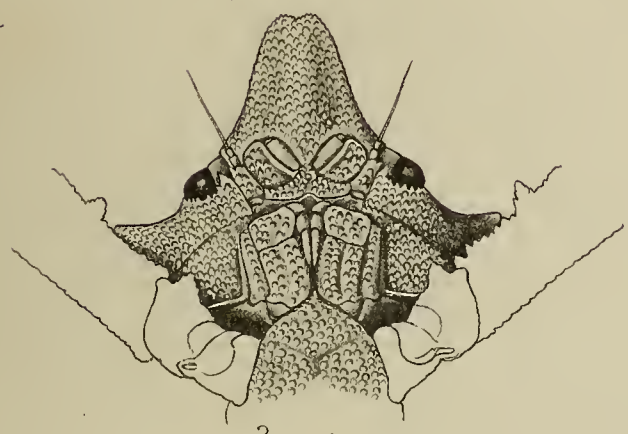
***Figs. 1, 1a.***—*Benthesicymus armatus*, A. C. MacGilchrist, Ann. Mag. Nat. Hist., Ser. 7, Vol. XV, 1905, p. 235.

***Figs. 2, 2a.***—*Eumedonus granulosus*, A. C. MacGilchrist, *Op. cit.*, p. 253.

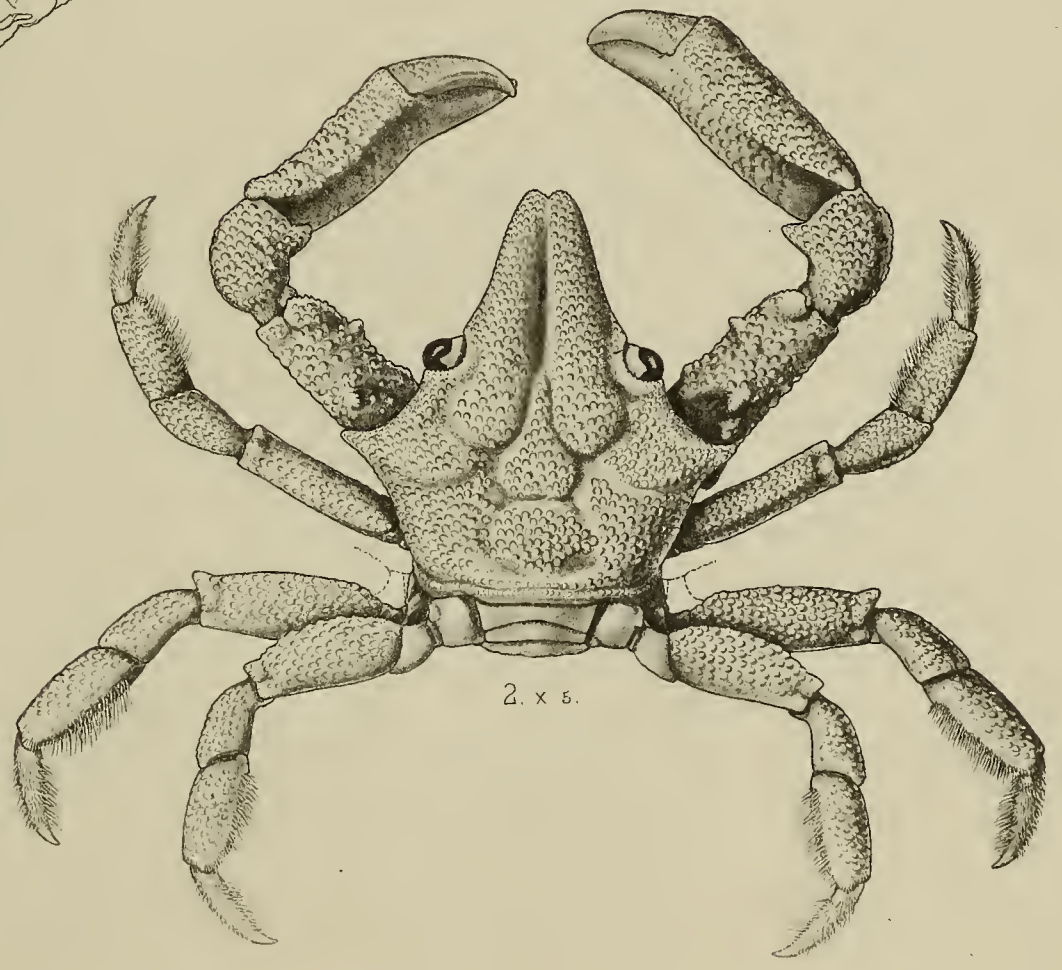


1.

1a.



2a. x 5.



2. x 5.

1. Benthesicymus armatus, Mac Gilchrist. 2. Eumedonus granulosus, Mac Gilchrist. x 5.

Survey of India Offices, Calcutta, July 1906.

Photogravure.

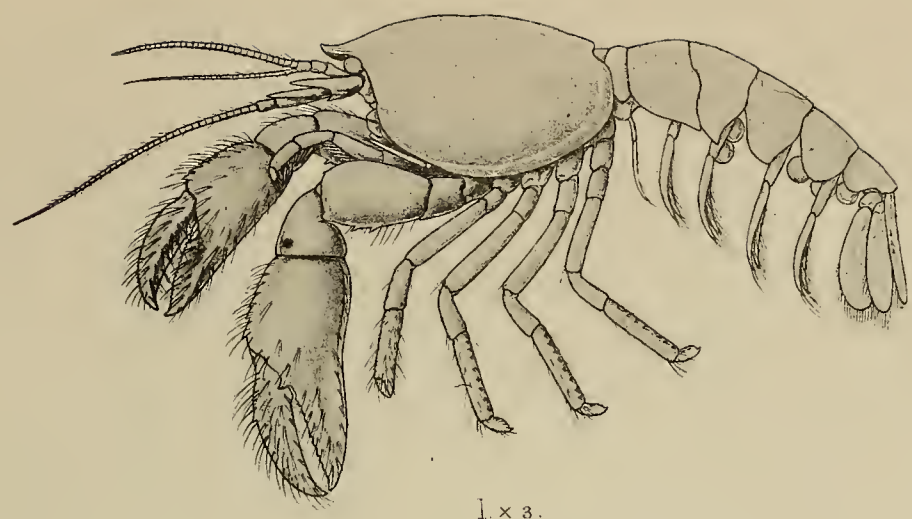
## EXPLANATION OF PLATE.

# CRUSTACEA (MALACOSTRACA).

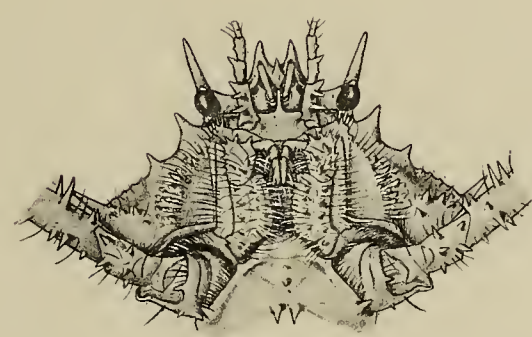
### PLATE LXXVIII.

***Fig. 1.***—*Iconaxiopsis spinigera*, A. C. MacGilchrist, Ann. Mag. Nat. Hist., Ser. 7, Vol. XV, March, 1905, p. 240.

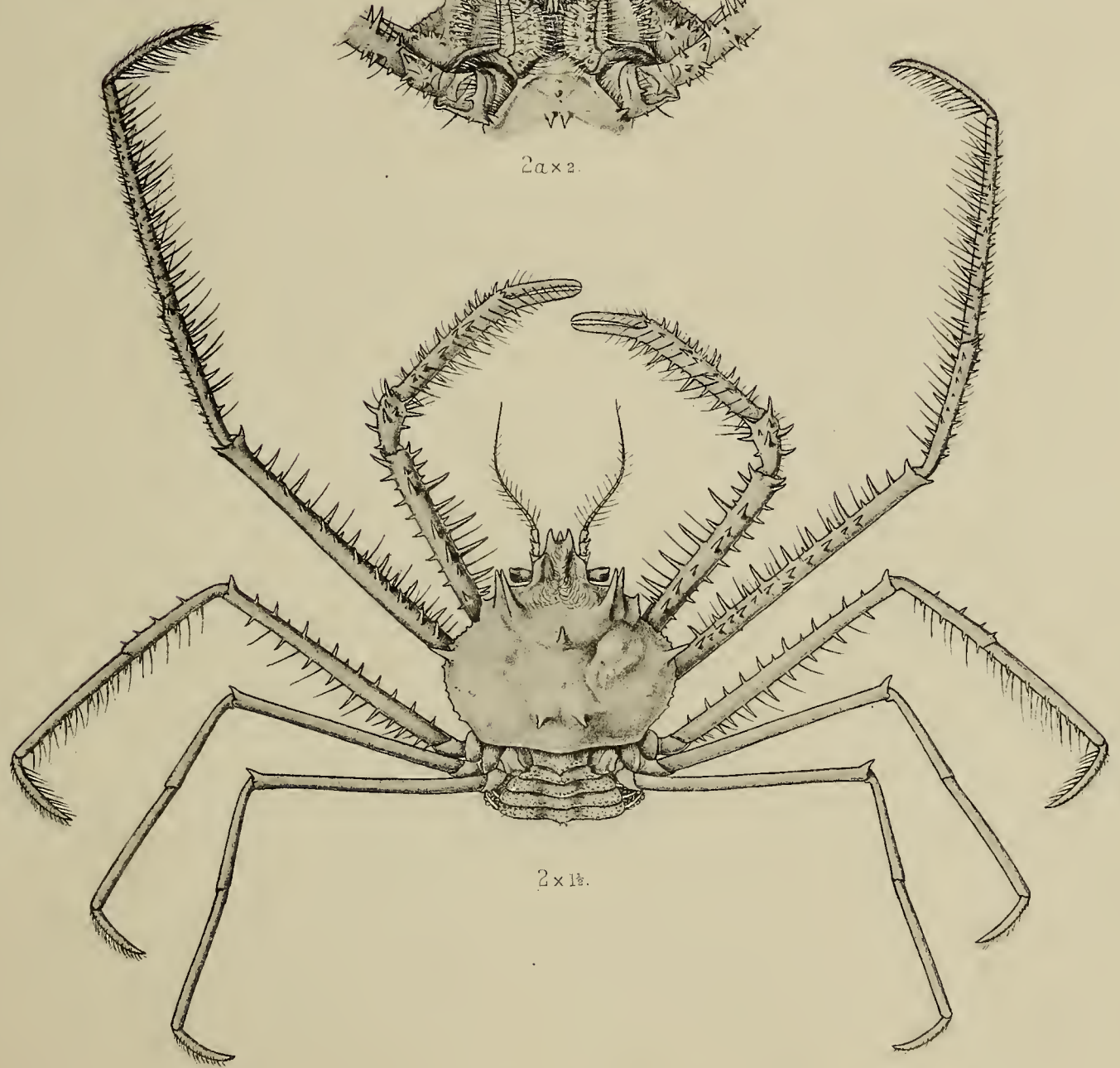
***Figs. 2, 2a.***—*Cyrtomaia goodridgei*, A. F. McArdle, Ann. Mag. Nat. Hist., Ser. 7, Vol. VI, November, 1900, p. 472.



1. × 3.



2a × 2.



2 × 1½.

1. Iconaxiopsis spinigera, Mac Gilchrist, × 3. 2. Cyrtomaia Goodridgii, Mc. Ardle, × 1½.
2a. Cyrtomaia Goodridgii, Mc. Ardle, × 2.

Photogravure. Survey of India Offices, Calcutta, June 1906.

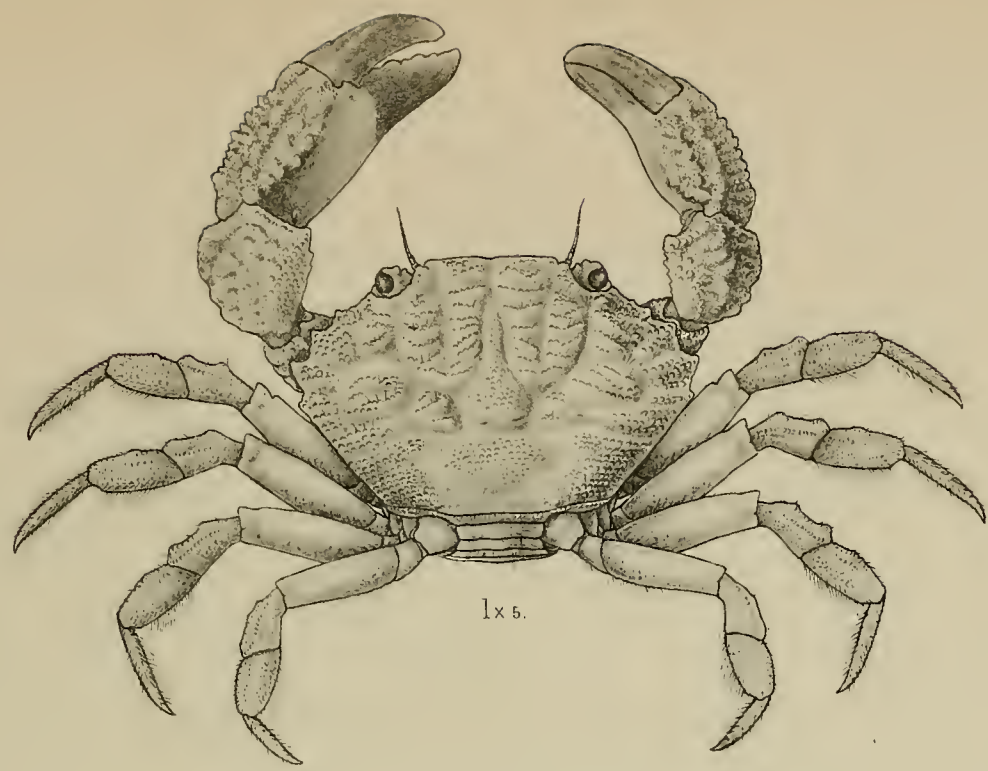
## EXPLANATION OF PLATE.

# CRUSTACEA (MALACOSTRACA).

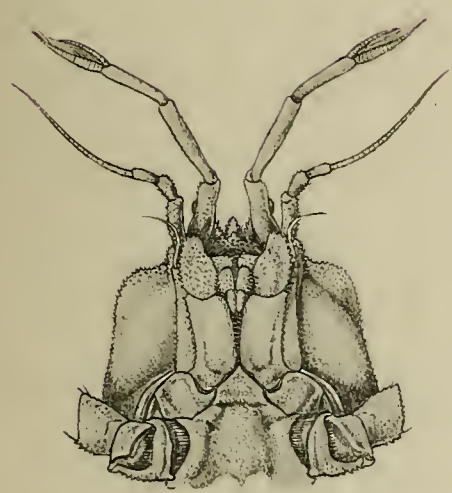
### PLATE LXXIX.

***Fig. 1.***—*Xanthodes cumatodes*, A. C. MacGilchrist, Ann. Mag. Nat. Hist., Ser. 7, Vol. XV, 1905, p. 258.

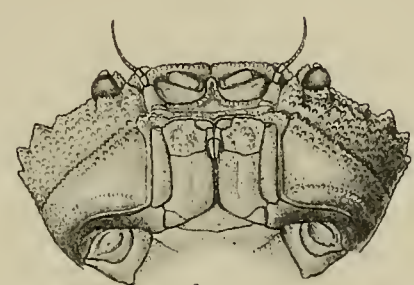
***Figs. 2, 2b.***—*Cymonomus andamanicus*, A. Alcock, *Op. cit.*, p. 568.



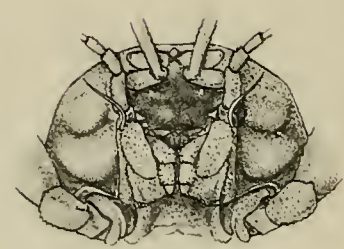
1 x 5.



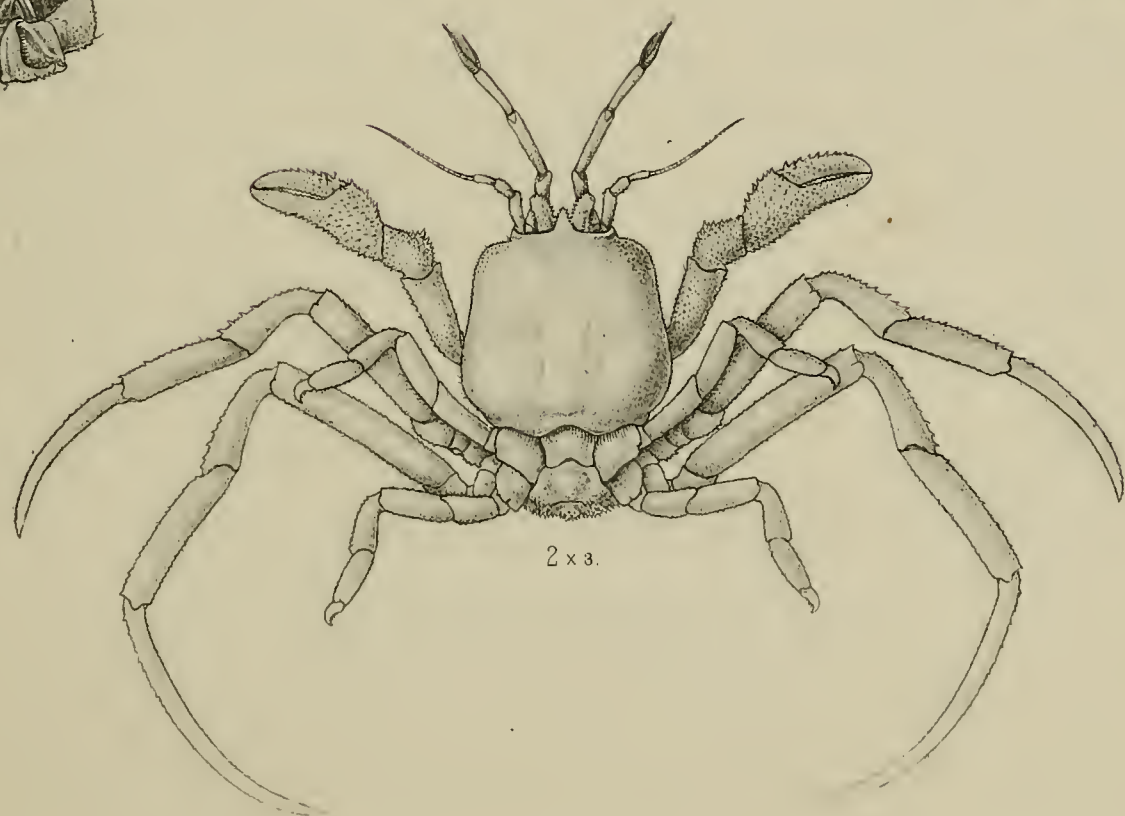
2a x 4.



1a x 5.



2b x 4.



2 x 3.

1. Xanthodes cumatodes, Mac Gilchrist x 5. 2. Cymonomus andamanicus, Alcock x 3. 2a. 2b. Cymonomus andamanicus, Alcock x 4.

Photogravure, Survey of India Offices, Calcutta, June, 1906.