

Catalogue of the Crustacea brought by Thomas Nuttall and J. K. Townsend, from the West Coast of North America and the Sandwich Islands, with Descriptions of such Species as are apparently new, among which are included several species of different localities, previously existing in the collection of the Academy. By J. W. RANDALL.

Read June 18th, 1839.

CRUSTACEA BRACHYURA.

Fam. *Maiadæ*.

Genus LIBINIA, (Leach.)

LIBINIA—(variety of *L. canaliculata*? Say.) Mus. Acad.

The hitherto described species of the genus LIBINIA, as restricted by M. Milne Edwards, have so great a mutual resemblance, that we hesitate to consider the present one as new, until more specimens have been obtained for comparison.

Its principal peculiarities may be thus stated.

L. Testa multispinosa, manibus politis, vix granulatis.

Rostrum elongate, somewhat flattened above, and channeled at base. Anterior feet polished, and not perceptibly granulated. Shell pyriform, only slightly convex, and studded with a great number of sharp spines, interspersed with tubercles. The lateral spines are six or seven on each side, the dorsal row about eight, intermediate ones about a dozen on each side, more or less elongated. The tubercles are about as numerous as the spines, and scattered irregularly between them. Second pair

of feet scarcely one and one-fourth times the length of the carapax.

Length of shell, in the present specimen, (rostrum inclusive,) scarcely $1\frac{4}{10}$ inches, but, probably attains a greater size.

A single specimen, brought by Mr. Nuttall from Upper California.

Compared with such specimens as I have seen of the *L. canaliculata*, the shell here is less convex, the rostrum more flattened above, the anterior feet more smooth, and the spines and tubercles more numerous.

It may be named, provisionally, *L. affinis*, allied to *L. emarginata*, Leach, and to *L. dubia*, Edwards, which last is described as being less spinous than the *L. canaliculata*.

GENUS HERBSTIA, (Edwards.)

H. parvifrons. Mus. Acad.

Corpore depresso, in latere spinoso, pedibus spinosis, levitè dilatatis, manibus lævigatis, dactylis apice serrulatis.

Body flattened above, punctured, somewhat hairy; sides spinous, especially anteriorly; rostrum very short; feet spinous above; hands of the anterior pair with only a few very small spines at their base; pincers without teeth, except towards their apices, where, for at least one-third of their whole length, they are hollowed out on their prehensile side, and serrated laterally, so that, when closed, they become interlocked at their extremities by means of the serratures.

One specimen, brought by Mr. Nuttall from western America.

Length of carapax, scarcely one inch.

Genus CHORINUS, (Leach.)

The following species of CHORINUS is preserved in the Museum of the Academy without any indication of its name or locality; as it disagrees in its details with the only four species of the genus which I have seen noticed, viz., the *C. aries*, (Latr.) the *C. heros*, (Herbst.) and the *C. aculeata*, and *C. Dumerilii*, (Edwards,) I have ventured to describe it as new.

CHORINUS *armatus*. Mus. Acad.

Pedum pare antico spinoso; manibus tuberculosis; spinis frontis divaricantibus, testa lanuginosa, utrinquè 4-spinosa, posticè 2-spinosa.

Body elongate pyriform; frontal spines extremely long, divergent; supra-orbital spine very strong; post-orbital spine dilated at base, and moderately produced. Shell depressed in the middle, but anteriorly convex, on each side moderately convex; an obtusely rounded elevation behind the middle; apex somewhat produced, crowned with a short spine, having another behind it; sides, each with four great spines, exclusive of the post-orbital one. Feet downy; anterior pair about $2\frac{1}{2}$ times the length of the carapax; arm spinous; hand and wrist studded with granules; posterior feet smooth, second pair nearly $1\frac{1}{2}$ times the length of the third.

Length of carapax behind the base of the frontal horns nearly $3\frac{1}{2}$ inches.

Genus *EPIALTUS*, (Edwards.)

E. Nuttallii. Mus. Acad. Pl. III.

Testa polita, atropurpurea, maculis testaceis posticè subocellatis ornata; margine obtusè tridentata; rostro depresso, apice profundè emarginato: corpore infrà sanguineo, ocellis testaceis ornato.

Shell smooth, dark purplish, besprinkled with testaceous spots becoming large and somewhat ocellate behind, and still larger and brighter on the under side of the body; rostrum broad at base, flattened above; apex profoundly notched; carapax moderately elevated, having three obtuse, distant teeth on either margin, including the post-orbital one; hands in the male very large.

Length of carapax in the male about four inches, inclusive of the rostrum; greatest breadth, a little over three inches.

A single pair, brought by Mr. Nuttall from Upper California; the female, but an indifferent specimen, is represented on the accompanying plate,* because the great size of the male does not admit of its being figured without reduction. The male differs from the female, not only in being twice as large, but in its colors, which are brighter, and in its spots, which are larger.

* On the plate the name *LIBINIA Nuttallii* has been appended, a mistake which could not be corrected after the impression had been struck off.

E. productus. Mus. Acad.

Testa elongata, subquadrata, indistinctè maculata; margine utrinquè pone oculos tridentata; rostro profunde bifido, utrinquè unidentato.

Carapax elongate, subquadrata, fuscous, with some obscure spots; rostrum dilated at base, flattened above and divided by a broad notch; on each side, the base is produced into a great tooth, directed anteriorly; marginal teeth of the carapax, three on each side, including the small post-orbitar one. The middle tooth is so great that its base occupies nearly the whole anterior side of the carapax, and is so straight on its outer edge that it forms almost a right angle with the anterior margin; posterior tooth stout, growing from the middle of the margin.

Length of carapax, inclusive of the rostrum, about $1\frac{3}{4}$ inches.

A single female, brought by Mr. Nuttall from Upper California. The specimen not being alive when discovered, had, perhaps, undergone some alteration in color.

This species has a great resemblance to the *EPIALTUS marginatus*, (young,) figured by Mr. Bell in the Transactions of the Zoological Society of London, but may be particularly distinguished by the position of the anterior lateral tooth of the carapax, which, in that species, is not placed immediately behind the eye, but in the middle of the curve of the anterior margin; moreover the anterior angles are not so much expanded as in the present species.

Fam. *Parthenopiadae*.

Genus PARTHENOPE, (Fabr.)

P. horrida, (Linn.) Mus. Acad.

Brought from the Sandwich Islands by J. K. Townsend.

Fam. *Cancridae*.

Genus PLATYPODIA, (Bell.) (CANCER, Latr. and Edwards.)

P. granulosa, (CANCER *granulosus*, Ruppell,) different from the *P. granulatus*, (CANCER *granulatus*, Audouin.)

Several specimens, brought from the Sandwich Islands, by Mr. Nuttall and J. K. Townsend. The four posterior pairs of feet are not quite smooth, but somewhat granulated in each specimen; in other respects it agrees with the description of the *CANCER granulatus*.

Genus LAGOSTOMA, (Edwards.)

L. nodosa. Mus. Acad.

Testa transversa, subconvexa, nodosa, posticè sub-depressa, lateribus, 5-dentatis; fronte obtusa, vix 4-lobata; pedibus anticis, reticulatis, in maribus crassis, tarsi tuberculosi.

Shell more than one-half broader than long, but little convex, and somewhat depressed behind; anteriorly, and antero-laterally, divided by deep

grooves into great tubercles, the posterior ones being flattened above; front very obtuse, sinuous, properly speaking, two-lobed, the lobes being a little produced toward the outer angle; median fissure tolerably well marked; orbits surrounded with tubercles, having about three above and two beneath; margin with about five great obtuse teeth on each side, of which the posterior pair is smallest; most of these teeth are dilated on each side at base, forming small tubercles, very distinct when viewed from beneath; anterior feet very stout in the male; hand and wrist somewhat reticulate with irregular elevated lines; four posterior pairs of feet a little rough on their superior edge, the roughness increasing in the direction of the tarsi, which are studded with small tubercles; the third joint of the outer maxillary feet, has an anterior inner notch, less large than the anterior one.

A single male specimen, brought by Mr. Nuttall from the Sandwich Islands; its length is $1\frac{1}{10}$ inch, breadth fully $1\frac{6}{10}$ inches.

A small species, nearly allied to the present, and, perhaps, a young specimen of it, has been brought by Dr. Morton from the West Indies; no spines exist on the feet of either.

This species has a striking resemblance to the *CANCER inequalis?* of Olivier, as figured by Savigni in the great work on Egypt, but Olivier says that the hands of the anterior feet in his species are smooth. The *C. inequalis* is probably another species of the same genus.

Genus XANTHO, (Leach.)

The following species of XANTHO seems to have a close analogy to several others already described, without well agreeing with any of them; indeed, the descriptions heretofore given by authors of several species of this genus, are too brief, when considered as applying to a group so extensive, so widely diffused, and composed of individuals nearly related to one another.

X. intonsus. Mus. Acad.

Testa polita, nodosa, levitè convexa, margine utrinquè 4-dentata: fronte producta, inequaliter 4-lobata; pedibus compressis, valdè ciliatis; manibus suprà cristatis, externè carinatis.

Shell polished, not greatly convex, anteriorly and antero-laterally divided by broad, shallow, somewhat interrupted grooves, into several great, but little elevated lobes, thinly besprinkled with large, unequal punctures, very visible through a microscope; antero-lateral margin with four teeth on each side, the two anterior of which are merely rounded crests; in each depression between the teeth, a small fissure is visible, dividing their bases from one another; postero-lateral margin somewhat depressed; front four-lobed, the two middle lobes approximate, rounded at tip, and considerably produced, the outer ones small, but very distinct; anterior feet stout, with a few punctures scattered over the surface; hands with a great crest above,

and three or four obtuse, but well defined longitudinal elevations on the outer side; intermediate spaces reticulated with small elevated lines, presenting to the eye a kind of cellular texture; anterior inner tooth of the carpus well defined; pincers canaliculate, brown, inclining to black; four posterior pairs of feet flattened on the sides, having the upper edge sharp, but gradually dilating in the direction of the tarsus, and covered above and underneath, throughout their whole length, with long, dense, light brown hair, which, on the upper side of the two last joints of most of the feet, as well as on the tarsi, is disposed in longitudinal rows.

A single female specimen brought by Mr. Nuttall from the Sandwich Islands. Its length is about $1\frac{8}{10}$ inches; greatest breadth fully two inches.

It is probably very nearly related to the *X. incisus*, (Edw.) but that species is described as having on the outer face of the hands, several ranges of tubercles, and many small transverse crests on the carapax over the hepatic and stomachal regions.

The *X. Rumphii*, (Guerin,) (*X. octodentatus*, Edw.) seems also to be nearly allied to it, but there the front is but little advanced, and divided into only two lobes; the anterior angles of the carapax seems also to form a curved line with the front, whereas, here they are produced almost to a level with its outer lobes.

The *X. acasta*, (*CANCER acasta*, Herbst.) is probably another very nearly allied species, but its carapax, according to M. Edwards, appears to be smooth.

The present species may be referred to that section of the genus in which M. Edwards places those species which have a crest on the upper side of the hands, as well as on the four posterior pairs of feet.

Genus ETISUS, (Edwards.)

E. laevimanus. Mus. Acad.

Testa transversa, polita, nodosa, margine obtusè 4-dentata; fronte producta, vix sinuata; manibus lævigatis, tarsi tuberculosi.

Carapax one-half broader than long, not very convex, anteriorly and antero-laterally divided by several grooves into large but little elevated tubercles; margin with four large obtuse teeth; front produced, almost imperceptibly sinuous; hands smooth; pincers very large; posterior feet short, a little flattened, nearly smooth, except toward the last joint, which is somewhat rough, and the tarsi, which are studded with small tubercles. Color yellowish; length of carapax from $\frac{8}{10}$ of an inch to rather more than an inch.

Two male specimens, brought by Mr. Nuttall from the Sandwich Islands.

In form it is much like the LAGOSTOMA, described above, but the position of the antennæ sufficiently distinguish it. Moreover, the tubercles of the carapax are greatly depressed, and the body is less broad, and less depressed behind, in which respect it disagrees also with the *CANCER inequalis*? (Savigni, Egypt.)

Genus **CANCER**, (Leach, and Bell,) (**PLATYCARCINUS**,
Latr. and Edw.)

C. productus. Mus. Acad.

Testa depressa; fronte subquadrata, valdè producta, obtusè 5-lobata, lateribus 9 vel 10-lobatis.

Shell greatly flattened behind the front, and antero-laterally; front greatly produced beyond the orbits, terminating in five nearly equal and not very distinct lobes, the middle lobes not greatly produced beyond the lateral ones; antero-lateral margin of the carapax with nine or ten nearly equal, obtuse, lobe-like teeth, postero-lateral margin very concave; anterior feet tuberculous above; pincers very short.

One specimen, brought by Mr. Nuttall from West America.

Length hardly one inch, but probably attains a greater size.

C. irroratus, (Say.) Mus. Acad.

Two specimens, brought from West America by Mr. Nuttall; not essentially differing from those found on the coast of New England.

This species is so liable to vary with age, both in the thoracic markings and in the shape and direction of the marginal teeth, that without care one might easily mistake varieties for distinct species.

M. Edwards states that the frontal teeth in this genus form an uneven number, one always growing

from the middle, but here there are frequently only four equidistant frontal teeth.

Genus TRAPEZIUM, (Latr.)

T. cymodoce, (CANCER *cymodoce*, Herbst.) (TRAPEZIUM *dentifrons*, Latr.) Mus. Acad.

Several specimens, well agreeing with the figure of *T. cymodoce*, have been brought from the Sandwich Islands by Mr. Nuttall and J. K. Townsend.

Fam. *Portunidæ*.

Genus LUPA, (Leach.)

L. sanguinolenta, (Herbst.)

Many specimens, brought by Mr. Nuttall and J. K. Townsend from the Sandwich Islands.

Genus THALAMITA, (Latr.)

T. pulchra.

Testa subhexagona, cœruleo-maculata, margine utrinquè 7-dentata, dentibus secundo et quarto minimis; fronte 8-dentata.

Carapax somewhat hexagonal, disk with several transverse, distinctly elevated lines, formed of very minute granules; post frontal, and antero-lateral portion granulated, some rugosities on each side behind the middle, remainder of the surface nearly smooth; front with eight large, elongated, nearly equal, obtusely rounded teeth, those on one side a little diverging from the corresponding ones on the other, and all of them somewhat flattened above;

second tooth from the middle bifid beneath; margin with seven teeth on each side, of which the second and fourth are very small, the others large, sharp, and nearly equal; color bright vermilion, variegated with greenish-blue spots, some single, some in clusters, and varying much in shape and size, though very symmetrical, as regards the two sides of the carapax; anterior feet very stout and angular, the upper surface with many large granulations; hand about the length of the carapax, with five stout teeth on its upper side, and a basal tubercle; carpus with four teeth, that on the inner angle of great size; arm with four teeth, the terminal one greatly dilated at base and flattened; pincers profoundly canaliculate; four posterior pairs of feet somewhat flattened, and having their two last joints more or less profoundly channeled on each side, but the last pair with a double channel on the outer surface of its three last joints, the first of which has a strong spine near the extremity; the natatory plate is armed at tip with a small corneous tooth.

Length of carapax from 2 to more than 2½ inches.

Two specimens, brought from the Sandwich Islands by Nuttall and Townsend.

It seems to be allied to the *T. erythroductyla*, (Lam.) and probably to the *CANCER seriatus*, (Linn.)

Genus *PODOPHTHALMUS*, (Lam.)

P. vigil, (Fabr.) Mus. Acad.

Brought in considerable numbers from the Sandwich Islands, by Nuttall and Townsend.

Fam. *Thelphusiadæ*.

Genus POTAMIA, (Latr.) (BOSCIA, Edwards.)

Of two closely allied species of this genus, preserved without labels in the collection of the Academy, the only very distinct character that can be made use of for determining, which is the *P. dentata* of Latreille, is this, viz., that the orbits are entire; one of the present species agreeing with the description in this respect, and not essentially differing from it in other points, as far as can at present be determined, I have supposed, therefore, to be the *P. dentata*.

P. dentata, (Latr.) Mus. Acad.

Testa depressa, utrinquè obliquè impressa; fronte angustata, bilobata, truncata.

Front between five and six-twentieths of the width of the carapax in its greatest diameter, not bifid, but divided by a superficial groove into two truncate lobes; on each side of this groove is a small transverse indentation; orbits without a notch at the outer angle; a very profound and oblique groove, extending from the antero-lateral margin of the carapax toward the median impression, in a direction to form with it an obtuse angle, but interrupted a little above the middle; hands unequal in the male, index curving downward; many extremely minute teeth border the lateral margin of the carapax, and the upper edge of the feet; under

side of the arm bordered by still larger teeth; a spine on the inner side of the carpus.

If the present species should prove distinct from the *P. dentata*, it may be named *P. angustifrons*, in contradistinction to the following, which we call

P. latifrons. Mus. Acad.

Testa depressa, transversè impressa, pone oculos incisa; fronte dilatata, margine multidentata.

Front between seven and eight-twentieths of the width of the carapax, truncate, and not divided into lobes by a superficial groove, as in the above species, its extremity somewhat folded beneath; orbits with a profound notch on the outer side; transverse impression of the carapax forming a gentle curve toward the middle instead of a nearly straight oblique line; median impressions subtriangular, large and profound; disk nearly smooth, or almost imperceptibly roughened, postero-lateral portion distinctly granulated; antero-lateral teeth somewhat unequal, and much larger than in the preceding species, those bordering the feet and arm nearly as in *P. dentata*; upper side of the arm and hand somewhat roughened.

Length of the only specimen in the collection (a female) hardly $1\frac{4}{10}$ inches.

It is supposed to have been brought from Surinam, or the West Indies.

Fam. *Gecarcinidæ*.

Genus ORTHOSTOMA.

Testa convexa, margine carinata, lateribus sub-obliquis, valde curvatis; fronte depressa, dentata, acuta; fossis oculorum magnis. Maxillipedum articulo secundo intrinsècus producto; tertio internè exciso, apice acuto apud angulum externum articulum quartum gerente ore quadrato: antennis externis brevibus profunde insertis, hiatus internum haud implentibus.

Shell longitudinally convex, with the margin strongly carinate, and more or less toothed; sides of the body rather more oblique than in the neighboring genera, but far more vertical than in the *CANCERS*; front depressed, having its edge thin, dentate, and not recurved; ocular pedicles not much elongated, cornea occupying only a small portion of their inferior side; ocular cavities very large, rather irregular, and leaving an extremely wide space at the internal angle; external antennæ very short, having their basal joint deeply seated, while the terminal ones do not fill up one-fourth of the orbital hiatus; internal antennæ folded transversely in very narrow fossæ, which are almost concealed under the front; lateral pillars of the mouth straight; external appendage of the maxillary feet slender, but not linear, and bearing a rather long palpus at its extremity; second joint of the external maxillary feet produced antero-internally, having the base of the third lying, for the most part, on its outer side; third joint produced antero-externally, with the apex somewhat acute,

and bearing the palpus on the inner side of the external angle; the arrangement is such that when the maxillary feet are brought together, the apices diverge, leaving between them a nearly semi-circular excavation; epistoma broad, and nearly on a line with the floor of the orbits; tail broad in the males, but extremely so in the females.

O. dentata. Mus. Acad.

Testa granulata, margine utrinque 10-dentata; fronte multidentata, obtuse bilobata.

Orbits of the eyes dentate inferiorly; regions of the carapax not very strongly defined, antero-lateral margin with ten teeth on each side; front greatly depressed, but not vertical, obtusely bilobate, and armed with fifteen or more small but sharp teeth; anterior feet moderately elongate; arm with one strong tooth on the under side; carpus slightly roughened, one strong tooth on its anterior inner side; hands unequal in both sexes, but especially so in the male, the right being largest; pincers carinate, large, and irregularly toothed, the large tooth being separated by several smaller ones; four posterior pairs of feet somewhat flattened; tarsi much flattened, and carinate both on their superior edge and laterally. Color reddish.

Length, as measured in four specimens, from $1\frac{3}{4}$ inches to 2 inches.

Supposed to have been brought either from South America or the West Indies.

This species has, at first sight, much resemblance to the **CANCERS**, owing to the breadth of its lateral crest.

Fam. *Ocypodidæ*.

Genus OCYPODE, (Fabr.)

O. rhombea, (Fabr.) Mus. Acad.

Two specimens, brought from the Sandwich Islands by Mr. J. K. Townsend.

Fam. *Macrophthalmidæ*.

Genus MACROPTHALMUS, (Latr.)

M. compressipes. Mus. Acad.

Manibus compressis, transverse carinatis; testa depressa, transversa, margine utrinque tridentata.

Ocular pedicles more than three-fourths as long as the whole width of the carapax, whose length is to the breadth as three to four in the males, but a little broader in the females; antero-lateral margin with three spines, the foremost one longest; feet flattened and bordered with long hairs; hands greatly flattened, broad, and inferiorly carinate on their external surface. Probably allied to *M. carinimanus*, (Latr.)

Sandwich Islands, J. K. Townsend.

Fam. *Grapsidæ*.

Genus SESARMA, (Say.)

S. recta. Mus. Acad.

Corpore quadrato, testa rugosa, antice convexa, margine carinata, utrinque pone oculos unidentata.

Carapax convex before the middle, and entirely

covered with wrinkles, the anterior ones plicate, some of them bearing tufts of hairs; median impression distinct; front vertical, profoundly four-lobed, lobes truncate, edge sinuous, profoundly excavated; epistoma granulous; buccæ and lateral regions of the body very strongly reticulate; anterior feet at least twice the length of the body, and very stout; arm with a notch on its upper edge; carpus with dense rugæ, resembling rows of confluent tubercles; hand convex, very broad, less rough than the carpus, its upper edge quite sharp; pincers stout, with tuberculous edges, their prehensile side armed with unequal teeth; thighs of the four posterior pairs of feet with plicæ, extending upon the upper edge and giving it a somewhat dentate appearance, one tooth near the extremity; antepenultimate joint sulcate, the last a little hairy on its upper edge; tarsi long and sharp; striate with hairs.

Length about $1\frac{2}{10}$ inches.

A single specimen, (a male,) labelled as brought from Surinam by Dr. Herring.

GENUS GRAPSUS.

G. hirtus, (GRAPSE' *rude*? Edw.) Mus. Acad.

Testa depressa, striata, hirta, scabrosa, margine 2-dentata, manibus parvis.

Front vertical, profoundly lobed, greatly produced, less than one-half as broad as the anterior portion of the shell; body entirely brown, with a few obscure spots; carapax depressed, scabrous, transversely striate, and covered with short, stiff

bristles; margin with two teeth, placed as in *G. pictus*; feet greatly flattened, with numerous transverse plicæ, lined each with hairs similar to those of the carapax, antepenultimate pair much longer than the rest, the anterior pair small, internal carpal tooth not dilated, but nearly spiniform.

The body is less dilated, more scabrous, and the front narrower and rather more produced than in *G. pictus*; the anterior feet are yet smaller than in that species, and the carpal tooth more spiniform.

Inhabits the Sandwich Islands; one specimen, (a male,) brought by Mr. Townsend.

G. longipes. Mus. Acad.

Testa striata, margine utrinquè 2-dentata; fronte tuberculosa; pedibus anterioribus elongatis, crassis, infra valdè spinosis, carpis tuberculosus, manibus vix convexis, valdè dilatatis.

Shell of a pale flesh color, profoundly striate; sides less dilated posteriorly than in the *G. pictus*, (of authors;) antero-lateral margin bidentate, the anterior tooth nearly on the same line with the posterior; front vertical, occupying more than one-half the width of the carapax anteriorly, its surface with many large tubercles; anterior feet in the male nearly twice the length of the carapax, but only about one-half longer than the carapax in the female, armed on each side beneath with great spines; carpus covered with great spiniform tubercles; hands not very convex but greatly dilated, more or less roughened on the outer side, having spiniform

tubercles on the upper and under side, and scattered tubercles on the inner; pincers stout, tuberculous on their outer edges and obtusely dentate on their prehensile side; four posterior pair of feet greatly flattened; terminal joint with some long hairs; tarsi long, sharp, and very spinous.

Length, as measured in two specimens, about $1\frac{7}{10}$ inches; supposed to have been brought from Surinam by Dr. Herring.

This species may, perhaps, terminate that section of the true GRAPSI of M. Edwards, in which the third joint of the external maxillary feet is longer than broad; from these we will separate the following species of M. Edwards' second division, and place them in the

Genus PACHYGRAPUS.

Maxillipedum articulo tertio haud longiore quàm lato, externè dilatato; fronte levitè depressa; corpore quadrato vel posticè retracto; cœtera GRAPSO similis.

In these, the third joint of the external maxillary feet is as broad as long, more or less rounded on its outer side, and generally considerably dilated at its anterior inner angle, the front is not vertical, but simply inclined; the body is either nearly square or retracted behind; it is generally thicker, and its parietes firmer than in the GRAPSI of the first division, and the anterior feet are usually very large and strong.

P. crassipes. Mus. Acad.

Testa anticè convexa, transversè striata, utrinquè 2-dentata; fronte producta, suprà 4-lobata; corpore crasso, posticè gradatim retracto.

Body very stout, carapax convex anteriorly, with two stout teeth on each side, including that which forms the outer angle of the eye; disk anteriorly and laterally striate, the striæ accompanied, for the most part, by yellowish lines; front considerably depressed, with four rounded lobes above, all very convex, and resembling great tubercles; frontal edge obtuse, rather prominent, nearly straight, a little sinuous near the angles; anterior feet nearly smooth and very large in the male; the surface of the carpus lightly rugose; four posterior pairs of feet much flattened; tarsi short, very stout and spinous.

Length about $1\frac{6}{10}$ inches; greatest breadth between $1\frac{7}{10}$ and $1\frac{8}{10}$ inches.

A single specimen (a male) brought by Mr. Nuttall from the Sandwich Islands.

This species seems to be nearly allied to the *GRAPSUS messor* of Forskal, but the carapax in that species has but one lateral tooth.

P. parallelus. Mus. Acad.

Testa quadrata, striata, polita, convexa, margine utrinquè pone oculos 1-dentata.

Shell quadrate, nearly flat on the upper surface, lightly striate anteriorly, but very profoundly on the sides, where the striæ become plicate, some of

them are produced quite upon the sides, in such a manner as almost to project from them; the margin presents only one tooth, which forms the outer angle of the orbit, and is quite stout, median impression of the carapax and lateral furrow on each side of it very profound; front moderately inclined, and not greatly prominent, divided into four quadrate lobes flattened above, frontal edge nearly straight, or lightly sinuous; hand only moderately large in the male and small in the female, more or less rough; four posterior pairs of feet polished, nearly smooth; tarsi moderately long, and terminated by a long, slender, corneous nail; the third joint of the outer maxillary feet is much rounded on the outer side, and apparently somewhat concave. The color varies, but is usually yellow and brown mingled, minutely dotted with black; legs paler, dotted with black. Sometimes the whole body is pale yellowish or clay colored.

Length about $1\frac{1}{4}$ inches.

The females seem to be more numerous and smaller than the males.

Several specimens, brought by Nuttall and Townsend from the west coast, near the mouth of the Columbia river, and from the Sandwich Islands.

Genus PLAGUSIA, (Latr.)

P. planissima, (CANCER *planissima*, Herbst.)
(*P. clavimana*, Desmarest.) Mus. Acad.

Brought from the Sandwich Islands by J. K. Townsend, but is larger than usually represented, being about $1\frac{6}{8}$ inches in length.

Fam. *Calappiadae*.

Genus CALAPPA, (Fabr.)

C. tuberculata, (Fabr.) Mus. Acad.

Brought in great numbers from the Sandwich Islands by Nuttall and Townsend.

Fam. *Leucosiadae*.

Genus ILIA, (Leach.)

I. ornata. Mus. Acad.

Corpore globoso, vix granulato; testa polita, maculis sanguineis confluentibus, ornata.

Body globose; shell nearly smooth, with only a few granules anteriorly, some inconspicuous tubercles on the lateral edge, one large one on each side of the buccal regions; another, large but scarcely elevated, above it, and one, small but distinct, on each side posteriorly; two spines placed near each other at the apex, and one tubercle above them; disk variegated with sanguineous spots, confluent anteriorly; anterior feet variegated with red, about one-half as long again as the carapax in the female; arms granulous; epistoma dilated, leaving a considerable space between the eyes and the apex of the outer maxillary feet.

Length $1\frac{2}{10}$ inches.

The description is made out from female specimens, brought from Upper California by Mr. Nuttall.

Compared with *CANCER punctatus*, it is smaller, the body more smooth, more convex above, the spots greater and more confluent; the two lateral spines of the apex are nearer to one another than to the posterior feet, and the spine above them is reduced to a tubercle, or to two or three slight granules; moreover, the epistoma in *C. punctatus* is linear, and does not leave a considerable space between the eyes and the apex of the outer maxillary feet.

DECAPODA ANOMOURA.

Fam. *Raniniadæ*.

Genus *RANINA*, (Lamarck.)

R. serrata, (Lam.) (*R. dentata*, Latr.) Mus. Acad.

Inhabits the Sandwich Islands, whence several specimens have been brought by J. K. Townsend.

Fam. *Hippiadæ*.

Genus *BLEPHARIPODA*.

Testa ovato-oblonga; antennæ quatuor, elongatæ, inequales, ciliatæ, externis longioribus, revolutis; intermediis biappendiculatis. Pedunculi oculorum distinctè triarticulati. Pedes maxillarii externi elongati, involuti, articulo primo brevi, reliquis elongatis, tertio cylindrico, ultimo angustato, os non cœlantes. Pedes ciliati, angulati; duodidactyli antici.

Shell oblong-ovate, a little retracted behind; antennæ four, unequal, the external being much the

greatest, with one long revolute appendage, which is ciliate on the outer side; the internal with two appendages, which are ciliate on the inner side, ocular pedicles exposed to their bases, and distinctly triarticulate; external maxillary feet involute, pediform, not closing the mouth, the basilar joint very stout, the rest longer, the third joint nearly cylindrical, and the terminal one subacute, external appendage produced nearly to the tip of the third joint, and rather strong; feet strong, ciliate, their bases approximate, their edges sharp, and the tarsi falcate, anterior pair extremely large at base, hands didactyle.

B. occidentalis. Mus. Acad. Pl. VI.

Testa polita, transverse impressa, lateribus utrinque 4-spinosis, fronte trispinosa.

Shell convex, somewhat obliquely elevated toward the centre, which is faintly carinate; a median transverse sinuous impression, behind which the surface is polished, but anterior to it, densely marked with small transverse impressions, most of which are pectinated and hairy; a lateral transverse impression, and a very profound oblique one connected with it inferiorly; frontal edge strongly three-toothed, and excavated between the teeth; a distinct post-frontal transverse groove, behind which is a strong tooth; antero-lateral margin of the carapax with four stout teeth on each side; posterior margin excavated; second, third, and fourth pairs of feet

more or less roughened laterally, and with the anterior edge minutely dentate; anterior pair stout; arm with a strong tooth near its anterior inferior extremity; carpus elongate, rather convex, laterally impressed, and having on its upper anterior edge a great spiniform crest, which is itself bordered with smaller spines; hand flattened on the side, and armed with two or three strong, sharp teeth, having between them a great multitude of impressions, similar to those of the carapax; pincers flattened, acute at tip and armed with sharp, spiniform teeth, both on their outer edges, and on their prehensile side.

Length about two inches, in the only specimen preserved in the collection, which was found by Mr. Nuttall at San Diego, in Upper California.

It may be considered as a connecting link between *RANINA* and *ALBUNEA*.

Genus *HIPPA*, (Fabr.)

H. emeritus, (Fabr.) Mus. Acad.

Brought from the Sandwich Islands by Nuttall and Townsend, who describe it as being abundant there.

The *HIPPA talpoida*, of Say, does not differ from this species.

Fam. *Paguridæ*.

Genus *PAGURUS*, (Fabr.)

P. punctulatus, (Edwards.) Mus. Acad.

Brought from the Sandwich Islands, by Messrs. Nuttall and Townsend.

It inhabits the *DOLIUM ringens*, the *TRITON variegatum*, and other large shells.

Average length of thorax, four to five inches.

P. deformis? (Edwards.) Mus. Acad.

A specimen, brought from the Sandwich Islands by J. K. Townsend, agrees with the description of this species by M. Edwards, excepting that the second and third pairs of feet are tuberculous; if this should prove to be an invariable character, the present species may be named *P. carinatus*.

Length of thorax in the only specimen procured, rather more than $1\frac{1}{4}$ inches.

P. symmetricus. Mus. Acad.

Pedibus cylindricis, manibus tuberculosus, æqualibus, vix setosis, infrà valdè convexis, pedunculis oculorum gracilibus.

Eyes very small, scarcely one-fifteenth of the length of the ocular pedicles, which are somewhat three-sided, slender, rather long, being nearly twice as long as the basilar appendage of the external antennæ, though not so long as the anterior margin of the carapax, which is provided with a small, somewhat rounded rostrum; anterior feet equal, of moderate size, tuberculous above and beneath, but less so on their outer surface, hardly hairy, beneath very convex and forming, laterally, nearly a straight line with the fingers, which, for a considerable distance at their extremities, unite by a black margin, and, when closed, form a nearly oval body; second and third pairs of feet long, slender, cylindrical,

somewhat rugose, but hardly tuberculous, and marked, together with the tarsi, which are at least one-fifth longer than the preceding joint, with tufts of short hairs, or with depressions, from which the hairs have been removed; these depressions sometimes form an interrupted sulcus on the upper side of the tarsus. Color yellowish; length of carapax rather more than an inch, but perhaps becomes larger by age.

It is labelled as having been brought by Dr. Herring from Surinam, and may, perhaps, be allied to *P. oculatus*, (Fabr,) and to *P. crassimanus*, (Edw.) it has much resemblance, in form, to the *P. Labillardieri*, (Savigni, Egypt, Crust., Pl. 9, fig. 2.)

A small specimen, evidently of the same species, is preserved in the collection, labelled as having been found in the East Indies by J. Longstreth.

P. decorus. Mus. Acad.

Testa polita, profundè punctata, fronte rostrata, manibus ferrugineis, tuberculis, apicé digitorum albo, pedibus annulis coccineis cinctis.

Anterior portion of the thorax longer than broad, front with a very small rostrum; eyes extremely small, pedicles slender, bluish, rather longer than the anterior margin of the shell, and more than twice as long as the appendage of the external antennæ; carapax bluish, with numerous large punctures, having their cavities pale; antennæ bright orange; anterior feet dark reddish, carinate above, with somewhat short, triangular, very unequal hands studded with white tubercles; the fingers

white at tip; two following pairs of feet compressed, black or dark red, with the articulations of the joints bright vermilion; the tarsi short, stout, color bright vermilion, marked with black spots, from each of which grows a small tuft of hairs; the under side of the tarsus sometimes very densely tufted with long, thread-like, pinkish hairs.

Length one inch to 1½ inches.

Found by Mr. Nuttall at the Sandwich Islands, inhabiting the shells of various species of TURBO.

Probably allied to the *P. chilensis*, (Edwards,) and to the following:

P. elegans, (Edwards.) Mus. Acad.

Specimens, apparently of this species, brought by Mr. Nuttall from the Sandwich Islands.

Two other small species of PAGURUS, allied to the above, have been brought also from the Sandwich Islands by Mr. J. K. Townsend, the first may be named

P. levimanus. Mus. Acad.

Having the hands entirely smooth, pink above and white beneath, the right very large; legs reddish, tarsi paler, with a red spot on each side. The ocular pedicles are about the length of the anterior margin of the carapax.

The following may be called

P. latens. Mus. Acad.

In which the ocular pedicles are rather longer

than in the preceding, and the anterior feet granular; right hands with a sharp dentate crest on the upper side. Color bluish or reddish, the feet in some banded alternately with blue and red.

Genus CENOBITA. (Latr.)

C. Diogenes. (Auctorum.) Mus. Acad.

A specimen of this species was brought by Mr. Nuttall, supposed to have been found at the Sandwich Islands.

Fam. *Porcellaniadae.*

Genus PORCELLANA, (Lam.)

P. cinctipes. Mus. Acad.

Testa polita, anticè levitèr granulata, posticè levitèr striata; fronte canaliculata, pedum pare antico granulato, carpis unispinosis; reliquis albo-fasciatis.

Shell obtusely hexagonal, about as long as broad, exclusive of the front, which is triangular, prominent, profoundly canaliculate, and presenting on each side at base the germ of a dentiform lobe; carapax punctured in the middle, granular anteriorly, and striate on each side posteriorly, sides surrounded by a very prominent crest; color reddish-brown anteriorly, blue postero-laterally; anterior feet granular above, smooth, and highly polished underneath, carpus with a prominent ridge near the outer edge, terminating in a tooth; inner extremity only a little crenate; hands triangular, outer edge sharp; three posterior pairs of feet flattened, their color blue, fasciate with white.

Length a little over six-tenths of an inch.

Brought by Mr. Nuttall from the Sandwich Islands.

DECAPODA MACROURA.

Fam. *Scillaridæ*.

Genus SCILLARUS, (Fabr.)

S. latus, (Latr.) Mus. Acad.

Two specimens, brought from the Sandwich Islands by Messrs. Nuttall and Townsend.

Genus IBACUS, (Leach.)

I. antarcticus, (Fabr.) Mus. Acad.

Several specimens, taken with the preceding at the Sandwich Islands, by Messrs. Nuttall and Townsend.

Fam. *Palinuridæ*.

Genus PALINURUS, (Fabr.)

P. interruptus. Mus. Acad.

Testa antice spinosa, postice tuberculata; epistoma 7-spinosa; fronte bicorni abdominis segmentis interruptè sulcatis; pedibus vittatis.

Thorax with large spines anteriorly, and large flattened tubercles posteriorly, and armed in front with two very stout horns, having their apices subapproximate; epistoma with seven spines, the middle one largest; spaces between the thoracic spines and tubercles depressed and hairy; joints of the external antennæ covered with large spines; oph-

thalamic ring armed above with four spines, placed two and two, the anterior pair being larger than the others; abdomen with obsolete, minute spots, and scattered punctures; segments each with a profound, hairy, transverse sulcus, not reaching the middle, excepting on the last segment, where it is scarcely interrupted; feet vittate alternately with red and olivaceous.

Length from five to nine inches, as measured in two specimens, brought by Messrs. Nuttall and Townsend from Upper California, where it is used as food by the natives.*

It is probably allied to the *P. Argus*, (Latr.,) and to *P. dasypus*, (Latr.)

Fam. *Astacidae*.

Genus *ASTACUS*, (Fabr.)

A. oregonus. Mus. Acad. Pl. VII.

Testa granulata, bimaculata, fronte valde producta.

Body fuscous, granulated, carpus with a sharp spine at the interior inner angle; arm produced into a spine on each side anteriorly; thorax behind the front with five spines, placed three before, and one on each side behind the lateral ones; a large reddish spot on each side posteriorly; front little reflexed on the sides, terminating in a very long, slender spine, and having a short, marginal spine on each side.

Length about four inches.

* Since the above description was written, Mr. Nuttall informs me that he has found specimens of this species two feet in length.

Taken by Mr. Nuttall in the Columbia river, west coast of North America.

Genus NEPHROPS, (Leach.)

N. occidentalis. Mus. Acad.

Thorace lanuginoso, spinis in serie triplici dispositis; manibus prismaticis, villosis.

Thorax downy, armed above with three rows of strong spines, the middle row commencing behind the others, and composed of five or six teeth; the lateral rows have also about six teeth, and are continued upon the base of the rostrum, but terminate within the point at which the marginal spines of the front commence; these latter are in number four on each side, and a terminal one common to both; parallel with the fifth spine of the lateral thoracic row, and on the outer side of it, is a strong spine, almost imperceptibly cleft at base; no tubercles are visible on any part. Anterior feet very spinous above, and underneath; hands somewhat prismatic, with from three to five rows of tubercles, more or less spiniform on both the inner and outer face, the lateral ones ill defined, but the middle row very distinct; the left hand is rather the larger, and the upper and under surface of both, together with the prehensile side of the pincers, and almost the whole surface of the maxillary feet covered with very long, coarse hairs; segments of the abdomen sculptured as in the *N. norvegicus*.

Length half a foot.

Brought from the west coast of North America by Mr. Nuttall.

Fam. *Alpheidæ*.

Subgenus ATYOIDA.

Pedum pare tertio elongato, gracili, cœtera Atyæ similis.

It is essentially similar to the genus ATYA, of Leach, excepting the third pair of feet, which are elongate, gradually retracted toward the apex, and scarcely stronger than the two anterior pairs; the terminal joint is not broader at its extremity than the base of the tarsus.

A. bisulcata. Mus. Acad. Pl. V., fig. 5.

Testa polita, transverse sulcata, margine anteriori utrinquè bispinosa, rostro producto, valde acuto, utrinquè bisulcato.

Maxillary feet not attaining the extremity of the basal scales of the external antennæ, which are densely clothed with black hairs at their extremities, and greatly exceed the peduncle of the internal antennæ; thorax smooth, with a transverse sulcus behind the middle; a spine on the anterior margin of the thorax, between the rostrum and the outer angles, which are also produced into a spine; rostrum commencing from the base of the front, produced to a very fine point, and having a profound sulcus on each side; the front is so much elevated on its margin, that the two sides, together with the rostrum, present, at first sight, the appearance of a triple carina; terminal appendages of the abdomen smooth.

Length about one inch.

Brought by Mr. Nuttall from the Sandwich Islands.

Genus ALPHEUS, (Fabr.)

A. brevirostris? (Edw.) Mus. Acad.

Dr. Burroughs has brought from Manilla a species of ALPHEUS, agreeing with M. Edwards's description of *A. brevirostris*, with this exception, that it has a distinct tooth on the outer side of the basilar article of the external antennæ; there is also a somewhat elevated ridge on the outer side of the arm. I have named it, provisionally, *A. dispar*.

Another species of ALPHEUS has been brought from the Sandwich Islands by Mr. Nuttall, in which the orbital arches are considerably produced, and armed each with a short slender spine; the external side of the basal article of the external antennæ is continued into a sharp tooth; the rostrum is short, entire, and very pointed; the second article of the internal antennæ is about one-half longer than the first; the carapax is entirely smooth; hands smooth, the right one largest, the fingers very short, the moveable one very obtusely rounded.

Length about $1\frac{1}{2}$ inches.

I have named this species *A. lævis*. Mus. Acad.

Fam. *Palemonidæ*.

Genus HIPPOLYTE, (Leach.)

H. marmoratus, (PALEMON *marmoratus*, Oliv.)

Mus. Acad.

Several specimens, brought from the Sandwich Islands by Mr. Nuttall.

The maxillary feet of the female are scarcely one-half the length of those in the male.

Another species of HIPPOLYTE, brought also by Mr. Nuttall from the Sandwich Islands, may be named *H. gracilipes*.

The whole surface of its body is roughened; the thorax is furnished with a slightly elevated crest, commencing behind the middle of the carapax, and extending upon the rostrum, which is greatly compressed and produced downwards on the under side; the thoracic crest is armed with three or four spines behind the rostrum, and the rostrum itself with seven or eight; on its under side are a few long hairs, but no teeth; external maxillæ only of moderate length; feet slender, second pair elongate; the carpus long, nearly cylindrical, greatly inflated toward the base, but greatly contracted at the point of the commencement of the fingers, which are as long as the carpus, very slender and slightly curved; abdomen extremely gibbous.

Length nearly 1½ inches. Mus. Acad.

Genus PALEMON, (Fabr.)

P. grandimanus. Mus. Acad.

Thorace subcylindrico, rostro compresso, 15-dentato squamas antennarum æquante, antrorsum vix descendente; pedum pare secundo longissimo, minutè spinoso, digitis modò in apice attigentibus.

Thorax nearly cylindrical, with a strong tooth on each side, and another scarcely visible behind it; rostrum greatly compressed, dilated, almost straight,

and as long as the squamous plate of the external antennæ, armed with fifteen teeth on the upper side and with four beneath; second pair of feet very unequal, the left being considerably longer than the body; both are densely covered with almost invisible spines and close down; carpus about two-thirds of the length of the hand, very small at base, but gradually enlarging anteriorly; the left hand very large, being three times as thick as the arm, and considerably inflated; pincers about as long as the hand, and when closed leave a great space between their prehensile sides, which are armed each with one or more great teeth, and with as many smaller ones at base, their outer sides are marked with some black spots, more or less distinct; four posterior pairs of feet short and slender; eyes white.

Length about $2\frac{1}{2}$ inches.

Length of the left foot of the second pair, $3\frac{1}{4}$ inches.

Brought by Messrs. Nuttall and Townsend from the Sandwich Islands.

P. gracilimanus. Mus. Acad.

Rostro 13-vel 14-dentato, recto, squamis antennarum longiore; testa polita, utrinquè bispinosa; pedum pare secundo elongato, gracilibus, manibus verrucosis.

Rostrum rather broad, compressed, straight, but directed a little upwards at tip, a little longer than the basal plates of the antennæ, armed on the upper side with about thirteen teeth, and beneath with five or six serratures; a strong spine on each side the thorax, and a very small one behind it; second

pair of feet equal, nearly as long as the body rostrum inclusive, very slender, more or less tuberculous, or at least roughened; the carpus one-third longer than the hand, which last is a somewhat flattened cylinder, covered with minute tubercles, disposed in longitudinal rows, more or less distinct; pincers less long than the hand, uniting in their basal half, but leaving a slight space between them in their apical half.

Length from tip of rostrum to extremity of caudal appendages, about $3\frac{1}{2}$ inches.

Length of second pair of feet nearly three inches.

Found by J. K. Townsend at the Sandwich Islands.

The following species of PALEMON differs from the *P. jamacensis* in the second pair of feet, which are greatly longer than in that species, and more spinous; neither does it well agree with the *P. Lar*, (Fabr.) which Olivier says has a smooth thorax, moreover, the rostrum does not, in the present species, attain the extremity of the basal scales of the external antennæ by one-fourth; it differs in nearly these same respects from the *P. longimanus*, (Fabr.) which has the pincers smooth, according to Olivier, (Encyc. Meth.) The *P. ornatus* has only eight or ten teeth on the upper side of the rostrum, and the carpus is nearly the length of the palmar portion of the hand, and the feet, except the second pair, are nearly smooth; the same is the case with the *P. forceps*, (Edw.)

The following description will better determine its relationship.

Palemon testâ politâ, lateribus profundè punctatis, rostro squamis antennarum breviorè, antrorsum descendente, 12-vel 13 spinoso; pedum pare secundo longissimo, spinoso, cylindrico.

Rostrum longer than the peduncle of the external antennæ, but not so long as their basal scales, somewhat descending anteriorly, and armed with twelve or thirteen teeth above, and three beneath; thorax smooth, except on the sides where it is almost reticulate with profound punctures; a strong spine on each side anteriorly, and a smaller one behind it; second pair of feet longer than the body, inclusive of the rostrum and caudal appendages, and covered in their whole extent with strong spines, those on the under side being largest, many of them nearly one-eighth of an inch in length; carpus scarcely three-fifths of the length of the palmar portion of the hand; pincers at least as long as the hand, very spinous, white at tip, where they are strongly crooked, the moveable one is armed with two or three small teeth, and the immovable with one; the two unite in their whole length, being formed much as in the *P. carcinus*, but in the specimen belonging to the Academy, which has only the foot of the right side remaining, they accidentally diverge; the carina, however, together with the groove which should receive it, are somewhat distinct; the remaining feet are all covered more or less with short spines.

Length eight inches, but perhaps becomes larger with age.

It is supposed to have been brought from the East Indies by Dr. Burrough.

The second pair of feet are stronger than in the *P. carcinus*, and far more spinous. I have named it *P. punctatus*. Mus. Acad.*

Genus PENÆUS.

P. canaliculatus, (Oliv.) Mus. Acad.

Many specimens, of a species agreeing with Olivier's description of this species, excepting that the rostrum is armed beneath with two teeth, instead of one, have been brought from the Sandwich Islands by Messrs. Nuttall and Townsend. The carapax is black, and bordered on each side behind with white; there are no spines at the base of the third pair of feet; the rostrum is armed with only nine teeth.

Length four to five inches.

If distinct from Olivier's species, I will name it *P. marginatus*.

CRUSTACEA STOMAPODA.

Fam. *Squilliadæ*.

Genus SQUILLA, (Rondelet.)

S. arenaria, (Rumph. et Herbst.) (*S. maculata*, Lamarck.) Mus. Acad.

Inhabits the Sandwich Islands, whence specimens have been brought by Mr. J. K. Townsend.

* I have, since writing the above, seen another specimen of this species, brought from the West Indies.

S. nepa, (Latr.) Mus. Acad.

Brought also from the Sandwich Islands by Mr. J. K. Townsend.

S. stylifera, (Lam.) Mus. Acad.

Brought in considerable numbers from the Sandwich Islands, by Messrs. Nuttall and Townsend.

Genus GONODACTYLUS, (Latr.)

G. styliferus, (Edwards.)

A single specimen of this species has been brought from the Sandwich Islands by Mr. Townsend; the color of the hands is bright blue.

Reference to Plates accompanying the Paper.

- Plate III. EPIALTUS *Nuttallii*, page 109.
 " IV. THALAMITA *pulchra*, page 117.
 " V. Fig. 1, 2, and 3. ORTHOSTOMA *dentata*, page 122.
 " " Fig. 4. PACHYGRAPSUS, page 126.
 " " Fig. 5. ATYOIDA *bisulcata*, page 140.
 " VI. BLEPHARIPODA *occidentalis*, page 131.
 " VII. ASTACUS *oreganus*, page 138.



(Labiina) Mortalini.

Epiplatys

Drawn from Nature &c. from by W. H. M. Morton.

Johnson & Dornell 1888



Dr. Simeon Jacoby et I. Akermann

Thalamita pulchra.

McMurtry, Des.

Printed by ESTI

Plate 1

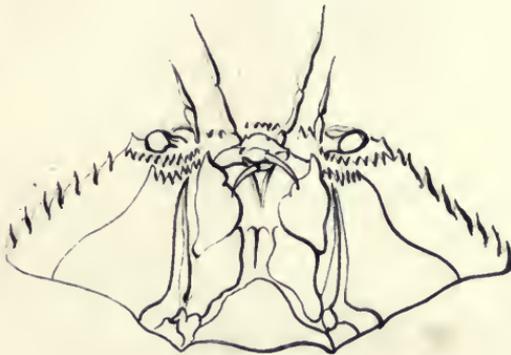


Fig. 1.

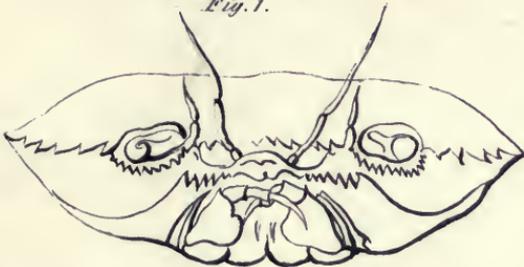


Fig. 2.

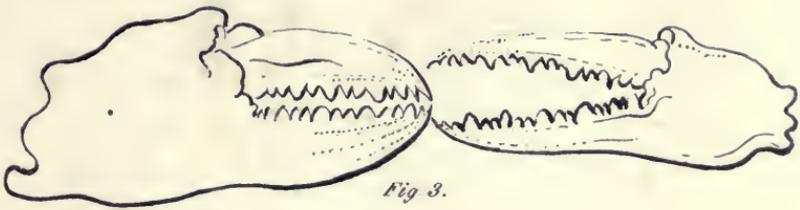


Fig. 3.



Fig. 5.

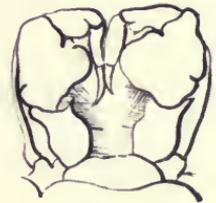


Fig. 4.

REFERENCE.

Figs. 1, 2 & 3. - Details of *Orthostoma dentata*.

Fig. 4. The outer Maxillary feet of *Puchygrapsus*.

Fig. 5, Third foot of *Atyoida bisulcata*.



Blepharipoda Occidentalis



M^o Martius, Des

Astacus Oreganus.