

# CRUSTACEA,

BY

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## 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 paulatim 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. Mare 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 Arachnidans, 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 paullo latioribus intermediâ regione; thorace ad latera post oculos attenuato: spinâ tuberculari paullo 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 exterioribus 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 sparse 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 truncated, 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 cardiac 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, *Rouw.*1. LATREILLIA VALIDA, *De Haan.*

Major, thoracis regione ventriculi unispinosâ; pedibus postrenis anteriorum pedum femoribus longioribus; abdominis femine 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 postrenis 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 Nippon ; Japan.

*Inachus (Macrocheira) Kämpferi*, De Haan, F. J. p. 100. t. 25. (mas.) t. 27 et 28 (femina) ; Kämpfer, Besch. von Japan. 1. 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 ; Guerin. 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. 78. 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-elongated, 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. Indianam.

Posterior margin of the carapace armed on the median line with a small spine : latero-anterior borders of the carapace 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 carapace.

HAB. India.

*Doclea hybrida*, Edw. Crust. 1. 294; *Inachus hybridus*, Fabr. Suppl. p. 355; *Maia hybrida*, Bosc. 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. Indiam.

Posterior margin of the carapace 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 rigidiore et eminentiore; tota superficies thoracis, tuberculis admodum minutis et tenuibus, curvatis, sparsis setis obsita est. *Fronte* duobus spinis rigidis, divaricantibus, curvatis setis circumdatis; superiore canthorum 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 tubercles varying in size in the middle line, a row of seven tubercles in each lateral region, internal to these, nearer the middle line, five other tubercles 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 fuscarum atque villosarum, ad partem posteriorem minutim granulosa; parvâ spinâ tuberculari paululum eminente in medio tuberculo ventriculâri; 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 adoperatis, 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, prostromo 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 cantli margine 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 utraq; 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.

*Rostro* 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.

*Chelis* et supra et infra cristâ acutâ denticulatâ armatis; pedibus cylindricis, duobus spinis longis præacutis instructis, unâ in utroque latere superioris partis extremitatis articularum 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; Borneo (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 *Mithraa*, 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 unispinosi, 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 cantliorum 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 levibus, 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 latioribus, 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 Guér. 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 exteriorem canthorum angulum et magnam, latam dentatam divisionem, cujus finis unum ex eminentibus angulis thoracis efficit. Rostrum latissimum, ex tribus latis dentibus consistens, quorum lateralis interiorum 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 *Maidia*; 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 Kamschatka, at Arvatchsa, 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 superficie 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* flavcolo, rubro intersperso. *Fronte* duabus longitudinalibus carinis, tuberculis, ex quibus complures setæ 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. *Chelæ* 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 tuberculis; 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.