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THE

ZOOLOGY

OF THE

VOYAGE OF H.M.S. SAMARANG;

UNDER THE COMMAND OF

CAPTAIN SIR EDWARD BELCHER, C.B., F.R.A.S., F.G.S.

DURING THE YEARS 1843-1846.

(Published under the Authority of the Lords Commissioners of the Admiralty.)

EDITED BY

ARTHUR ADAMS, R.N., F.L.S.

CRUSTACEA,

PART I.

BY

ARTHUR ADAMS, F.L.S., & ADAM WHITE, F.L.S.

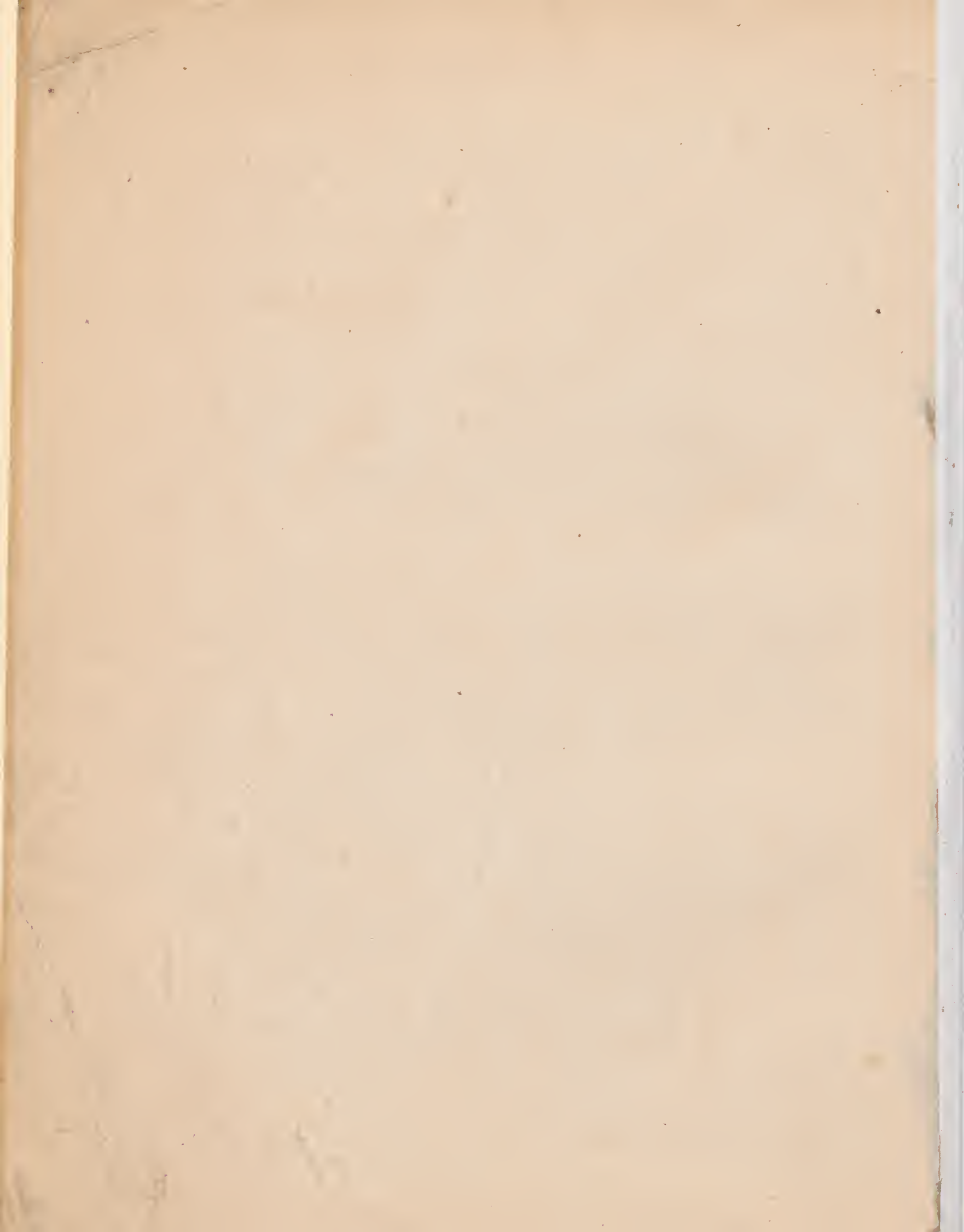
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C R U S T A C E A,

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ARTHUR ADAMS, F.L.S., & ADAM WHITE, F.L.S.

I. INACHIDÆ.

In the family *Inachidæ* we have been fortunate enough to discover a new species of *Inachus*, and a remarkable form of *Oncinopus*, both from the Eastern Seas; species of *Doclea*, *Camposcia*, and *Egeria* were collected, those genera appearing to be principally exotic, while but few species of *Inachus*, *Leptopodia*, or *Stenorynchus* were noticed among the islands of the Eastern Archipelago, they being chiefly confined, in their geographic distribution, to other zoological regions. All the members of this small, though singular, group are passive in defence, having a tendency either to conceal themselves in sponges and among the tangles of Keratophytes and Algæ, or, as is the case with *Camposcia*, to cover themselves with foreign bodies, so as to be almost undistinguishable from the marine objects that surround them. They are feeble in their articulations, and extremely inert and slow-moving when disturbed in their lurking places.

1. ONCINOPUS, *De Haan*.

1. ONCINOPUS NEPTUNUS, *Adams & White*. Tab. II. Fig. 1.

Fronte profunde incisâ; lobis frontis angularibus; secundo et tertio paribus pedum admodum gracilibus; vix ter et dimidio longioribus thorace; quarto et quinto paribus thorace vix ter longioribus.

Thorace longitudine septem linearum, latitudine quinque; trigonali, postice lato, ad frontem paullatim angustiore, tomentoso, compluribus, brevibus, acutis, aculeatis processibus præsertim ad partem posteriorem circumdato; regionibus mediis et branchialibus depressione haud admodum profundâ separatis; posteriore parte sulco transverso inter thoracem et post-abdomen: corpore excavato inter quintum par pedum;

thorace subdilatato lateraliter supra insertiones secundi, tertii, et quarti pedum parium, sed inde ad frontis apicem omnino integro.

Fronte ad extremitatem anteriorem declinatâ, a thorace haud plane distinctâ, ultra medium emarginatâ, atque incisâ antice, efficiente duos lobos qui ad extremitates rotundati sunt.

Chelis æqualibus, subgracilibus, brevibus densis tenuibus setis coopertis; brachio subcylindrico ad oculos introrsum curvato, longis, fortibus, paululum curvatis setis utrimque fimbriato; carpo convexo et extrorsum inclinato; manu lateraliter compressâ, convexâ externe, concavâ interne, infra rotundatâ, supra subangulari; digito brevior, lævi, curvato, et minutim denticulato.

Secundo et tertio paribus pedum thorace vix ter dimidioque longioribus; multo crassioribus, majoribus et longioribus quarto et quinto paribus; tertio articulo cylindrico et antice paullo latiore; quarto articulo elongato, conicali, longis setis utrimque fimbriato; quinto articulo tertio longiore tertiâ parte, margine anteriore leniter curvato, posteriore dilatato, arcuato, longis, bene dispositis, ciliatis processibus retro directis utrimque fimbriato, supra leniter sulcato, infra profundis canalibus; chelis dilatatis, admodum curvatis, supra sulcatis, setis longis fortibusque utrimque fimbriatis; apice curvato et acuto.

Quarto et quinto pedum paribus thoracem fere ter longitudine superantibus; secundo et tertio paribus multo gracilioribus atque minoribus; tertio et quarto articulo fere simili longitudine; quinto articulo brevi, lato, depresso incurvato; chelis dilatatis, acutis, et chelis reliquorum pedum crassioribus.

HAB. Marc Mindorum.

Front deeply incised, lobes of the front angular; second and third pairs of legs very slender, nearly three times and a half the length of the carapace; fourth and fifth pairs nearly three times as long as the carapace.

Carapace about seven lines long and five wide, trigonal, broad behind, gradually becoming narrower towards the front, tomentose, and beset with numerous short, sharp, sting-shaped processes, particularly towards the hinder part; middle and branchial regions separated by a rather superficial impression, posteriorly a transverse groove between the carapace and abdomen; body hollowed out between the fifth pair of legs, carapace a little dilated laterally above the insertions of the second, third, and fourth pairs of legs, but perfectly entire from this to the apex of the front.

Front bent down towards the anterior extremity, not distinctly separated from the carapace, emarginate beyond the middle, and deeply notched anteriorly, forming two lobes which are rounded at the ends.

Fore-legs equal in size, rather slender, covered with short, close-set, fine hairs; third joint subcylindrical, curved inwards towards the eyes, fringed on each side with long, stiff, slightly-curved hairs; fourth joint convex and bent outwards; fifth joint somewhat laterally compressed, convex externally, concave internally, rounded below, rather angular above; claws rather short, smooth, curved, and finely denticulated.

Second and third pairs of legs nearly three times and a half longer than the carapace, much stouter, larger and longer than the fourth and fifth pairs; third joint cylindrical, and a little wider anteriorly; fourth joint elongated, conical, fringed on each side with long hairs; fifth joint a third longer than the third joint, the anterior margin slightly curved, the posterior dilated, arched, fringed with long, regular, ciliated processes on each side, directed back-

wards, slightly grooved above, and deeply channelled below; claws dilated, much curved, grooved above, fringed on each side with long, stout hairs, curved and sharp at the ends.

Fourth and fifth pairs of legs nearly three times as long as the carapace, much smaller and more slender than the second and third pairs; third and fourth joints about equal in length: fifth joint short, broad, flattened, incurved; claws dilated, sharp and stouter than the claws of the other feet.

HAB. Sea of Mindoro; fifteen fathoms.

This species comes very near the *Oncinopus aranea* of De Haan, Faun. Japon. (tab. xxix. f. 2), but its carapace is much smaller in comparison with the length and slenderness of the legs. The fore-legs are much slenderer and of greater length; the fourth and fifth pairs of legs are nearly three times as long as the carapace; whereas in *O. aranea* they are only twice the length of the carapace; the second and third pairs of legs are nearly three and a half times longer than the carapace, the front is more deeply incised, and the lobes are very angular.

The *Oncinopi*, like the *Inachi*, live in rather deep water, more particularly in coral bottoms, and where Keratophytes and other zoophytic forms abound. Among the branches of these, like aquatic spiders in their webs, these apathetic crustaceans entangle their elongated limbs; they are, like the *Pholci* among Arachnida, very inert and feeble, and excessively slow and languid in their movements.

2. ONCINOPUS ARANEA, *De Haan*.

Pedibus quartis et quintis anterioribus brevioribus, tarsis curvatis; thoracis lateribus integris.

HAB. Maria Orientalia (M. Mindorum); Adams.

Fourth and fifth pairs of legs shorter than the anterior pairs, tarsi curved, sides of the thorax entire.

HAB. Eastern Seas (Sea of Mindoro).

2. INACHUS, *Fabricius*.

1. INACHUS LORINA, *Adams & White*. Tab. II. f. 2.

Regionibus ventricularibus et cardiacis convexis, bitubercularibus; oculorum pedunculis uni-spinosis.

Thorace trigono, supra convexo, regionibus lateralibus paulo latioribus intermediâ regione; thorace ad latera post oculos attenuato: spinâ tuberculari paulo prominente ad antelateralem thoracis partem; duobus validis magnis tuberculis in lineâ intermediâ in superiore thoracis superficie, quæ tuberculis minutis granularibus et setis longis, tenuibus, sparsisque distinguitur.

Fronte vix ad finem brachii antennarum exteriorum pertinente, profunde sulcato inter canthos in lineâ secundâ, et valido jugo longitudinali in utroque latere; apice truncato, horizontali, in medio paululum emarginato, duobus terminalibus grandiusculis lobis adornatis compluribus, rectis et crassis setis. Canthis integris ad partem superiorem arcuatis et paululum protendentibus; oculorum pedunculis lateraliter directis extra canthos spinâ longiore et præacutâ in parte anteriore positâ; antennis exterioribus thorace fere dimidio brevioribus.

Chelis thorace dimidio longioribus, marginibus exteriore et interiore fimbriatis; longis, validis, curvatis

setis, ex ordine dispositis; brachio trigono; carpo supra convexo et extrorsum curvato; manu extra convexâ, intra concavâ, introrsum curvatâ, supra et infra obtusâ; unguibus introrsum inclinatis, deorsum curvatis, longioribus, compressis, margine inferiore ad basin sinuato; marginibus utrisque minutim denticulatis; uno majore dente ad utriusque basin.

Primo pari pedum posteriorum admodum gracili et elongato, quintuplo et dimidio thorace longiore; secundo pari vix tantâ longitudine; femoribus cylindricis paululum tomentosus, serie setarum curvarum in parte posteriore; tibiis tertiâ parte longitudinis femorum, parte anteriore setis incurvatis obsitâ; tarsis femora longitudine æquantibus compluribus breviusculis setis, inter quas setæ majores sparsæ inveniuntur; unguibus setis perlongis, tenuibus, gracilibus coopertis. Abdomine in feminâ sex-articulato.

HAB. Maria Orientalia (littus Mindanaum).

Ventricular and cardiac region convex, bitubercular, peduncles of the eyes with one spine.

Carapace trigonal, convex above, lateral regions rather wider than that of the middle region, carapace narrowed at the sides behind the eyes, a tubercular, rather prominent spine on the antero-lateral part of the carapace, two strong and large tubercles, in the middle line, on the upper surface of the carapace, which is, moreover, covered with minute granular tubercles, and long, thin, scattered hairs.

Front not quite extending as far as the end of the second joint of the external antennæ, deeply grooved between the orbits, in the middle line, and with a strong longitudinal ridge on each side: apex truncate, horizontal, slightly emarginated in the middle, with the two lateral, terminal, slightly-developed lobes, tufted with numerous straight and stiff setæ; orbits entire, arched at the upper part, and slightly projecting; peduncles of the eyes protruding laterally considerably beyond the orbits, with a rather long and sharpened spine situated on the anterior part; external antennæ scarcely half as long as the carapace.

Fore-legs one and a half times the length of the thorax, with the outer and inner edges fringed with long, stiff, curved hairs very regularly disposed; third joint trigonal; fourth joint convex above, and bent outwards; fifth joint convex externally, concave internally, curved inwards, obtuse above and below, claws bent inwards, curved downwards, rather long, compressed, inferior edge sinuated near the base, both edges finely denticulated, each with one larger tooth near the base.

First pair of hinder legs very slender, much elongated, five times and a half the length of the carapace, second pair of posterior legs hardly as long, femora cylindrical, slightly tomentose, with a row of curved hairs on the posterior part; tibiæ a third of the length of the femora, the anterior part beset with incurved hairs, tarsi as long as the femora, with numerous rather short hairs, and having longer hairs scattered among them; claws covered with very long, fine, slender hairs. Abdomen, in the female, six-jointed.

HAB. Eastern Seas (Shores of Mindanao).

This species comes very near *Inachus (Achæus) Japonicus* of De Haan, Faun. Japon. p. 99. t. xxix. f. 3, but the middle region has two strongly-marked tubercles, and the peduncles of the eyes have but one spine instead of four. The legs are also much longer in proportion than in *A. Japonicus*.

3. ACHÆUS, *Leach.*1. ACHÆUS JAPONICUS, *De Haan.*

Regione ventriculi et cordis convexâ; oculorum pedunculis 4-spinulosis.

HAB. Japoniam.

Ventricular and cardiae regions, convex; peduncles of the eyes with four small spines.

HAB. Japan.

Inachus (Achæus) Japonicus, De Haan, F. J. p. 99. t. 29. f. 3 (femina).

4. LATREILLIA, *Roux.*1. LATREILLIA VALIDA, *De Haan.*

Major, thoracis regione ventriculi unispinosâ; pedibus postremis anteriorum pedum femoribus longioribus; abdominis feminae articulo quarto medio non spinoso; spinis frontalibus in utroque sexu integris, tertiâ parte thoracis brevioribus.

Japonice *Midsu hiki gani*, i. e., Cancer in formam Polygoni filiformis.

HAB. Japoniam.

Rather large, thorax with one spine in the ventricular region; the hind feet longer than the femora of the anterior feet; the fourth joint of the abdomen, in the female, not spiny in the middle; the frontal spines, in both sexes, entire, shorter than a third part of the thorax.

Called in Japanese *Midsu hiki gani*, or Crab of the shape of a filiform Polygonum.

HAB. Japan.

Latreillia valida, De Haan, F. J. p. 107. t. 30. f. 1 (femina).

2. LATREILLIA PHALANGIUM, *De Haan.*

Minor, thorace in regione ventriculi unispinoso, pedibus postremis femoribus præcedentium brevioribus; abdomine femineo medio bispinoso; spinis frontalibus tertiâ parte longitudinis thoracis brevioribus, in feminis bispinulosis.

HAB. Japoniam.

Rather small, thorax with one spine in the ventricular region, the hind feet shorter than the femora of the preceding; abdomen, in the female, with two spines in the middle line; frontal spines one third shorter in length than the thorax, in the female, bispinulose.

HAB. Japan.

Latreillia Phalangium, De Haan, F. J. p. 108. t. 30.

5. MACROCHEIRA, *De Haan.*1. MACROCHEIRA KÆMPFERI, *De Haan.*

Cornibus frontis extrorsum inflexis; canthis parte superiore 4-spinosis.

Japonice *Sima-Gani*, i. e., Cancer insularis.

HAB. Littus orientale Nipponense (*Mus. Brit.*).

Horns of the front bent outwards, the upper part of the orbits four-spined.

In Japanese *Sima-Gani*, or insular Crab.

HAB. The eastern shores of Niphon ; Japan.

Inachus (Macrocheira) Kämpferi, De Haan, F. J. p. 100. t. 25. (mas.) t. 27 et 28 (femina) ; Kämpfer, Beschr. von Japan. l. p. 158. tom. 14. A. (*Brachium maris adulti*).

6. CAMPOSCIA, Latreille.

1. CAMPOSCIA RETUSA, Latreille.

Thorace fere dimidio longiore quam latiore, fronte latissimâ, truncatâ, desinente in duobus parvis tuberculis quæ ad basilarem articulum antennarum exteriorum fere pertinent ; dente validissimo ad partem lateralem thoracis, spatio satis magno post oculos ; pedibus prioribus cylindricis, digito parum valido desinentibus, paululum introrsum curvatis, ad margines denticulatis, cavis punctis in sulco, tertio pedum pari ferme dimidio longiore quam corpus.

HAB. Insulas Philippinas.

Carapace about as long again as wide, front very wide, truncated, and terminating in two little tubercles which nearly extend as far as the basilar joint of the external antennæ ; a very strong tooth on the lateral part of the carapace at some distance behind the eyes.

Fore-legs cylindrical, terminated by a weak pincer, slightly curved inwards, denticulated at the edges with hollow puncta in the groove, the third pair of legs nearly twice as long as the body.

HAB. Philippine Islands (Guimaras) ; Cuming.

Camposcia retusa, Latr. R. Anim. t. 4. f. 61 ; Guérin. Icon. t. 9. f. 1 ; Edw. Crust. t. 1. p. 283. t. 15. f. 16.

The *Camposcia retusa*, in its young state, has the carapace smooth and shining, and the legs, which appear rather slender, are but slightly tomentose ; as it advances in life, the carapace and legs become covered with a thick, woolly, yellowish-brown tomentum, and, in advanced age, the entire animal is concealed by a covering of Sponges, Corallines, Algæ, Actiniæ, and Alcyonia, beneath which it is impossible to recognise the species. The dissimilar aspect presented by this species, under these various conditions, is splendidly illustrated by a suite of specimens in the collection of the British Museum.

The species is widely distributed, and the materials with which their bodies are covered appear to depend upon the localities in which they are found. Specimens from the Mauritius are covered with fine corallines and algæ, while those from the Philippines are concealed altogether by stones and sponges.

7. EGERIA, Latreille.

1. EGERIA INDICA, Latreille.

Interiore margine tertii articuli maxillarum exteriorum recto, et ad angulum prominente.

HAB. Oceanum Indicum.

Inner edge of the third joint of the external maxillæ straight and prominent at its angle.

HAB. Indian Ocean.

Egeria indica, Leach, Zool. Misc. vol. 2. t. 73. Edw. Crust. vol. 1. p. 292.

2. EGERIA LONGIPES, (E. Herbstii,) *Edwards*.

Fronte permagnâ, longitudine ter ampliore quam latitudine; cætera Egeriæ Arachnoidi similibus.

HAB. Insulas Philippinas (Zebu); Cuming.

Front very large, three times as wide as long; in other respects like *Egeria Arachnoides*.

HAB. Philippine Islands.

8. DOCLEA, *Leach*.

1. DOCLEA CALCITRAPA, *White*. (t. 1. f. 2.)

Thorace septemdecim magnis spinis in latere lateribusque, et sedecim tuberculis minoribus in superficie superiore; septem magnis spinis in medio thorace, sex erectis quarum sexta e basi spinæ admodum elongatæ horizontalis terminalis exoritur; postremâ spinarum in latere reliquis tribus multo longiore. Tota superficies setis obsita fuisse videtur. Quatuor paria pedum posteriorum perlonga atque gracilia sunt.

Thoracis latitudo unum pollicem, quatuor lineas; longitudo unum pollicem, decem lineas.

HAB. Insulas Philippinas (Zebu); Cuming.

Carapace with seventeen large spines on the back and sides, and sixteen smaller tubercles on the upper surface; seven of the large spines down the middle of carapace, six of them erect, the sixth springing from the base of the much-clongated, horizontal, terminal spine; the last of the spines of the side much longer than the other three. The whole surface seems to have been covered with hairs. The four hind pairs of legs are very long and slender.

Breadth of carapace, one inch, four lines; length, one inch, ten lines.

HAB. Philippine Islands (Zebu); Cuming.

A species distinguishable at first sight from the four species hitherto described, of all of which there are specimens in the British Museum.

2. DOCLEA OVIS, *Edwards*.

Nulla spina mediana in posteriore thoracis margine.

HAB. Chinam.

No median spine on the posterior border of the carapace.

HAB. China.

Doclea ovis, Edw. Crust. vol. i. p. 294. *Cancer ovis*, Herbst. vol. i. p. 210. t. 20. f. 82. *Inachus ovis*, Fabr. Ent. Syst. Suppl. 355. *Maia ovis*, Bosc. t. 1. p. 256. Latr. Hist. Nat. des Crust. t. 4. p. 100.

3. DOCLEA HYBRIDA, *Edwards*.

Posteriore thoracis margine in lineâ medianâ parvâ spinâ armato; marginibus latero-anterioribus thoracis quatuor brevibus spinis armatis posteriore non reliquis majore; secundo pedum pari fere dimidio longiore thorace.

HAB. Indiam.

Posterior margin of the earapace armed on the median line with a small spine : latero-anterior borders of the earapace armed with four short spines, the posterior of which is not larger than the others : second pair of legs not quite twice the length of the earapace.

HAB. India.

Doclea hybrida, Edw. Crust. 1. 294 ; *Inachus hybridus*, Fabr. Suppl. p. 355 ; *Maia hybrida*, Bose. t. 1. p. 256 ; Latr. Hist. Nat. des Crust. t. 6, p. 99.

4. DOCLEA MURICATA, *Edwards*.

Posteriore thoracis margine magnâ medianâ spinâ armato ; latero-anterioribus marginibus quatuor spinis armatis, posteriore reliquis multo majore.

HAB. Indian.

Posterior margin of the earapace armed with a large median spine ; latero-anterior margins armed with four spines, the posterior of which is much larger than the others.

HAB. India.

Doclea muricata, Edw. Crust. 1. 295 ; *Cancer muricatus*, Herbst. 1. 211. t. 14. f. 83. ; Fabr. Ent. Syst. Suppl. 355.

II. MAIADÆ.

In the family of the *Maidæ*, many new and interesting forms, hitherto unknown, are here, for the first time, indicated, including two new genera and seventeen new species. In their habits, these Crustacea resemble the *Inachidæ*, being very inert and apathetic, not using their chelæ in self-defence, and covering themselves very frequently with foreign bodies. They appear to be diffused pretty equally over the globe, *Chorinus* being found both in the east and west : *Mithrax* and *Libinia* seem to be confined to the New World ; *Micippe* and *Pericera* are tropical genera, as are also *Huenia* and *Menæthius* ; while *Maia*, *Hyas*, *Arctopsis*, and *Pisa*, are found in the countries of Europe.

1. PISA, *Leach*.

1. PISA SINOPE, *Adams & White*.

Thorace serie tuberculorum magnitudine diversâ in lineâ intermediâ, serie septem tuberculorum in quâque regione laterali ; proprius lineam intermediam quinque aliis tuberculis seriatim dispositis ; lateribus quinque spinis, postremâ reliquis rigidior et eminentior ; tota superficies thoracis, tuberculis admodum minutis et tenuibus, curvatis, sparsis setis obsita est. *Fronte* duobus spinis rigidis, divaricantibus, curvatis setis circumdatis ; superiore eanthorum margine plano spinâ unâ antice et spinâ rigidâ angulari projectâ profundâ incisione in fronte. *Chelis* lævibus, postfrontalem thoracis partem longitudine exæquantibus ; *pedes posterioribus* fuscis tuberculis admodum minutis obsitis, et tenuibus sparsis setis circumdatis.

HAB. Insulas Philippinas.

Carapace with a row of tubereles varying in size in the middle line, a row of seven tubereles in each lateral region, internal to these, nearer the middle line, five other tubereles in a linear series ; sides with five spines, the hind one stronger and more prominent than the

rest; entire surface of carapace covered with very minute tubercles and fine, curved, scattered setæ. *Front* with two strong, divaricating spines, beset with curved setæ; upper margin of orbits plane, with a single spine anteriorly, and a strong, angular spine directed forwards, with a deep notch in front. *Fore-legs* smooth, as long as the postfrontal portion of the carapace; hindlegs covered with very minute, brown tubercles, and beset with thin scattered hairs.

HAB. Philippine Islands.

2. PISA PLANASIA, *Adams & White*. Tab. II. Fig. 4 & 5.

Thorace majore longitudine quam latitudine, ovato-trigonalis, superficie lævi quasi denudatâ, sparsis cristulis setarum fuscæ atque villosarum, ad partem posteriorem minutim granulosa; parvâ spinâ tuberculari paululum eminente in medio tuberculo ventriculari; parvâ eminente spinâ in mediâ quâque laterali vel branchiali regione ad partem posteriorem positâ; tribus, parvis tuberculis supra eam seriatim dispositis in partem anteriorem thoracis pertinentibus; marginibus lateralibus postice integris, tribus obtusis paululum eminentibus spinis ad partem anteriorem, quam ad partem thorax angustus subito fit.

Fronte duabus, robustis, eminentibus, breviusculis, parallelis spinis, ad apices paululum incurvatis, et crassis, validis, curvatis setis obsitis; canthis antice integris, postice profunde incisâ, eminente, obtuso, angulari, tuberculo post incisionem.

Chelis lævibus, parvis, gracilibus, paribus, raris, longis, crassis setis obsitis; carpo subcylindrico introrsum curvato et antice majore; manibus brevibus rotundatis, atque curvatis, duobus parvis tuberculis in superficie exteriore et superiore; digitis subgracilibus, subcylindricis lateraliter compressis, et longis, crassis, raris setis obsitis; unguibus in medio paululum hiantibus, introrsum curvatis et minutim denticulatis.

Secundis et tertiis paribus pedum, toto atque dimidio thorace longioribus, denso, fusco tomento adoptis, carpis subcylindricis antice dilatatis; manibus elongate conicalibus; quartis et quintis paribus pedum secundis et tertiis brevioribus; unguibus acutis, validis, atque curvatis.

Abdomine maris sex articulis, serie tuberculorum eminentium in lineâ intermediâ; articulo secundo latissimo tuberculo papilliformi ad utrumque latus tuberculi intermedii; reliquis segmentis paulatim angustioribus, postremo triangulari et acuminato. *Abdomine femine* ovato admodum convexo atque dilatato, quinque articulis, postremo articulo late trigonali.

HAB. Mare Sinense.

Carapace longer than wide, ovately trigonal, surface smooth, as if denuded, with scattered tufts of brown, villose hairs, and finely granulate towards the hinder part; a small, slightly prominent tubercular spine in the centre of the ventricular prominence; a small prominent spine in the middle of each lateral or branchial region, situated towards the posterior part, and three small tubercles arranged above this, in a linear series, extending towards the fore part of the carapace; lateral margins entire, posteriorly, with three obtuse, slightly prominent spines towards the anterior part, at which situation the carapace becomes suddenly contracted.

Front with two strong, prominent, rather short, parallel spines, somewhat incurved towards their apices, and covered with thick, strong, curved hairs. Orbit, anteriorly, entire, deeply incised posteriorly, with a prominent, obtuse, angular tubercle behind the notch.

Fore-legs smooth, small, slender, equal in size, covered with scattered, long, stout hairs; the third joint subcylindrical, curved inwards and enlarged anteriorly; fourth joint short, rounded, and curved with two small tubercles on the outer and upper surface; fifth joint

rather slender, subcylindrical, laterally compressed, and covered with long, stout, scattered hairs, claws slightly gaping in the middle, curved inwards, and finely denticulated.

Second and third pairs of legs one and a half times longer than the carapace, covered with a close, dense, brown tomentum; third joints subcylindrical, dilated anteriorly; fourth joint elongately conical. Fourth and fifth pairs of legs shorter than the second and third pairs. Claws sharp, strong, and curved.

Abdomen of male six-jointed, with a row of prominent tubercles in the middle line, the second joint the widest, with a nipple-shaped tubercle on each side of the central tubercle, the remaining segments becoming gradually narrower, the last being triangular and pointed.

Abdomen of female ovate, very convex and dilated, five-jointed, the last joint broadly trigonal.

HAB. Chinese Sea.

This species comes nearest *Naxia diacantha* of De Haan (Tab. 34. Fig. 1), but in that species the frontal spines are very long, straight, and diverging; the fore-legs very large, thick, and strong; and the carapace is armed on each side with a stout, strong, and prominent spine; *N. diacantha* wants, moreover, the three tubercles on the lateral regions, the form of the carapace is more trigonal, and the legs are much shorter in comparison with the carapace than in *Pisa Sinope*.

2. ARCTOPSIS, Lamarck.

1. ARCTOPSIS STYX.

Haud multum a *Pisa tetradonte* differt, thorace tamen longiore, et marginibus latero-anterioribus crassis spinis in medio armatis; superiore canthi marginis fissura perangusta.

HAB. Mauritium.

Does not differ much from *Pisa tetradon*, but the carapace is more elongated, and the latero-anterior margins are armed in the middle with thick spines, while the superior edge of the orbit has a very narrow fissure.

HAB. Mauritius.

Pisa Styx, Latr. Enc. Méth. 10. 141. Edw. Crust. vol. i. p. 308; *Cancer Styx*, Herbst. vol. i. p. 243. t. 17. f. 96;

3. NAXIA, Edwards.

1. NAXIA DIACANTHA, De Haan.

Thorace parte posticâ lateribus utrimque unispinoso, spinâ productâ, fronte bicornutâ, cornibus acutis simplicibus, regione ventriculi mediâ unituberculatâ.

Lateral margins of the carapace armed at the posterior part with a single spine on each side, spine produced, front with two horns; horns acute, simple, a single tubercle on the middle of the ventricular region.

Pisa (Naxia) diacantha, De Haan, Faun. Japon. t. 24. f. 1.

4. HYASTENUS, *White*.

Thorax suboblongus, ad latera rotundatus, ante et pone oculos directus; parvo, transverso sulco in superiore cantho. *Frons* duobus cornibus thoracem longitudine æquantibus, primo parallelis, posterius divergentibus et paululum deorsum directis; antennis exterioribus omnibus articulis cylindricis; insertione articuli basalis cornu frontali occultatâ.

Chelæ graciles, secundo pari pedum majori longitudine, gracillimo; articulo terminali acie spinosâ.

Carapace rather oblong, rounded on the sides behind, before and behind the edges straight; a slight transverse groove in the upper orbit; front with two horns as long as the carapace, at first parallel, and then diverging, and directed slightly downwards; outer antennæ with all the joints cylindrical; the insertion of the basal joint concealed by the frontal horn.

Fore-legs slender; second pair of legs the longest, and very slender; terminal joint with the edge spined.

A genus allied to *Hyas* and *Chorinus*, the only species of which was long ago figured in the large work of Seba.

1. HYASTENUS SEBÆ, *White*.

Superficie superiore subaspersâ et pube velatâ.

HAB. Philippine Islands.

Upper surface somewhat roughish, and covered with a delicate down.

HAB. Philippine Islands.

Hyastenus Sebæ, White, List of sp. of Crust. in Brit. Museum; *Cancer araneus, cornutus alter*, Seba, Thes. 3. 4. 5. t. 18. f. 12.

5. CHORINUS, *Leach*.1. CHORINUS ACANTHONOTUS, *Adams & White*. Tab. I. Fig. 1.

Thorace quatuor longis spinis armato duabus anterioribus ad basin sese adpropinquantibus atque paululum projectis, posterioribus bifidis; furcis anterioris spinarum posteriorum lateraliter divergentibus, posterioris longitudinaliter; tribus spinis in utrâque brachiali regione; anteriore projectâ, horizontaliter depressâ; mediâ gracili retrorsum, sursum et extrorsum projectâ duobus acutis tuberculis ad basin deorsum spectantibus; posteriore duabus divaricantibus gracilibus spinis retrorsum et sursum directis.

Rostrum cornibus longis depressis, ad basin conjunctis, paulatim divergentibus et deorsum curvatis. Canthorum marginibus ad partem superiorem longâ bifidâ spinâ armatis, ad anteriorem brevi bifidâ spinâ, et ad posteriorem, brevi spinâ prorsum curvatâ finitis; canthorum margine inferiore fere obsoleto, angulo externo in acuto dentali processu desinente.

Chelæ et supra et infra cristâ acutâ denticulatâ armatis; pedibus cylindricis, duobus spinis longis præacutis instructis, unâ in utroque latere superioris partis extremitatis articulorum dispositâ, sursum et extrorsum tertiorum divergente. Tarsis longis curvatis, infra lævibus. Corpore longis tenuibus setis coperto.

HAB. Maria Orientalia; Borneo (Unsang).

Carapace armed with four long spines, the two front ones rather close together at their

bases, and directed a little forwards; the two hinder bifid; the forks of the anterior hinder spines diverging laterally, and those of the posterior divaricating longitudinally, three spines on each branchial region, the *anterior* pointed forwards, flattened horizontally, the *middle* slender, curved backwards, upwards, and outwards, with two divaricating, slender spines, directed backwards, outwards, and upwards. Horns of the rostrum long, flattened, close together at the base, gradually diverging and curved downwards. Orbital margin armed at its superior part with a long bifid spine, on the *anterior* part having a short bifid spine, and on the *posterior* part bounded by a short spine, curved forwards. Inferior margin of the orbit nearly wanting, and its external angle ending in a short, sharp, tooth-like process. The first pair of legs armed both above and below with a trenchant, denticulated crest, the other legs cylindrical and furnished with two long, sharp-pointed spines, situated one on each side of the upper part of the extremity of the *third joints*, and diverging upwards and outwards; tarsi long, curved, and smooth below. Body covered with long, thin hairs.

HAB. Eastern Seas; Bornco (Unsang).

This species differs from *Chorinus aculeatus* (Edwards, *Hist. Nat. des Crust.*, vol. i. p. 316, and De Haan's species, *Fauna Japonica*, Plate 23. fig. 2.), in the length and position of the spines, which are not tipped with a knob, but sharp-pointed, and in the thin joints of the posterior pairs of legs being armed with two spines. The peculiarity of the long bifid spine above the old orbit must also be regarded as a singular characteristic, the front legs are more slender, the horns of the rostrum are longer and less divaricating than in *C. aculeatus*.

The species described above enters into *Chorinus* of Professor Edwards and Dr. De Haan, but it seems to be very different from *Chorinus* of Leach, founded on a West Indian and South American type.

The *Chorinus*, like the species of *Mithrax*, inhabit deep water, and always seem to prefer those localities where the bottom is covered with weeds; they are very inactive in their movements, and become rigid in all their limbs when first captured, but make no defence with their forelegs. One specimen was obtained by the dredge, entangled in a mass of corallines, and the *C. longispina* was procured from a coral bottom near the great Loo-Choo.

2. CHORINUS LONGISPINA, De Haan.

Canthorum margine superiore spinis elongatis armato, thorace in lineâ mediâ spinis 6, tertiis et quartis basi transversim conjunctis; spinis duabus in regionibus branchialibus; omnibus cylindricis valde elongatis, apice incrassatis, femoribus apice unispinis, tarsis apice integris.

HAB. Maria Orientalia.

Chorinus longispina, De Haan, Faun. Japon. p. 94. t. 23. f. 2.

The superior margin of the orbits armed with elongated spines, six spines in the middle line of the thorax, the third and fourth transversely joined at the base, two spines on the

branchial regions, cylindrical and greatly elongated, with the apex thickened, femora with one spine at the end, tarsi entire at the apex.

HAB. Eastern Seas.

3. CHORINUS ACULEATUS, Edwards.

Thorace quinque admodum longis spinis in medianâ lineâ armato, et duabus ad utramque regionem branchialem.

HAB. Maria Orientalia.

Carapace armed with five very long spines on the median line, and with two on each branchial region.

Chorinus aculeata, Milne-Edwards, Crust. vol. i. p. 316.

HAB. Indian Seas.

4. CHORINUS VERRUCOSIPES, *Adams & White*. TAB. II. Fig. 3.

Thorace sex, acutis elevatis tuberculis, quinto permagno et conspicuo, parva spina ad basin utroque latere; duobus tuberculis eminentibus et angularibus in utraque regione laterali, uno minore in medio alteroque in parte inferiore atque exteriori; thoracis superficie minutis, depressis, punctis et curvatis setis sparsim aggregatis obsita; lateribus pone oculos quinque rotundatis tuberculis.

Fronte desinente in duabus, crassis, divergentibus spinis setis curvatis obsitis superiore eanthorum parte tribus spinosis processibus armata; anteriore obtuso, sursum et prorsum directo; medio reliquis minore, a posteriore profunda incisione separato, posteriore longo, dente in margine posteriore.

Chelis lævibus, longitudine thoracem fere exæquantibus; secundo pari pedum longissimo; pedibus tenuibus, cylindricis, tuberculis verrucosiformibus et setis crassis atque sparsis obsitis.

HAB. Maria Orientalia.

Carapace with six, sharp, elevated tubercles, the fifth being very large and conspicuous, with a small spine at each side at the base; two prominent angular tubercles on each lateral region, with a smaller one between them, and another on the lower and outer part; surface of carapace covered with minute, depressed dots, and scattered tufts of curved setæ; sides, behind the eyes, with five rounded tubercles.

Front terminating in two stout diverging spines beset with curved setæ; upper part of orbit armed with three spiny processes, the anterior obtuse, directed upwards and forwards, the middle smaller than the others, and separated from the posterior by a deep incision, the posterior process long, with a tooth on the hind edge.

Fore-legs smooth, nearly equal in length to the carapace; the second pair of legs the longest; legs thin, cylindrical, covered with wart-like tubercles, and coarse scattered setæ.

HAB. Eastern Seas.

6. MITHRAX, *Leach*.

1. MITHRAX DICHOTOMUS *Latreille*.

Thorace granuloso, sine spinis in superficie superiore; cornibus rostri admodum divergentibus paullo longioribus quam latoribus, desinentibus in duobus dentibus qui fere æquales sunt.

HAB. Insulas Philippinas.

7. PARAMITHRAX, *Edwards*.1. PARAMITHRAX EDWARDSII, *De Haan*.

Canthis infra emarginatis; oculis usque ad angulos canthorum externos productis; thorace lateribus 5-spinosis; manibus lævissimis utrinque convexis margine superiore et interiore obtusis.

HAB. Japoniam.

Carapace granulose, and without spines on the upper surface; horns of the rostrum very diverging, not much longer than wide, and terminated by two teeth, which are nearly equal.

HAB. Philippine Islands; Cuming.

Mithrax dichotomus, Latr. Desm. Cons. 150; Edw. in Guer. Mag. de Zool. 1832. t. 1. Crust. 1. 319. t. 15. f. 1-4. *Maja dichotoma*, De Haan, Faun. Japon. t. 22. f. 4.

Orbits emarginate below, eyes prolonged as far as the external angles of the orbits, thorax with five spines on the sides; hands very smooth, convex on both sides, obtuse on the upper and lower edges.

HAB. Japan.

Maja (Paramithrax) Edwardsii, De Haan, F. J. p. 92. Tab. 21. fig. 2. (*Peronii*. Edw.)

8. TELMESSUS, *White*.

Thorace depresso, pentagonali, latero-anterioribus lateribus reliquis longioribus; latero-posterioribus lateribus duobus dentibus in medio; latero-anterioribus lateribus duobus latis dentatis dentibus inter anteriorem canthorum angulum et magnam, latam dentatam divisionem, ejus finis unum ex eminentibus angulis thoracis efficit. Rostrum latissimum, ex tribus latis dentibus consistens, quorum lateralis anteriorem canthorum angulum efficit.

Pedes longissimi, compressi.

Carapace depressed, somewhat pentagonal, the latero-posterior sides being the longest, the latero-posterior sides have two teeth in the middle; the latero-anterior sides have two broad, dentated teeth, between the external angle of the orbit and the strongly developed, wide, dentated division, the end of which forms one of the prominent angles of the carapace; the beak is very wide, and is formed of three broad teeth, the lateral forming the internal angle of the orbit.

Legs very long, compressed.

This genus, described in the Proceedings of the Entomological Society, was, by mistake, referred to as coming near *Plagusia*. It, however, enters into the family *Maidiæ*; near it and probably placed in the same genus is the *Cancer cheirogonus*, described and figured by Dr. Tilesius, in the Mémoires de l'Académie Impériale des Sciences de St. Petersburg (tome V. 1812. p. 347. Tab. VII. f. 1.), which species he tells us is taken abundantly in Kamsehata, at Arvatelsa, in a bay which derives its name from the abundance of the Crabs: the sailors of the Niva eagerly sought after the species, finding it to be very delicious as food.

1. TELMESSUS SERRATUS, *White*. Tab. III.

Superficie obsita parvis verrucis nonnunquam seriatim dispositis, setis e fronte extantibus.

Surface covered with small warts, arranged in some places in lines, with hairs proceeding from the front of them.

The specimen is a male.

9. MAIA, *Lamarck*.

1. MAIA SPINIGERA, *De Haan*.

Spinis lateribus et frontalibus quartam partem longitudinis postfrontalis emetientibus, acuminatis; spinis quinque dimidio brevioribus, pone medium transversim dispositis; verrucis in spatio intermedio minutis, æqualibus.

HAB. Japoniam.

Lateral and frontal spines pointed, measuring a fourth part of the length of the post-frontal part of the carapace; five spines, half the size, arranged transversely behind the middle, with minute, equal-sized warts in the intermediate space.

HAB. Japan.

Maja (Maja) spinigera, De Haan, Faun. Japon. p. 93. Tab. 24. fig. 4.

10. DIONE, *De Haan*.

1. DIONE AFFINIS, *De Haan*.

Thorace granulato, et acute spinuloso; cornubus rostri ter longioribus quam latis, apice acutis; lateribus spina dimidio brevioribus armatis; digitis superioribus parte media unispinosis.

HAB. Japoniam.

Carapace granulated and acutely spinulose, horns of the front three times as long as wide, and with the points sharp, sides armed with a spine, half as large, one spine in the middle of the upper finger of the fore-legs.

HAB. Japan.

Maja (Dione) affinis, De Haan, F. J. p. 94. t. 22. f. 4.

11. MICIPPA, *Leach*.

1. MICIPPA THALIA, *Herbst*.

Pedibus posterioribus thoracem postfrontalem vix superantibus; fronte ultra medium in cornua duo extrorsum versa divisâ.

HAB. Japoniam.

The hinder legs scarcely extending beyond the post-frontal thorax; front beyond the middle, divided into two horns turned outwards.

HAB. Japan.

Pisa (Micippa) Thalia, De Haan, F. J. p. 98. t. 23. f. 3. (mas); *Cancer Thalia*, Herbst. t. 58. f. 3.

2. MICIPPA PHILYRA, *Leach*.

Thorace tuberculis granulosis obsito: haud tamen in superficie superiore spinoso.

Carapace covered with granular tubercles, but not spiny on the upper surface.

HAB. Philippine Islands (Guimaras).

3. MICIPPA CRISTATA, *Leach*.

Thorace compluribus longis acutis spinis in superfacie superiore.

HAB. Insulas Philippinas (Siquijor, Zebu.) Javam.

Carapace bristling on the upper surface, with a great number of long, sharp spines.

HAB. Philippine Islands (Siquijor, Zebu). Java.

Micippa cristata, Leach, Zool. Misc. vol. 3. t. 128. Edw. Crust. vol. 1. p. 330. Cuv. R. Anim. (Croch) t. 31. f. 2.

Cancer cristatus, Linn. Syst. Nat. vol. 2. p. 1047. t. 44.

Cancer bilobus, Herbst. vol. 1. p. 245. t. 18. f. 98. Rumph. t. 8. f. 1.

4. MICIPPA BICARINATA, *Adams & White*.

Thorace flavo, rubro intersperso. Fronte duabus longitudinalibus carinis, tubereulis, ex quibus complures setae oriuntur. Pedibus depressis.

HAB. Insulas Philippinas (Zebu, Luzon).

Carapace pale-yellow, sprinkled with red; front with two longitudinal keels, bearing tubercles, from which spring many hairs; legs depressed.

HAB. Philippine Islands (Zebu, Luzon); Adams and Cuming.

12. SCHIZOPHRYS, *Adams & White*.

Thorax ovalis, depressus, postice paululum attenuatus. Rostrum profunde incisum; superiore canthorum parte alte incisâ, valido dente in mediâ incisione; inferiore canthorum parte appendice elongato intus, duobus dentibus ad extremitatem. Chelae reliquis pedibus breviores; digiti sine dentibus. Cauda maris septem articulis; latera fere parallela.

Carapace oval, depressed, somewhat attenuated behind; beak deeply cloven, upper part of orbit deeply cloven with a strong tooth in the middle of the cleft; under part of orbit with an elongated appendage on the inside, with two teeth at the end. Fore-legs shortest; fingers without teeth. Tail of male with seven joints, the sides nearly parallel.

1. SCHIZOPHRYS SERRATUS, *Adams & White*.

Duo articula basalia chelarum minutis acuminatis tubereulis; latera thoracis sex validioribus dentibus, exteriore canthorum dente adnumerato; duobus validis dentibus frontalibus, denticulo in utroque dente, ad exteriorem basis partem. (Mas.)

HAB. Mauritium.

The two basal joints of fore-legs with numerous pointed tubercles; sides of carapace with six rather strong teeth, including outer tooth of orbit; two strong teeth of front, with a tooth on each at the outside. (Male.)

HAB. Mauritius.

2. SCHIZOPHRYS SPINIGER, *Adams & White*.

Articulis basalibus chelarum lævibus; in quoque thoracis latere octo dentibus; secundo et tertio a canthis ad basin conjunctis; postice, in medio, duobus parvis dentibus simul dispositis. *Thorax* supra compluribus minutis tuberculis, inter quæ sunt undeviginti paullo majora, plerumque transverse disposita. *Thorax* flavus est, hic illic rubro tinctus.

HAB. Insulas Philippinas. Siquijor, Ins. Bohol; Cuming.

Basal joints of fore-legs smooth, sides of carapace with eight teeth on each, the second and third from the orbit united at the base; behind in the middle, close to each other, are two small teeth. Carapace above with numerous minute tubercles, amongst which are nineteen of larger size, arranged mostly transversely; carapace yellow, tinged here and there with red.

HAB. Philippine Islands, Siquijor, Island of Bohol; Cuming. Coll. Brit. Museum.

13. PERICERA, *Latreille*.1. PERICERA TIARATA, *Adams & White*.

Frontis cornibus styliformibus, gracilibus, sine spinis, parallelis, ad apices paululum divergentibus, fimbriatis, ut antennæ exteriores, ad utrumque latus rigidis curvatis setis; spinâ robustissimâ ante, alterâ post canthos.

Lateribus et superiore superficie thoracis obsitis tuberculis conicis, obtusis, diversâ magnitudine, cum minoribus, depressioribus, verrucosiformibus tuberculis mixtis; superficie tamen non granulata; unâ eminentiore spinâ ad latera in parte posteriore, inter quas tiara e magnis rotundatis tuberculis conficta extenditur. In parte posteriore valido intermedio tuberculo, et duobus lateralibus, infra quæ series est quinque minorum tuberculorum. Superficie thoracis inter tuberculos sparsis lanosis setis.

Pedibus in superiore superficie lævibus, lateribus tuberculatis et fimbriatis longis, densis, furvis, lanosis setis.

Horns of the front styliform, slender, not armed with spines, parallel, slightly diverging at their points, and fringed, as well as the external antennæ, on each side, with stiff curved hairs; a very strong spine before, and another after, the orbits.

Sides and upper surface of carapace covered with conical, obtuse tubercles, varying in size, mixed with smaller, flatter, wart-like tubercles, but the surface is not granulated; one rather prominent spine on each side, on the hinder part, between which extends a tiara of large rounded tubercles; at the posterior part a strong central, and two lateral tubercles, with a row of five smaller tubercles beneath them. Surface of carapace, between the tubercles, with scattered woolly hairs.

Legs smooth on the upper surface, with the sides tuberculated and fringed with long, thick, reddish-brown, woolly hair.

HAB. Philippine Islands; Cuming.

2. PERICERA SETIGERA, *Adams & White*.

Cornibus frontis styliformibus parallelis, et per totam longitudinem contiguus; rigidis, curvatis, setis ciliatis, neque tamen spinigeris vel ad fines divergentibus.

Thoracis superiore superficie compluribus rotundatis tuberculis obsitâ; cristâ setarum in cujusque medio; totâ superficie et tuberculorum et spatiorum intermediorum minutim granulata; tribus tuberculis eadem magnitudine in parte posteriore, et duobus infra ea minoribus.

Pedibus minutim granulosis præcipue in superficiebus superiore et exteriore, secundis ceteris longioribus. Unguibus minutim denticulatis, longis tenuibus setis inter denticulationes quæ paullo curvatæ et spiniformes sunt.

HAB. Insulas Philippinas.

Horns of the front styliform, parallel, and contiguous throughout their length, ciliated with stiff curved hairs, but not spinigerous nor diverging at their ends.

Upper surface of carapace covered with numerous rounded tubercles, each with a tuft of hairs proceeding from its centre; the entire surface, both of the tubercles and the spaces between them, very finely granulated; three equal-sized tubercles on the hinder part with two smaller ones beneath them.

Legs minutely granulose, more particularly on their upper and outer surface; the second pair longer than the others. Claws finely denticulated, with long, slender hairs between the denticulations, which latter are slightly curved and spiniform.

HAB. Philippine Islands.

3. PERICERA CORNIGERA, *Edwards.*

Cornibus rostri styliformibus, parallelis, et per totam longitudinem contiguus.

HAB. Insulas Philippinas.

Horns of the rostrum styliform, parallel, and contiguous throughout their length.

HAB. Philippine Islands; Cuming.

Pericera cornigera, Edw. Crust. 1. 335; *Pisa cornigera*, Latr. Enc. Méth. 10. 141.

14. MENÆTHIUS, *Edwards.*

1. MENÆTHIUS SUBSERRATUS, *Adams & White.* Tab. IV. Fig. 1, 2.

Thorace trapæziformi angulo anteriore in tres spinas ex eâdem planitie surgentes divisio, angulo posteriore truncato; superficie superiore compluribus prominentibus tuberculis obsitâ, lateribus validâ, breviusculâ spinâ, quatuor obtusis, depressis dentibus ante spinam, sinu inter duos anteriores et duos posteriores dentes.

Fronte spinâ angustâ, longâ, inclinatâ, paullo bilobatâ ad finem, et setis curvatis utroque latere fimbriatâ.

Chelis brachio cylindrico, paucis tuberculis in superficie superiore et exteriore ad basin; carpo gibboso; manu compressâ, lævi, supra et infra obtusâ; digitis hiantibus, inferiore curvato, dentibus ad unum finem dense dispositis, nullis tamen ad basin; superiore compluribus dentibus ad finem, dente magno et crasso ad basin, et alto inter eos sinu; brachio pedum posteriorum duobus tuberculis in superficie superiore ad basin; secundo pedum pari ceteris longiore.

HAB. Insulas Philippinas.

Carapace diamond-shaped, with the front-angle divided into three spines, arising from the same plane, and with the hind angle truncated; upper surface covered with numerous, raised, prominent tubercles; side-margins with a rather short, strong spine, with four blunt, flattened teeth before it, and a sinus between the two front ones and the two hinder ones.

Front with a narrow spine, long, bent down, slightly bilobate at the end, and fringed on each side with curved setæ.

Fore-legs with the third joint cylindrical, with a few tubercles on the upper and outer surface near the base; fourth joint gibbose, fifth joint compressed, smooth, obtuse above and

below, fingers gaping, the lower one curved, with closely-set teeth at one end, but without teeth at the base; upper one with several teeth at the end, a large, thick tooth near the base, and a deep sinus between them; third joint of the hind-legs with two tubercles on the upper surface near the base; second pair of legs longer than the others.

HAB. Philippine Islands.

In this species the sides are armed with four broad, rounded teeth placed before the lateral spine, while in *M. porcellus* there is but one tooth anterior to the spine, and in *M. tuberculatus* there are two large, prominent teeth; the carapace is more elongated in the males than in *M. porcellus* or *M. tuberculatus*, the frontal spine is much longer, and the tubercles on the back are smaller and less rounded. The young female of this species appears to be the *M. diadema*, Leach, MSS., where the carapace is subtetragonal, nearly as wide as long, strongly embossed with numerous tubercles of different sizes, and with the frontal spine short compared with the male and adult females.

2. MENÆTHIUS PORCELLUS, Adams & White.

Thorace trigonali, longiore quam latiore, antice producto, postice rotundato; parte superiore compluribus, magnis, rotundatis tuberculis obsitâ; lateris margine unâ, validâ spinâ, magno, obtuso, conspicuo dente ante spinam; lateribus post canthos angustatis.

Fronte tribus dentibus ex eâdem planitie surgentibus; medio admodum elongato, acuminato, ad finem inclinato, longitudine fere tertiâ parte thoracis, setis curvatis ad utrumque latus ciliato, velut in *Hueniâ*; spinis lateralibus admodum validis et acutis, ad utrumque latus prorsum directis; basi pedum duobus vel tribus tuberculis in latere exteriore; secundo pari ceteris longiore.

HAB. Mauritium.

Carapace trigonal, longer than wide, produced anteriorly, rounded behind, upper part very irregular, and covered with numerous large, rounded tubercles; side-margin with one strong spine, with a large, blunt, conspicuous tooth before it; sides narrowed behind the orbits.

Front with three teeth arising from the same plane, the middle one very much elongated, pointed, bent down at the end, about a third the length of the carapace, ciliated on both sides with curved setæ, as in *Hucnia*; the lateral spines very strong and sharp, directed forwards on either side, base of legs with two or three tubercles on the outer side, second pair longer than the others.

HAB. Mauritius.

The existence of a single well-formed, strong tooth, situated anterior to the lateral spine, serves to characterize this species.

3. MENÆTHIUS TUBERCULATUS, Adams & White.

Thorace subtrigouali; lateribus duobus, depressis, angularibus dentibus ante spinam lateralem, quæ obtusa est. Regione cardiacâ et ventriculari duobus antice tuberculis, uno ad utrumque latus lineæ mediæ; cristâ verticali tuberculo minuto, altero post admodum prominente et rotundato, et tertio post alterum paullo minore; posteriore thoracis margine duobus, erectis, angularibus dentibus.

Fronte tribus spinis ex eâdem planitie surgentibus; mediâ longâ, gracili, inclinatâ atque in medio suleatâ; spinis lateralibus altioribus validis, triangularibus, duobus inter eas parvis tuberculis.

HAB. Mauritium.

Carapace subtrigonal, sides with two large, flattened, angular teeth before the lateral spine, which is obtuse; cardiac and ventricular region with two tubercles anteriorly, one on each side of the middle line; a vertical crest with a minute tubercle; and behind that, a very prominent, rounded tubercle, with another, rather smaller, behind it; posterior edge of carapace with two erect angular teeth.

Front with three spines arising from the same plane, the middle one long, slender, bent down, and grooved in the middle; lateral spines rather elevated, strong, triangular, with two small tubercles between them.

HAB. Mauritius.

M. tuberculatus, Leach, MSS.

4. MENÆTHIUS INCISUS, *De Haan*.

Fronte bicornutâ, cornibus divergentibus acutis; regionibus ventriculi et cordis medio acute unispinosâ; lateribus ante medium in laciniam truncatam dilatatis.

HAB. Japoniam.

Front with two horns; horns sharp, diverging, a single sharp spine in the ventricular and cardiac regions, the sides anteriorly dilated into a truncated border.

HAB. Japan.

Pisa (Menæthius) incisus, De Haan, F. J. p. 98. t. 24. f. 3. (femina).

5. MENÆTHIUS QUADRIDENS, *De Haan*.

Fronte bicornutâ, cornibus divergentibus acutis; regionibus ventriculi et cordis convexis; thoracis lateribus bispinosâ, spinis anterioribus ab spinulis canthorum posticis sinu separatis.

HAB. Japoniam.

Front with two horns: horns sharp, diverging, ventricular and cardiac regions convex; sides of the carapace with two spines, the anterior spines separated from the posterior spines of the orbits by a sinus.

HAB. Japan.

Pisa (Menæthius) quadridens, De Haan, F. J. p. 97. t. 24. f. 2. (mas.)

15. HUENIA, *De Haan*.

1. HUENIA FRONTALIS, *Adams & White*. Tab. IV. Fig. 3.

Thorace æque lato atque longo, subquadrilaterali, lævi, sine tuberculis in mediâ lineâ, producto et postice rotundato; lateribus acutis, uno lato lobo, postice paululum emarginato, horizontaliter undulato, antice arcuato, in medio depresso et postice elevato.

Fronte latissimâ, lateraliter dilatâtâ, obtusâ et antice rotundatâ, admodum depressâ, supra planâ et infra in mediâ lineâ alte sulcatâ.

Chelis minimis, thoracem fere longitudine adæquantibus, pedibus posterioribus non crassioribus; brachio trigonali, apice in parte superiore validâ conicâ spinâ et postice duabus minoribus, verticalibus, conicis spinis in carinâ; carpo supra carinato, spinâ tuberculari in superficie superiore et minore; manu supra carinatâ; carinâ unâ in medio spinâ et infra in valido angulari dente desinente; tertio et quarto paribus

pedum ceteris brevioribus; unguibus paululum curvatis, subelongatis, infra minutim serratis et inter serrationes setis circumdati.

Carapace as broad as long, subquadrilateral, smooth, without tubercles in the middle line, and produced and rounded posteriorly; sides acute, with a single broad lobe, slightly emarginated posteriorly, horizontally undulated, arched anteriorly, depressed in the middle and raised behind.

Front very wide, laterally dilated, obtuse and rounded anteriorly, considerably depressed, plane above, and inferiorly deeply channelled in the middle line.

Fore-legs very small, about the length of the carapace, not thicker than the posterior pairs, third joint trigonal, the end, on the upper part, with a strong conical spine, and posteriorly, two smaller, vertical, conical spines on the keel, fourth joint keeled above, with a tubercular spine on the upper and inner surface; fifth joint keeled above; claws slightly gaping, the upper one with a single spine a little behind the middle.

Second pair of legs longer than the others, third joint trigonal, carinated above, with a single, strong, compressed spine at the end, and two smaller ones posteriorly, fourth joint winged above, carinated externally, and rounded below; fifth joint very much compressed, carinated above, keel with a single spine in the middle, and ending below in a strong, angular tooth; third and fourth pairs of legs shorter than the others; claws slightly curved, rather elongated, finely serrated below, and beset with hairs among the serrations.

In the peculiar and characteristic form of the front and carapace, this species differs in a very remarkable manner from those varieties of *Huena proteus*, which are named var. *elongata*, *heraldica*, and *tenuipes*. The locality of the specimen described above, which is in the collection of Crustacea in the British Museum, is unknown, but as all the others are natives of the Eastern Seas, the present species is most likely from the same part of the globe. The description is from a female.

2. HUENIA PROTEUS, De Haan. Tab. IV. Fig. 4-7.

Frontis margine inferiore acuto, pedibus posterioribus margine anteriore valde carinatis.

a. *Mas.* Thorace elongato, lateribus uni- vel bi-laciniato; fronte valde productâ; thorace longiore.

(Var. *elongata*.)

b. *Fem.* Thorace dilatato, lateribus bi-laciniato; fronte dimidium thoracem vix superante. (Var. *heraldica*.)

c. Anteriore margine pedum posteriorum paululum carinato; thorace subelongato; chelis gracilibus; inferiore margine frontis non tam producto quam in reliquis varietatibus. (Var. *tenuipes*.)

HAB. Maria Orientalia.

Lower edge of front sharp, posterior legs with the anterior margin strongly carinated.

a. *Male.* Thorax elongated, sides with one or two lobes; front greatly produced, carapace rather long. (Var. *elongata*.)

b. *Female.* Carapace dilated, sides with dilated lobes, front scarcely extending beyond half the length of the carapace. (Var. *heraldica*.)

e. Anterior margin of hinder legs but slightly keeled; carapace rather elongated; forelegs slender; inferior margin of front not so much produced as in the other varieties. (Var. *tenuipes*.)

HAB. Eastern Seas; Mindanao, China, Japan.

Maja (*Huenia*) *Proteus*, De Haan, Faun. Japon. p. 95. t. 23. f. 4-5 mas. (*elongata*) f. 6. a, b, femina (*heraldica*.)

M. De Haan appears to have had considerable difficulty in defining the varieties of this curious species, nor are we able to do more than add another variety to the two already indicated. Whether at any time these varieties will be elevated to the rank of species, on the discovery of a more extensive suite of specimens of different sexes and ages, remains for future observers; and, in the meantime, we furnish a more extended description of the variety we have named *tenuipes*.

3. HUENIA PROTEUS, *De Haan*. Var. *tenuipes*. Tab. IV. Fig. 5.

Thorace longiore quam latiore, oblongo, trigonali, superficie superiore depressâ et lævi, duobus tuberculis in mediâ lineâ paululum inter se distantibus; lateribus duobus compressis lamellaribus lobis; anteriore antice rotundato, posterioribus ad margines liberos truncatis.

Fronte valde elongatâ, thoracem longitudine fere adæquante, ad latera ciliatâ rigidis incurvatis setis; lamellâ inferiore non tam deorsum productâ quam in *H. proteo*; eanthis productis in validam spinam ad utrumque latus frontis antice directam.

Chelis gracilibus, thoracem longitudine fere adæquantibus, secundo pari paullo crassioribus; brachio subtrigonalis, uno tantum parvo tuberculo in superficie superiore, duobus in inferiore; spinâ ad finem partis superioris parvâ; in *H. proteo* autem duo sunt tuberculi supra et tria infra; et spina supra ad apicem pervalida et maxima est; carpo supra obtuso; manu in superficie superiore carinatâ; unguibus denticulatis; secundo pari pedum thoracem longitudine superante; brachio cylindrico nullâ ad finem spinâ; carpo paululum compresso; manu dilatâ infra in spinam validam ad apicem positam, cristâ setarum adornatam; unguibus longis, marginibus inferioribus minutim denticulatis, setis intermediis; brachio quinti paris unâ spinâ in mediâ anteriore parte.

Abdomine quinque articulis: quarto valde convexo in medio longitudinaliter impresso; primo et secundo rotundato in medio tuberculo. Femina adulta.

HAB. Maria Orientalia.

Carapace longer than wide, oblong, trigonal, upper surface flat and smooth, with two tubercles in the median line a little distance apart; sides with two compressed lamellar lobes, the front lobes rounded anteriorly, the hinder lobes truncate at their free edges.

Front very much elongated, nearly as long as the carapace; ciliated at the sides with stiff, incurved hairs, inferior lamella not so much produced downwards as in *H. proteus*; orbits produced into a strong spine on each side of the front, directed forwards.

Fore-legs slender, nearly as long as the carapace, rather thicker than the second pair, third joint less trigonal, with but one slight tubercle on the upper surface, and but two tubercles on the under surface, the spine at the end of the upper part very small, whereas in *H. proteus* there are two tubercles above and three below, and the spine at the apex above is

very strong and large; the fourth joint obtuse, superiorly; the fifth joint earinated on the upper surface. Claws denticulated. Second pair of legs longer than the carapace, the third joint cylindrical, without a spine at the end; the fourth joint slightly compressed; the fifth joint dilated below into a strong spine situated near the apex, surmounted by a tuft of hairs; third and fourth pairs of legs with the third joint slightly keeled, with two spines in the middle, the fourth joint earinated: the fifth with a slight tooth tufted with hair; claws long, with the lower edges finely denticulated, and having intermediate setæ; the third joint of the fifth pair with one spine in the middle of the fore-part.

Abdomen five-jointed, the fourth joint very convex, impressed longitudinally in the middle; the first and second joints with a rounded tubercle in the middle. Adult female.

HAB. Eastern Seas, Island of Mindoro.

17. HALIMUS, *Latr.*

1. HALIMUS AURITUS, *Edwards.*

Nullâ spinâ in margine posteriore thoracis, ueque in regione ventriculari.

HAB. Oceanum Indicum.

No spine on the posterior border of the carapace, nor on the ventricular region.

HAB. Indian Ocean.

Halimus auritus, Edw. Crust. 1. 341; Cuv. R. Anim. (Croch.) t. 28. f. 3; *Pisa aurita*, Latr. Enc. Méth. 10. 140.

18. ZEBRIDA, *Adams & White.*

Thorax depressus, æque longus atque latus.

Frons horizontalis, paululum declinata, conficta ex duabus spinis depressis, conicalibus, antice directis ad apices paululum divergentibus; canthis circularibus; pedunculo oculorum permagno et crasso, latiore ab latere ad latus quam de supra deorsum; corneâ oculorum ultra exteriorem frontis marginem protendente, fere complectente canthorum hiatus, quorum margines superiores salientes sunt; marginibus thoracis latero-anterioribus uno, valido, depresso processu armatis, conicalibus, acutis, ad basin latis, aciebus exterioribus paululum elevatis, cacuminibus prorsum curvatis; primo articulo antennarum exteriorum permagno, longo, cylindrico, antennis rostro tectis; epistomate ei *Acanthonycis* simillimo.

Chela breviores iis *Acanthonycis*, spinis depressis, conicalibus, subobtusis armatæ; brachio triangulari, spinâ conicali exteriore et interiore; exteriore perlongâ, sursum et prorsum directâ; carpo tribus spinis armato; unâ superiore, posteriore prorsum directâ; duabus anterioribus lateralibus extrorsum directis, ad extremitates rotundatis; manu spinâ acutâ, depressâ cristatâ.

Pedes posteriores breves, crassi, admodum compressi; tertio articulo duabus magnis, depressis, conicis spinis in fronte, prorsum directis; quarto articulo uno depresso, spinoso processu in parte anteriore; quinto articulo ampliata et postice instructo spinâ acutâ, depressâ, curvatâ, retrorsum directâ.

Carapace flattened, about as broad as long. Front horizontal, slightly bent down, formed of two flattened spines, conical, directed forwards, and slightly diverging at their tips. The orbits circular; the peduncle of the eyes very large and thick, broader from side to side

than from above downwards; the cornea of the eyes projecting beyond the outer margin of the front, nearly filling up the orbital cavities, the upper margins of which are salient. The latero-anterior borders of the carapace armed with a single, strong, flattened process; conical, trenchant, broad at the base, the outer edge slightly elevated, with the point curving forwards. The first joint of the external antennæ very large, long, and cylindrical, antennæ covered by the rostrum. Epistome very nearly similar to that of *Acanthonyx*. The chelæ, shorter than in that genus, are armed with flattened, conical, slightly obtuse spines. The second joint triangular, with an external and internal conical spine, the external very long, and directed upwards and forwards; the third joint armed with three spines; one superior-posterior, and directed forwards; two anterior-lateral, directed outwards and rounded at their extremities; the fourth joint crested with a sharp, flattened spine. The legs short, thick, very much compressed; the third joint with two large, flattened conical spines on the front, directed forwards; the fourth joint with but one flat, spinous process on its anterior part; the fifth joint enlarged and furnished posteriorly with a sharp, flat, curved spine, directed backwards.

This beautiful genus is very apathetic when alive; in that respect resembling *Lambrus*. In the system it is not far removed from *Acanthonyx* and *Huenia*. The description is from a female.

1. ZEBRIDA ADAMSII, *White*. Tab. VII. Fig. 1.

Colore subcarneolo, fasciis rufo-fuscis; lineâ intermediâ antice bifurcatâ, deinde in basin anteriorem cornuum rostri obsoletâ, postice ad ultimum abdominis articulum pertinente, lineâ utrinque tenui duplici paululum undulatâ; duabus latis lineis pertinentibus ab apice spinarum rostri, in ultimo abdominis segmento concurrentibus, in medio thorace angustatis; lineâ extra tenui, duplici; extra hanc lineam fasciâ latâ, paululum curvatâ, ad postero-exteriolem thoracis angulum subito desinente; latiore fasciâ rufo-fuscâ ad basin spinarum antero-lateralium. Duabus latis, rubro-fuscis fasciis in omnibus pedum articulis, subdiagonaliter trans articulum directis; unâ latâ fasciâ eodem colore in quarto et quinto articulis. Superficie inferiore colore paullo intensiore. Exteriore parte abdominis segmentorum puncto circulari subnigro. Totâ animalis superficie lævi, sine scâis, durâ, politâ et porcellanâ; oculis nigris.

HAB. Borneo.

In colour this species is of a light, delicate pink, with dark liver-coloured markings. There is a central line bifurcated anteriorly, where it is lost on the inner bases of the horns of the rostrum, reaching posteriorly to the last joint of the abdomen, and having external to it a fine, double, somewhat waved line; extending from the apex of the rostral spines, and meeting at the last abdominal segment, are two broad lines, narrowed in the middle of the carapace; external to these is a fine double line, and on the outside of this is a broad, somewhat curved stripe, ending abruptly at the postero-external angle of the carapace; and at the base of the antero-lateral spines is another rather broad linear mark of the same dark liver-colour. The third joint of all the legs has two broad, dark, red-brown bands, directed somewhat diagonally across the joint; the fourth and fifth joints have one broad mark of the same colour. The under surface is of a somewhat darker colour. On the outer part of the

abdominal segments is a round, dark spot. The entire surface of the animal is smooth, hairless, hard, polished, and porcellanous. Eyes black.

НАВ. Borneo.

Zebrida Adamsii, White. Pro. Zool. Soc., 1847.

A very distinct variety, from about twelve fathoms, in the Sooloo Seas, had the carapace of a light green, with deep, red-brown stripes, and the legs and chelæ of a pearly semi-opaque white, very distinctly banded with deep red-brown.

The specimen from which the foregoing description is taken, was dredged from a sandy bottom, at about six fathoms water, near the mouth of the Pantai river, on the coast of Borneo. The description, it ought to have been remarked, was from a living specimen; but even the dried individual in the Museum collection is very distinctly marked.

III. PARTHENOPIDÆ.

In the family of *Parthenopidæ*, the results of the Expedition furnish us with forms highly interesting to the Crustaceologist, including two new genera and ten new species. The genus *Cryptopodia* has been strengthened and confirmed by the discovery of a new and well-marked species, and several peculiar forms of *Parthenope* and *Lambrus* are here for the first time indicated. In their habits, the members of this group are feeble and inactive, feigning death when captured, and living generally in deep water, seeming to prefer a stony or gravelly bottom; some specimens of *Parthenope* were obtained by the dredge on the coast of Borneo, in thirty fathoms water, from a clear sandy floor; and the sandy mud of the China Sea, in many parts, abounds in *Lambri*.

1. LAMBRUS, *Leach*.

1. LAMBRUS HARPAX, *Adams & White*. Tab. VI. Fig. 3.

Thorace subtrigonalis, lævis, in fronte rotundato, in medio carinato, carinatâ tribus rotundatis tuberculis armatâ, antice furcatâ, intervallum depressum triangulare exhibente, marginibus lateralibus valde crenatis, crenationibus depressis et rotundatis; angulis latero-posterioribus in depresso, triangulâri, subobtusâ, spinoso, processu desinentibus; posteriore thoracis parte validâ spinâ retrorsum et extrorsum directâ, paululum tuberculiferâ, et validâ carinâ in posteriore parte regionis branchialis continuatâ; alterâ minore spinâ, propius medianam lineam positâ, valde carinatâ, spatio depresso inter se spinamque priorem; tribus parvis tuberculis in lineâ intermediâ, unâ centrali, et unâ ad utrumque latus.

Fronte paululum productâ, antice rotundatâ, margine paululum denticulatâ.

Chelis vix duplici longitudine thoracis; brachio et carpo, marginibus tuberculis rotundatis armatis; manu lævi, superiore angulari margine tuberculiferâ.

НАВ. Oram Brunensem, (Mare Sinense.)

Carapace subtrigonal, smooth, rounded in front, carinated in the middle, the keel armed

with three rounded tubercles, and forked anteriorly, leaving a depressed, triangular interval; lateral edges rather conspicuously crenated, the crenations flattened and rounded; latero-posterior angles ending in a flattened, triangular, rather obtuse, spiny process; hind part of carapace with a strong spine, directed backwards and outwards, slightly tuberculiferous, and continued in a strong ridge upon the posterior portion of the branchial region; another smaller spine, situated nearer the middle line, likewise strongly carinated, leaving a depressed space between it and the former spine; three small tubercles in the median line, one central, and one on each side.

Front but little produced, rounded anteriorly, with the margin slightly denticulated.

Fore-legs about twice the length of the carapace, third and fourth joints with the edges armed with rounded tubercles; fifth joint smooth, with the upper angular edge tuberculiferous.

HAB. China Sea; coast of Borneo.

In the living state, this singular species is of an olive-green colour, with the fore-legs of a light pinkish-brown, and the under surface of a slate colour.

2. LAMBRUS LAMELLIFRONS, *Adams & White*. (Tab. V. Fig. 1.)

Thorace longiore quam latiore, tribus majusculis tuberculis in parte posteriore superficiei superioris; unâ in medio et unâ ad utrumque latus; lateribus thoracis in medio crenatis; latitudine thoracis $4\frac{1}{2}$ lin., longitudine $5\frac{3}{4}$ lin.

Chelis longissimis.

HAB. Insulas Philippinas.

Carapace longer than wide, with three rather large protuberances on the hinder part of the upper surface, one in the middle, and one on each side; sides of carapace, about the middle, crenated. Breadth of carapace four lines and a half; length five lines and three quarters.

Fore-legs very long.

HAB. Philippine Islands.

3. LAMBRUS TURRIGER, *Adams & White*. (Tab. V. Fig. 2.)

Thorace longiore quam latiore pentagono paululum producto, in fronte acuminato. Superficie superiore quatuor spinis elevatis, crassulis et ad extremitates obtusis; primâ inter anteriorem et posteriorem partem thoracis, sursum et paululum retrorsum directâ; alterâ post multo longiore; tertiâ ad utrumque latus alterius in posteriore thoracis margine; in medio duabus spinis retrorsum et paululum sursum directis; primâ et alterâ spinis anterioribus sublongis; tertiâ in medio thorace longâ, verticali, et subacuminatâ; spinis in elevato tuberculo regionis branchialis positâ, longis, crassis, erectis et paululum extrorsum retrorsumque directis; totâ superficiei thoracis obtusis subconicis tuberculis obsitâ. Latitudine thoracis vix 4 linearum; longitudine vix $4\frac{1}{2}$ linearum.

Fronte parvâ, valde depressâ, breviusculâ, subobtusâ; in medio profunde concavâ, parvo dente ad utrumque latus.

Chelis longissimis pro magnitudine corporis, tuberculis verrucosis, lævibus, ad latera rotundatis, in cristis angularibus spinosioribus.

Pedibus posterioribus gracillimis, lævibus, supra et infra rotundatis, unguibus longis, tenuibus, paululum depressis et acutissimis.

HAB. Insulas Philippinas.

Carapace longer than wide, five-sided, rather produced and acuminate in front. Upper surface with four elevated spines, rather thickened and blunt at the ends, the first about midway between the fore and hind part of carapace, directed upwards and slightly backwards; behind it, another spine much longer, and one on each side of this, on the hind margin of carapace; in the middle, two spines directed backwards and slightly upwards; the first and second spines from before backwards, moderate in length; the third placed in the centre of the carapace, long, vertical, and rather sharp-pointed; the spines situated in the raised prominent tuberosity of the branchial region, long, stout, erect, and directed a little outwards and backwards; entire surface of the carapace covered with blunt, subconical tubercles. Breadth of carapace about four lines; length about four lines and a half.

Front small, depressed very considerably, rather short, somewhat obtuse, deeply concave in the middle, with a slight tooth on each side.

Fore-legs very long in comparison with the size of the body, verrucose or covered with warty tubercles, which latter are smooth, rounded on the sides, and more spinous on the angular crests.

Hind-legs very slender and smooth, rounded above and below, with the claws long, fine, slightly flattened, and very sharp.

HAB. Philippine Islands.

This species comes very near *Lambrus lamellifrons* (Adams & White), but the legs are smooth, and not spiny like those of the latter, which, moreover, has tubercles on the carapace, instead of long, erect spines.

4. LAMBRUS CARINATUS, *Milne-Edwards*. (Tab. V. Fig. 3.)

Latero-posterioribus marginibus thoracis ad utrumque latus duobus parvis dentibus armatis et validissimo triangulari dente quo margo latero-anterior desinit. Superiore superficie chelarum lævi et marginatâ dentibus nullum inter se intervallum habentibus.

Thorace admodum inæquali, ad regiones branchiales carinato, et tribus dentibus cristæ formâ in lineâ intermediâ armato.

Fronte magnâ, triangulari, non denticulatâ; latero-anterioribus marginibus minutim denticulatis; brachio quatuor posteriorum pedum spinoso.

Longitudine 8 linearum.

HAB. Oram Brunensem, (Mare Sinense.)

Latero-posterior edges of the carapace armed on each side with two small teeth, and with a very strong triangular tooth, similar to that which terminates the latero-anterior edge. Upper surface of the fore-legs smooth, and bordered by close-set teeth. Carapace very unequal, carinated on the branchial regions, and armed with three teeth in the form of a crest in the median line; front large, triangular, and not denticulated, latero-anterior margins finely denticulated. Third joint of the four hind pairs of legs spiny. Length eight lines.

HAB. Coast of Borneo; China Sea.

Lambrus carinatus, Edw. Crust. 1. 358.

5. LAMBRUS PISOIDES, *Adams & White*. (Tab. V. Fig. 4.)

Thorace æque longo ac lato, triangulari, marginibus lateralibus spinis depressis, rotundatis, tuberculi-formibus armatis; mediâ et branchiali regionibus valde eminentibus et convexis; regione branchiali productâ ad utrumque latus in longam, validam, acuminatam spinam retrorsum et extrorsum directam, et paululum prorsum inclinatam; totâ superficie thoracis obsitâ depressis, lævibus circularibus, verrucosiformibus tuberculis, aliis alios magnitudine longe superantibus; serie elevatorum tuberculorum in posteriore parte longitudinalis lateralis sulci, medium a branchiali regione dividens, carinam efficientis elevatam desinentem in spinam subobtusam, brevem, retrorsum, extrorsum, et paululum deorsum directam.

Fronte acutâ, productiore, utrinque dentatâ, angustiore, profunde sulcatâ in medio, in spinam valde depressam triangularem desinente.

Chelis longissimis pro magnitudine thoracis, pari longitudine et crassitudine; brachio lævibus, depressis tuberculis supra obsito; marginibus antice et postice armatis compluribus longis et brevibus spinis alternatim dispositis; superficie inferiore angulo obtuso, externe lævi, interne granulatâ; carpo tuberculis verrucosis supra obsito, et externe armato tribus, validis, obtusis, recurvatis spinis; manu triangulari, in superficie superiore lævibus, rotundis tuberculis obsitâ, interne et in superficie inferiore minutim granulatâ; margine externo valde carinato, et quinque eminentibus subrecurvatis spinis armato, serie parvorum, obtusorum, tuberculiformium processuum alternatim dispositâ; in superficie interiore serie parvarum, obtusarum proximè appropinquantium spinarum.

Pedibus posterioribus parvis, tenuibus, infirmis, lævibus marginibus superioribus obtusis; unguibus longis, aentis, depressis, villis lanosis fimbriatis; corpore et chelis subfuscis, majusculis subrubris maculis distinctis.

HAB. Insulas Philippinas.

Carapace about as long as wide, triangular, lateral borders armed with flattened, rounded, tubercle-shaped spines; middle and branchial regions very prominent and convex, branchial region produced, on each side, into a long, strong, and pointed spine, directed backwards and outwards, and inclined slightly upwards; entire surface of carapace covered with flattened, smooth, circular, wart-like tubercles, varying in size, some being considerably larger than others; a row of elevated tubercles on the posterior portion of the longitudinal lateral groove which divides the middle from the branchial region, forming an elevated ridge which terminates in a somewhat obtuse, short spine, directed backwards, outwards, and a little downwards.

Front acute, rather produced, toothed on each side, somewhat narrowed, deeply channelled in the middle, and ending in a considerably-depressed triangular spine.

Fore-legs very long in proportion to the size of the carapace, and equal in length and thickness; third joint covered above with smooth, flattened tubercles, the margins before and behind armed with numerous, long and short spines arranged alternately, lower surface bluntly angled, smooth externally, granulated internally; fourth joint covered above with warty tubercles, and armed externally with three strong, obtuse, recurved spines; fifth joint triangular, covered with smooth, round tubercles on the upper surface, finely granulated internally, and on the under surface, with the external margin strongly keeled and armed with five prominent, slightly-curved spines, finely denticulated on their edges, and alternating with a row of small, blunt tubercle-shaped processes; on the inner surface a row of small, blunt, closely-approximated spines.

Hind-legs small, thin, feeble, smooth, the upper edges obtuse; claws long, sharp, flattened, and fringed with woolly hair. The body and fore-legs of a light brown colour, marked with rather large, faint-red blotches.

HAB. Philippine Islands.

This species is very closely allied to *Parthenope (Lambrus) diacantha*, De Haan (F. J. Tab. xxiii. Fig. 1.), but it differs from that crustacean in the greater comparative length of the fore-legs; in the fifth joint having intermediate small spines between the five larger ones, which latter, moreover, are different in form; and in having but two spines on either side, extending from the postero-lateral margins of the carapace, whereas in *Parthenope (Lambrus) diacantha*, there are three on either side.

The *Lambri* are extremely sluggish in their movements, relying for safety not in muscular force, but in the disguised nature of their bodies, which, owing to their similarity to the gravelly floor on which they are generally found, must afford a protection from their enemies. Many species appear, indeed, at first sight to be made up of a conglomerated mass of small stones and sand. The *Lambri* are very numerous throughout the China Sea, where they live in about twelve or twenty fathoms, upon the submerged beds of broken shells and muddy gravel which constitute the floor of that sea.

6. LAMBRUS LACINIATUS, De Haan.

Thorace multo latiore quam longo, margine laciniato, manibus carinâ externâ et mediâ 15-17 spinis, conicis validis granulatis armatis, carinâ internâ tuberculatis; fronte in spinam basi dilatatam productâ, pedum posteriorum tibiis tarsisque margine superiore acuto-carinatis.

HAB. Japoniam.

Carapace much wider than long, the margin laciniated; fifth joint of fore-legs with the external and middle keels armed with from fifteen to seventeen strongly-granulated conical spines; internal keel tuberculated; front produced into a spine dilated at the base; fourth and fifth joints of hind legs acutely carinated on the upper margin.

HAB. Japan.

Lambrus laciniatus, De Haan, Faun. Japon.

7. LAMBRUS VALIDUS, De Haan.

Thorace multo latiore quam longo, tuberculis fragiformibus echinato, margine laciniato; manibus carinâ externâ et mediâ spinis 11-12 conicis validis granulatis armatis, interiore vix tuberculatis; fronte in spinam angustam productâ; manibus carinâ mediâ tuberculis 12 armatis; pedum posteriorum tibiis tarsisque margine superiore obtusis.

HAB. Japoniam.

Carapace much wider than long, covered with fragiform tubercles, margin laciniated, external and middle keel of the hands armed with eleven or twelve strongly granulated conical spines, inner keel scarcely tuberculated, front produced into a narrow spine; the

middle keel of the hands armed with twelve tubercles, tibiæ and tarsi of the hinder legs obtuse on the upper edge.

HAB. Japan.

Parthenope (Lambrus) valida, De Haan, Faun. Japon. t. 22. f. 1. (mas.) t. 22. f. 2. (femina.)

8. LAMBRUS LONGIMANUS.

Fronte externè parvâ subeminente, horizontali, tribus dentibus.

HAB. Oram Brunensem, Insulas Philippinas.

Front extremely small, slightly prominent, horizontal, and formed of three teeth.

HAB. Coast of Borneo, Philippine Islands.

When alive, this curious species is of a stone colour, with the under surface pinkish. Numerous specimens were dredged by us from a gravelly bottom, in about thirty-five fathoms water.

Lambrus longimanus, Leach, Lin. Trans. t. 12. p. 310; *Cancer longimanus*, Linn. Mus. Lud. Utr. p. 441. Syst. Nat. 2. 1047, 42; *Lambrus pelagicus*, Rüppell, t. 4. f. 1? Rumph. pl. 8. f. 2.

9. LAMBRUS DIACANTHA, *De Haan*.

Thorace trigono vix æque lato ac longo, verrucoso, postice utrinque in spinam acutam dilatato; chelis æqualibus; pedibus lævissimis.

HAB. Maria Orientalia.

Minute, with a trigonal carapace hardly as long as wide, warty, dilated posteriorly on both sides into a sharp spine, fore-legs equal, hinder legs very smooth.

HAB. Eastern Seas.

Parthenope (Lambrus) diacantha, De Haan, Faun. Japon. t. 23. f. 1.

10. LAMBRUS SERRATUS, *Edwards*.

Marginibus latero-posterioribus thoracis serie trium parvarum, æqualium spinarum armatis.

HAB. Insulas Philippinas.

Latero-posterior margins of the carapace armed with a row of three, small, equal spines.

HAB. Philippine Islands (Corregidor); Cuming.

Lambrus serratus, Edw. Crust. 1. 357. Seba. 3. t. 20. f. 12.

2. CRYPTOPODIA, *Edwards*.

1. CRYPTOPODIA DORSALIS, *Adams & White*. Tab. 5. Fig. 6.

Thorace depresso, permagno, triangulari, in medio paululum elevato, bis latiore quam longo, postice paululum sinuato; ad margines magnis rotundatis crenationibus valde distinctis; majore parte tergi parvis pustularibus elevationibus obsitâ; duobus profundis sulcis in posteriore parte thoracis, longitudinaliter dispositis, et paululum inclinatis ita ut formam lyre exhibeant.

Fronte horizontali, valdè productâ, anticè rotundatâ, tribus subacutis crenationibus in utroque latere; oculis parvis, retractilibus.

Chelis longissimis et maximis, prismaticis, jugis angularibus, tuberculis rotundis, subobtusis, ex ordine dispositis, armatis; quatuor posteribus pedum paribus gracillimis parvis, pari longitudine, et omnino celatis sub lateralibus lamellaribus extensionibus thoracis.

Abdomine lævi, septem articulis, serie parvorum tuberculorum ad utrumque latus subminentis intermediae lineae: articulo penultimo ceteris latiore.

Vivus colore turbide-carneolo, fuseis distinctionibus, et minutis nigris punctis; in utraque chelâ croceâ lineari maculâ; superfieie inferiore albâ, subrubro colore in pectore. Siccatus obscuro, turbido, albo colore est.

HAB. Mare Suluense; fundo scruposo.

Carapace flattened, very large, triangular, slightly elevated in the middle, nearly twice as wide as long, slightly sinuated posteriorly, strongly marked round the edges with coarse, rounded crenations; the greater part of the back covered with slight pustular elevations; on the posterior part of the carapace two deep grooves, placed longitudinally, and slightly bent, so as to have a lyre-shaped form.

Front horizontal, much produced, rounded anteriorly, and having three rather sharp crenulations on either side, eyes small, retractile.

Fore-legs very long and large, prismatic in form, with the angular ridges armed with regular, round, rather blunt tubercles; the four hind pairs of legs very slender, small, equal in length, and entirely concealed beneath the lateral lamellar extension of the carapace.

Abdomen smooth, seven jointed, with a row of small tubercles on either side of the slightly prominent, middle line; penultimate joint wider than the rest. When alive it is of a dirty flesh-colour, with brown markings, and minute black specks; on each chela there is an orange, linear spot; the under surface is of a dead white, with a reddish tinge on the breast. In the dried state it is of a dull, dirty white.

HAB. Sooloo Sea; twenty fathoms, stony bottom.

The species of this genus resemble those of *Calappa*, in their habit of simulating death when disturbed, folding the chelæ close to the front of the carapace, and concealing their legs under the dilated sides of the carapace. They are always found in deep water, while the *Calappidæ* are observed on sandy flats, under the shelter of stones, or even sometimes buried in the sands.

In the distinct and beautiful species of the singular genus described above, the lyre-shaped grooves on the carapace at once distinguish it from the other two known species; it, however, differs from the *Cryptopodia fornicata* of Herbst, and the *C. angulata* of Edwards and Lucas, in other and minor particulars. The carapace is narrower and wider than the same part in *C. fornicata*, and the posterior edge is furnished with coarser and rounder crenations, the ridges on the chelæ have blunter tubercles; the front, moreover, is longer, more rounded in outline, and more deeply crenulated. From *C. angulata*, Edwards and Lucas, (Archives du Muséum, vol. ii. t. 28. f. 15-19,) described in 1841, it differs in the rounded form of the posterior portion of the carapace, which, in that species, is sharply angulated and spiniferous, and also in the

minute incisions, instead of crenatures, on the posterior edge of the carapace. Their species, the locality of which is unknown to Messrs. Edwards and Lucas, is probably a native of the Eastern Archipelago, and with our new *C. dorsalis* forms a very interesting addition to a genus which has been hitherto limited to but one species.

2. CRYPTOPODIA FORNICATA, Junr. *Herbst.* t. 6. f. 4.

In juniore thorax multo triangularior, ad angulos rotundior, postice directior, et superficies dorsalis pluribus pustulis obsita est, quam in animalibus adultis; chelæ etiam breviores et crassiores sunt, frons latior, rotundatior et distinctius crenulata, oculi majores, juga dorsalia eminentiora.

HAB. Mare Sinense; vadis submersis concharum mortuarum et lapidum.

Our figure represents, most probably, the young of this species; the carapace is more decidedly triangular, more rounded at the angles, straighter behind, and the dorsal surface more covered with pustules than in the adult individuals; the chelæ, moreover, are shorter and comparatively thicker, and the front is wider, more rounded and distinctly crenulated, the eyes are of comparatively greater size and the dorsal ridges more prominent.

HAB. China Sea; submerged banks of dead shells and stones.

3. GONATONOTUS, *Adams & White.*

Thorax pentagonalis, depressus; anguli laterales acutissimi.

Frons latissima, lamelliformis, dilatata, rotundata, ad fines subnictata; oculi magni, eminentes, pedunculi breves in nictu profundiore ad latus inserti; antennæ exteriores, appendice terminali elongatâ.

Chelæ subcrassæ; carpus rotundatus et interne spinosus; ungues in margine serrati.

Pedes tertii et quarti paullo longiores secundus et quintis; articuli tarsales secundi, tertii, quarti et quinti parium, æquali magnitudine et crassitudine; quinto pedum pari supra quartum inserto.

Abdomen feminae septem articulis, tribus vel quatuor articulorum basaliū supra conspiciendis. Mas ignotus.

Carapace pentagonal, depressed; lateral angles very sharp.

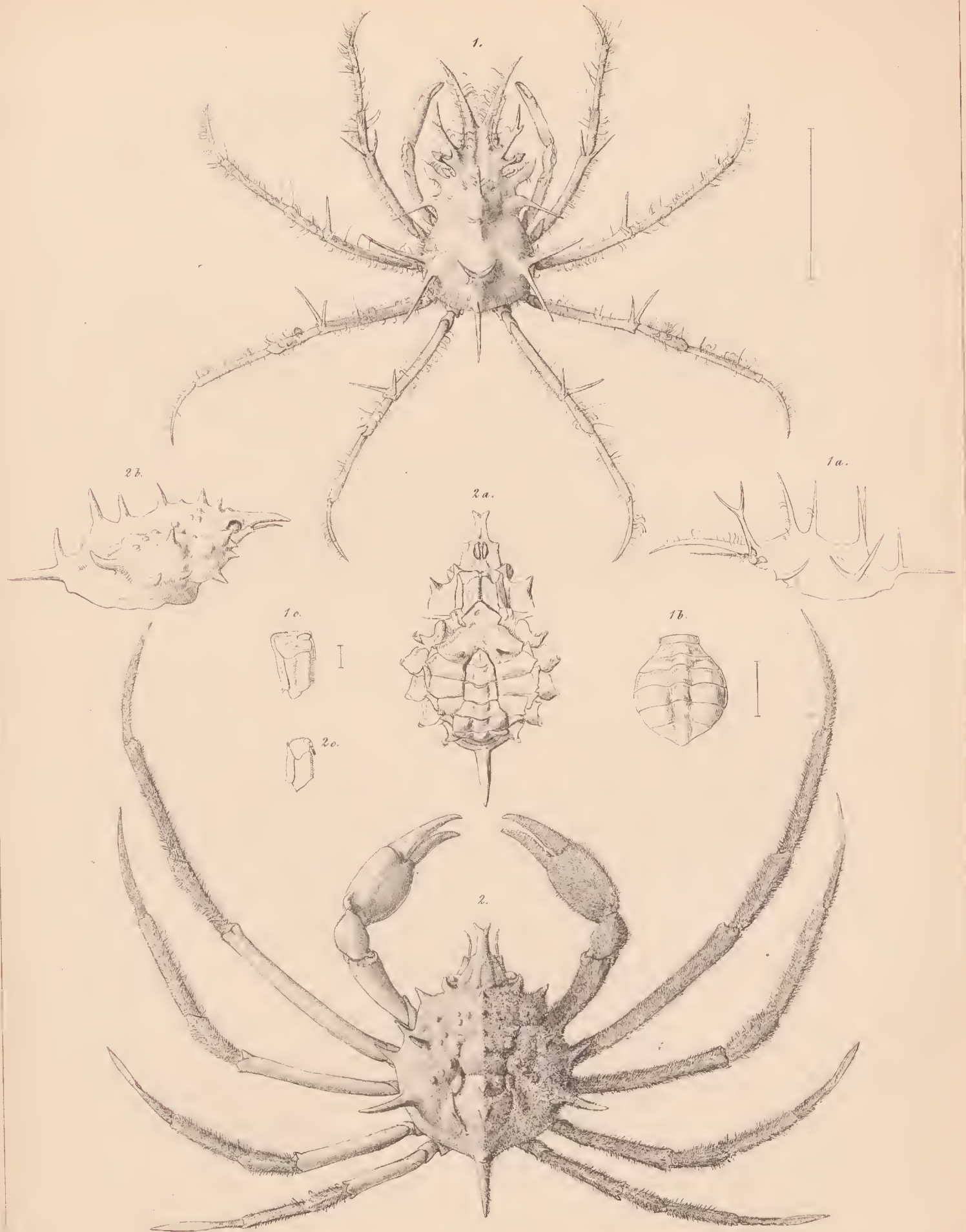
Front very wide, lamelliform, dilated, rounded, slightly notched at the end; eyes large, prominent, peduncles short, inserted in a rather deep notch on the side. Outer antennæ with the terminal appendage elongated.

Fore-legs rather thick; fourth joint or wrist, rounded and spined on the inside, claws serrated on the edge.

Third and fourth pairs of legs rather longer than the second and fifth, tarsal joints of second, third, fourth and fifth pairs of equal size and thickness; fifth pair of legs inserted above the fourth pair.

Abdomen of female, seven-jointed, three or four of the basal joints seen from above. Male unknown.

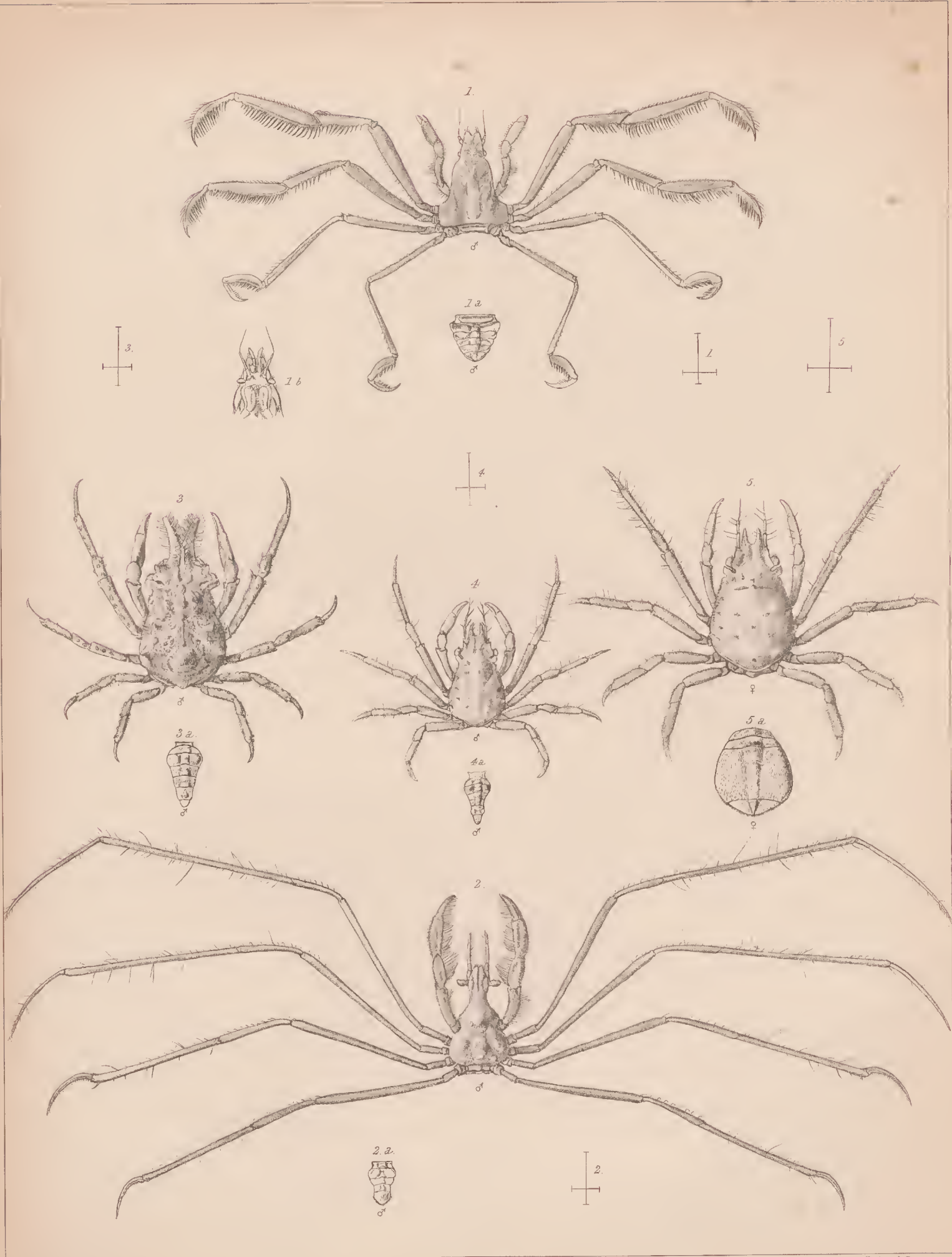
This genus is allied to *Eumedonus*.



William Wing, del. et lith.

on stone by Reese, Brothers.

1. CHORINUS ACANTHONOTUS, Adams & White. 2. DOCLEA CALCITRAPA, White.



William Wing del et lith.

Reeve, Benham & Reeve imp.

1. ONCINOPUS NEPTUNUS. Adams & White.

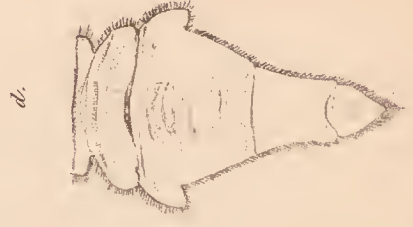
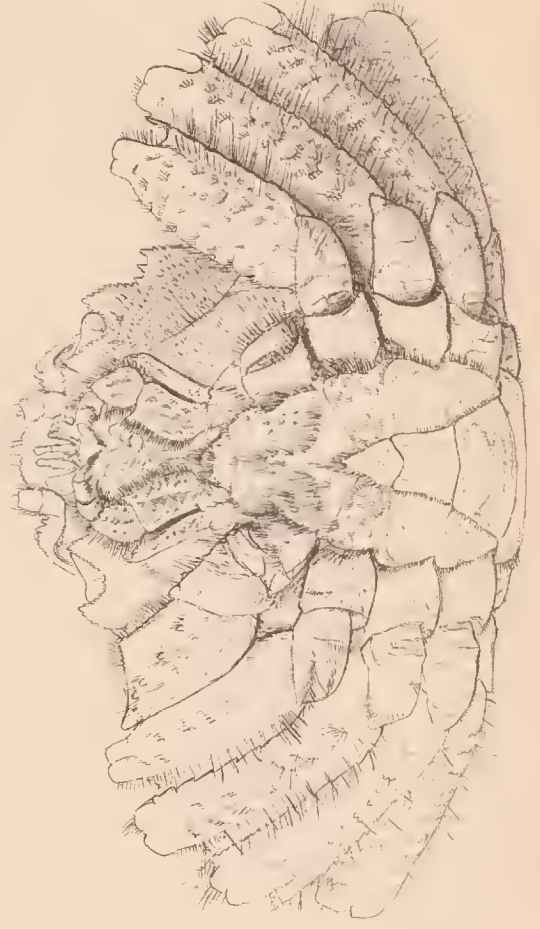
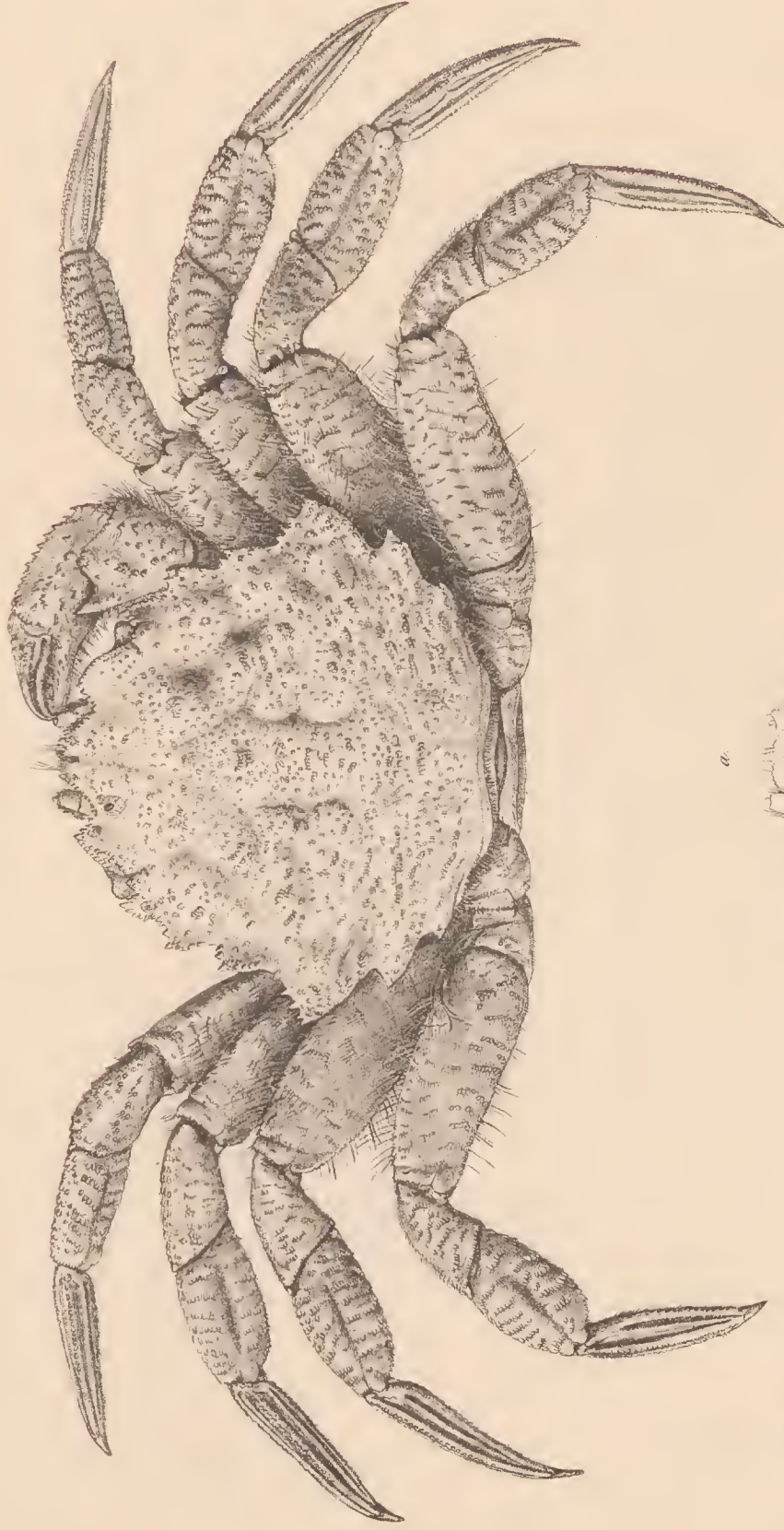
3. CHORINUS VERRUCOSIPES. Adams & White.

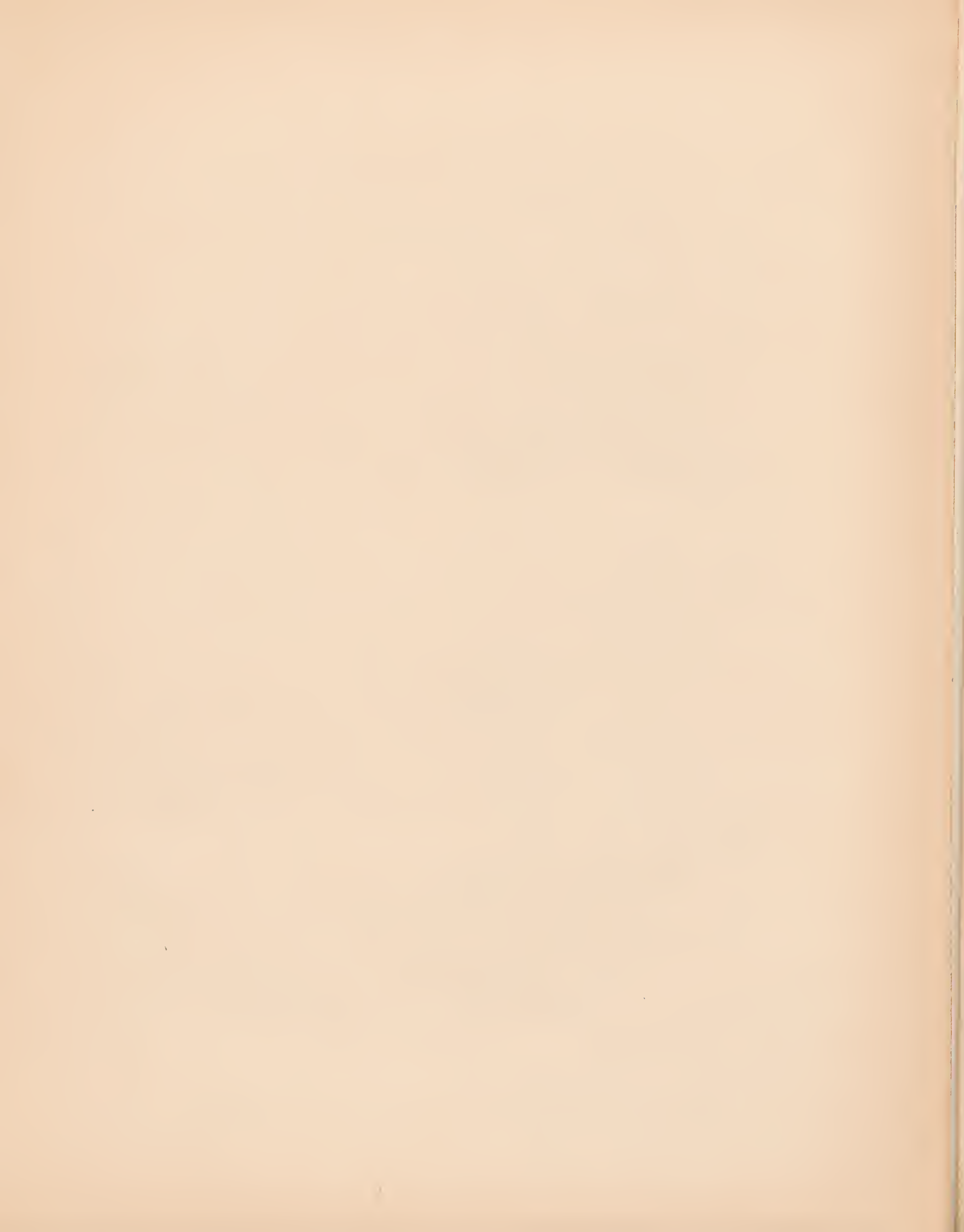
2. INACHUS LORINA. Adams & White.

4 & 5 PISA PLANASIA. Adams & White.



CRUSTACEA.





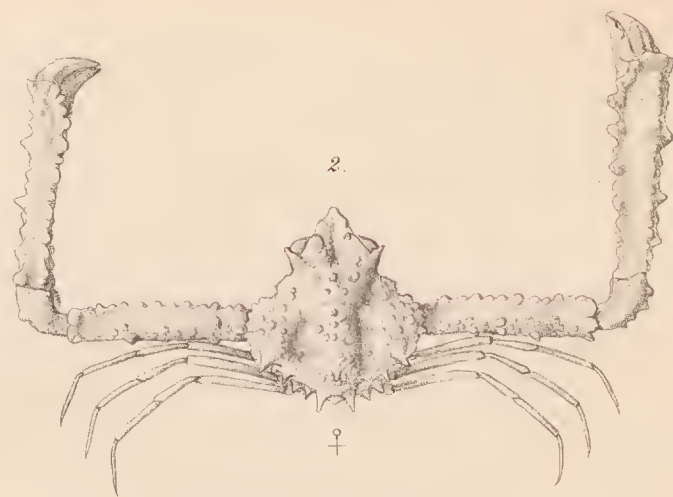


William Wing, del et lith.

Rosse Benham & Beere, imp.

1 & 2. MENÆTHIUS SUBSERRATUS. ♂ & ♀ Adams & White. 3. HUENIA FRONTALIS, A & W.

4 5. 6 & 7. HUENIA PROTEUS. De Haan.



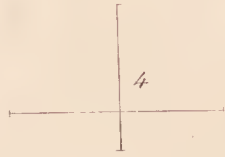
William Wing, del. et lith.

cut. done by Reeve & Co.

1. LAMBRUS LAMFLINFRONS, Adams & White.
 2. LAMBRUS TURRIGER, Adams & White.

3. LAMBRUS CARINATUS, Milne Edward.
 4. LAMBRUS PISOIDES, Adams & White.

5. PARTHENOPE CALAPPOIDES, Adams & White.



W. W. Wing, sc. et lit.

Printed by F. Koenig & Co.

1 CREOPHORUS RETICULATUS. Adams & White.
2
3 LAMBRUS HARPAX. Adams & White.

4 CRYPTOPODIA FORNICATA. Herbst.
5 CRYPTOPODIA DORSALIS. Adams & White.
6 CERATOCARCINUS LONGIMANUS. Adams & White.
7 GONATONYCTUS PENTAGONUS. Adams & White.



