

06.73  
1857  
2  
QH -  
1  
E45X  
V. 1  
NH

3  
S.C.  
1082  
A. M.

49811

34

# PROCEEDINGS

OF THE

# ELLIOTT SOCIETY OF NATURAL HISTORY

OF

CHARLESTON, SOUTH-CAROLINA.

VOL. I.

NOV. 1853—DEC. 1858.



CHARLESTON:  
RUSSELL & JONES.

NEW-YORK: H. BAILLIERE.

1859.



1853-58



*Description, with figures, of six species of Porcellana, inhabiting Eastern Coast of North America.* By L. R. GIBBES.

A.—FRONT NEARLY STRAIGHT.

1. PORCELLANA MACROCHELES. *Plate I. fig. 5, natural size.*

SYNONYME. *P. macrocheles*, GIBBES, *Pro. Am. As. Sci.*, 3d vol. p. 191. 1850.

DESCRIPTION.—*Body* thick, *carapax* transverse, length to breadth as three to four, convex longitudinally; *front* very slightly prominent, anterior edge nearly straight, *eyes* small, not prominent; *external antennæ* with massive basal segment, completely filling up the groove in which it is placed in the shell, and bearing on its outer angle the moveable peduncle, which is thus entirely separated from the eye; the groove is not prolonged backwards under the lateral portion of the shell as usual, but that course is marked by a fissure; the *filament* about as long as the *carapax*.

*Anterior feet* unequal, right largest in the three individuals examined; *third segment* conspicuous, subcubical, rounded posteriorly, with a projecting lamellar lobe anteriorly; *carpus* as long as the *carapax*, thick, subcylindrical, with anterior edge curved, lamellar, projecting, without teeth or spines; the *larger hand*, long, thick, subcylindrical, anterior edge for three-fifths of its extent straight, ciliate, with thumb falcate, acute, and finger straight, hooked at tip, with a large tooth on middle of trenchant edge; larger hand with finger is twice the length of the shell; *smaller hand*, more slender and compressed. The four *posterior feet*, with short tarsus armed with short spines crowded at the tip.

*Color*, whitish or flesh color.

GEO. DISTR.—*Coast of South-Carolina*, first found by Dr. T. L. Burden, of Charleston, a single individual only; a few more have been since obtained by others. Readily distinguished by its straight front, and transverse subcylindric body.

REMARKS.—I find that the specific name had been previously used by Pœppig, but as the species so named by him, is the same as Guerin's *P. violacea*, and this last name has priority, the specific name above used may stand.

B.—FRONT PROMINENT, TRIANGULAR, NOT DENTATE.

2. PORCELLANA MAGNIFICA. *Plate I., fig. 3, natural size.*

SYNONYME. *P. magnifica*, GIBBES, *Pro. Amer. Assoc.*, 3d vol. p. 191. 1850.

DESCRIPTION.—*Carapax* with length and breadth nearly equal, smooth, polished, punctate, with traces of rugæ near the lateral edges, which are marked with a moderately distinct line, no spines in any part; *front* not trifid, moderately prominent, triangular, with a central linear depression; *external antennæ*, with moderately robust basal segment, furnished with a stout spine on the inside or side next the eye, spine stout, curved, pointing towards the eye.



*Anterior feet* unequal, left largest in the only individual examined; *carpus* long, about three times as long as broad, and as long as the carapax, anterior edge with three distant teeth, posterior marked with a few denticulations near the articulations with the hand; *hand* broad, flat, with thumb included sub-triangular in outline, but the lower edge, or anterior edge when folded in repose, is regularly arched from the articulation round to the tip of the finger, palmar portion as long as the carpus; *finger* and *thumb* with their opposing edges straight, without teeth, slightly hooked at tip; surface of carpus and hand shining, but roughened with a multitude of exceedingly minute granulations on the upper surface; on the lower the granulations are few and scattered and the surface comparatively smooth and polished.

*Color* of carapax and anterior, seen in the dry specimen, a beautiful red verging on crimson.

GEO. DISTR.—*Gulf of Mexico*; a single specimen brought from Vera Cruz by Dr. Cleveland, of Charleston. Distinguished by the large size of its hands compared with the body, and the polished red surface of the carapax and anterior feet.

REMARKS.—The antennæ are not represented in the figure, as they were mutilated in the specimen from which the drawing was made. The figure gives too much the appearance of longitudinal rugæ, which do not exist, as the carapax is perfectly smooth and polished.

3. PORCELLANA GALATHINA. *Plate I., fig. 1, natural size.*

SYNONYMES.—*Porcellana galathina*, Bosc, *Hist. Nat. des Crust.*, 1e edition, vol. 1, p. 233, pl. 6, fig. 2. 1802.

*Porcellana galathina*, LAMARCK, *Anim. sans Vert.*, 1e edition, tom. V. p. 230. 1818.

*Porcellana galathina*, SAY, *Jour. Acad. Nat. Sci.*, vol. I., p. 458. 1818.

*Pisidia Sayana*, LEACH, *Dict. des Sci. Nat.*, tom. xviii. p. 54. 1820.

*Pisidia Sayana*, DESMAREST, *Consid. Gen. sur les Crust.*, p. 199. 1825.

*Porcellana galathina*, Bosc, *Hist. Nat. des Crust.*, 2de edit., vol. I., p. 299, pl. 6, fig. 2. 1830.

*Porcellana galathina*, MILNE EDWARDS, *Hist. Nat. des Crust.*, tom. II., p. 258. 1837.

*Porcellana galathina*, LAMARCK, *Anim. sans Vert.*, 2de edition, tom. V., p. 407. 1838.

*Porcellana rugosa*, MILNE EDWARDS, *Hist. Nat. des Crust.*, tom. II., p. 252. 1837.

*Porcellana sexspinosa*, L. R. GIBBES, *Proc. Amer. Assoc.*, vol. III., p. 190. 1850.

DESCRIPTION.—*Carapax*, with length and breadth nearly equal, covered with transverse, slightly elevated but distinct piliferous ridges, giving it a



well marked rugous appearance; each transverse ridge on the anterior portion subdivided by the depressions marking the regions of the carapax into three portions, a middle and two lateral, nearly continuous; hairs parallel, nearly equal in length, directed forwards, appressed to the carapax; *front* not trifold, middle portion prominent, lateral portions rounded, very slightly prominent; on each side of the front, just over the eye, there is a spine, forming, as it were, the inner angle of the *orbit*, the outer angle is also formed by a spine, short but very distinct, behind which, at a little distance, on the carapax, is another, from which a marked ridge runs backward, forming a border to the shell, but before reaching the posterior edge, turns upward and forms one of the transverse ridges on the back; *external antennæ* with a stout spine on the basal joint, *filament* three or four times the length of carapax.

*Anterior feet* subequal, right (frequently the left) somewhat the larger; *third segment* inconspicuous, terminated at inner anterior angle with a tooth, rugose like the carapax, upper edge spinous; *carpus* nearly as long as the carapax, with five broad subequal teeth on anterior edge, the last forming the angle at the articulation with the hand, the tooth on the third segment nearly equal to these, and appearing as the first of a series of six; outer edge of carpus with five or six small spines; *hand* subtriangular, serrate and ciliate on the lower or outer edge, rugose, as also the carpus, with piliferous lines or ridges like those of the carapax, ridges running entirely across the carpus; moveable finger prolonged and hooked at tip, closing under the other, which is also distinctly hooked.

*Color*, red, more intense on the piliferous lines or rugæ, the hairs grey or ash color.

*Dimensions*.—The figure was drawn from the largest specimen in my possession at the time; I have since seen some larger, 0.53 inch in length, 0.55 in breadth.

*GEO. DISTR.*—*Key West*, whence it was brought me by Dr. Wurdemann in 1845; also occasionally found on *Coast of South-Carolina*.

*REMARKS*.—Some reasons should be given for presenting the synonymy in the manner I have done, and it is requisite to make some statement of the facts on which that view is based.

As far as I can ascertain, the name *Porcellana galathina* was first used by Bosc for a new species described by him, in his *Histoire Naturelle des Crustacés*, published by Deterville, in 2 vols. 18mo., Paris, an X., as part of the *suites à Buffon*. A second edition of this work was published in Paris in 1830, under the superintendence of Desmarest, and this edition is the only one in my possession, or accessible to me, and from it only can I quote, without being able in every case to separate Bosc's original matter from Desmarest's additions. In this work there is a description at page 298, of "a new species of *Porcellana*, remarkable for the structure of its carapax, absolutely similar to that of *Galathea striata*, and which we will consequently call *Porcellana galathina*." The description which follows, placed under the general



remarks upon the genus and given somewhat in detail, is entirely applicable to our species, mentioning distinctly the *transverse* piliferous striæ; the only important omissions are, the spine forming the external angle of the eye, the spine on the carapax behind the eye, the number of the teeth on the anterior edge of the carpus, and the spines on its posterior edge. The figure, pl. 5, fig. 2, is like most of those in the work, very stiff, and inartistic, as well as inaccurate, exhibiting dots instead of striæ, and gives but little help in determining the species; it shews, however, five or six teeth on the carpus. In the specific descriptions, the description is given in reduced terms, and these are inaccurate, for the carapax is said to be striated *longitudinally* (*striè longitudinalement*), although the detailed description represents it as covered with *transverse* striæ, (*couvert de stries transverses*), which must be correct, as the comparison with *Galathea* shews. The native country of Bosc's species is said to be unknown.

Next, Say in 1818, in the Journal of the Academy of Natural Sciences, Philadelphia, vol. 1, p. 458, makes the following note. "Porcellana galathina. We found many specimens on the coast of Georgia and Florida." No reference is made to Bosc or to any author or describer of the species, nor does any description of the species observed, accompany the note.

In the Dictionnaire des Sciences Naturelles, tome xviii., p. 54, about the year 1820,\* Leach writes thus under the article *Pisidia*, a subdivision of *Porcellana* made by him. "*Pisidia Sayana*, (*Porcellana galathina*, Say.) Test et la quatrième paire de pattes marqués par de lignes courtes et transverses; front trifide, le prolongement de milieu encore sous-trifide et finement granulé. Habite les côtes de la Floride dans l'Amérique. Communiqué par mon ami, M. Say sous le nom de *Porcellana galathina*." This is the whole account given of the species.

In 1825, Desmarest in his *Considérations Générales sur la classe des Crustacés*, following in the main, the system of Leach, under his *Pisidia Sayana*, p. 199, refers to Leach as above, and repeats his description, with a few verbal alterations. He mentions Bosc's *P. galathina*, but considers it as allied to, and probably the same as *P. sociata* of Say, which view is manifestly erroneous.

In neither edition of Lamarck's *Animaux sans Vertèbres*, is there any description of the species, but in each there is reference to Bosc's figure.

In 1850, misled by the inaccurate phrase "*longitudinally* striated" in Bosc's specific description, and overlooking the more detailed account, given just before, of the same species, I considered the synonymy so unsettled as to be induced to give (*Proceed. Amer. Assoc.*, vol. iii., p. 190) to our species the name *P. sexpinosa*. Reviewing the facts as above presented, and remembering that Bosc resided some time in Charleston (acting as Consul, if I am rightly informed), and that some of our Crustacea bear his names, I think it

\* I have not now access to the work, and my notes do not give the year.



not improbable that his *P. galathina* may have proceeded from our Southern coast, although its country is said to be unknown. Say has applied the name to one from our coast. Leach and Desmarest have given descriptions of that one which apply to our present species, as also does Bosc's own description; and lastly the name has not been applied to any species proceeding from other localities; I therefore now apply the name *P. galathina* to the present species, and think the synonymy ought to stand as I have presented it.

In 1837, Milne Edwards described, in the work already quoted, his *P. rugosa*. This description of this species, whose origin is also said, singularly enough, to be unknown, applies in every particular to our species; he also notices the spine on the carapax a little distance behind the external angle of the eye; the only deviation of importance, if deviation it can be called, is that "the front is almost as prominent *laterally* as in the middle." I consider therefore this species of M. Edwards as the same as ours. Possibly the specimens he described were the identical ones of Bosc, deposited in the collection of the Museum in Paris. M. Edwards, although he mentions Bosc's work (in terms of perhaps just censure,) in his sketch of the History of Carcinology, in the introduction to his work, and quotes him under *Pagurus vittatus* (tome ii., p. 237) makes no reference to him whatever under *Porcellana*, not even when quoting Say's *P. galathina*. So much for Say's omission, in not referring to Bosc, when he used the name of his species.

After stating the conclusions drawn from published notes and descriptions which may be presumed to be accessible to all Naturalists, it is proper to make mention of some facts opposed to these conclusions, especially as these facts are at present accessible to few. Since writing, in 1850, the description of *P. sexpinosa*, above referred to, Dr. A. A. Gould, of Boston, kindly placed in my hands a small packet of Say's manuscript notes on Crustacea and Insects, chiefly of the United States, whose examination I hoped would enable me to decide what species he referred to under the name *P. galathina*. Three species of *Porcellana* are mentioned; the first is called *P. galathina*, but the incomplete description does not, where points sufficiently characteristic are seized, apply to our present species, nor to any other that I know on our coast. The description of his second species (without specific name) seems to apply to our *P. armata*. His third is mentioned thus, in a sheet detached from the others: "The large *Porcellana* I found on the coast of Florida is perhaps the same as the species in Mr. L'Herminier's collection, and which I have taken to be *P. galathina*; the general colour is reddish, brown, etc." and then follows a description, chiefly of coloration, which applies generally to our *P. ocellata* and not to *P. galathina*. These notes certainly cast some doubt on the determination of Say's *P. galathina*, but I think I am justified in saying that they do not require the alteration of the synonymy as above presented.

The only closely allied species is the *P. Boscii* of Savigny (*Expéd. à l'Égypte, Crust. pl. 7, fig. 2*) which is quite distinct.



NOTE.—Since writing the above, I have seen the text and plates of the Crustacea of the Exploring Expedition under Capt. Wilkes, and can now (Feb. 1856) quote another allied species, the *P. Boscii* of that work. It is, however, distinct from the *P. Boscii* of Savigny, and I would propose for it the name of its describer, Prof. James D. Dana, and call it *P. Danae*. The three species will form one section of the genus, and may be characterised thus:

♂♂ Carapax transversely rugose, with piliferous ridges.

1. *P. galathina*, Bosc. The piliferous ridges nearly continuous across the carapax; a spine on the carapax behind the exterior angle of the eye; anterior edge of carpus with five (rarely four or six) teeth, the anterior one forming the angle, posterior edge with several spines; hand one-half broader than the carpus.

Color, cherry red; length about 0.5 of inch. Southern Atlantic Coast of United States.

2. *P. Danae*, (*P. Boscii*, DANA. *Crust. Explor. Exped.* page 421, pl. 26, fig. 11.) The piliferous ridges nearly continuous across the carapax; no spine on the carapax behind the eye; anterior edge of carpus with four teeth, the anterior one at a little distance from the angle formed at the articular edge, which is truncate, posterior edge with a few spines; hand nearly twice the breadth of carpus.

Color, cherry red; length about 0.9 of inch. Rio Janeiro and Coast of Brazil.

4. *P. Boscii*, SAVIGNY. The piliferous ridges interrupted or broken up into numerous short curved ridges, convex forwards; a spine on the carapax behind the external angle of the eye; anterior edge of carpus with four teeth, the anterior one at a little distance from the angle, articular edge festooned with three obtuse teeth, and a sharpe spine at posterior angle, the posterior border with spines; hand about as broad as carpus.

Color, ; length about 0.4 of inch. Coast of Egypt.

4. *P. ARMATA*. Plate I, fig. 4, natural size.

SYNONYME. *P. armata*, GIBBES, *Proc. Amer. Assoc.*, vol. 2, p. 190. 1850.

DESCRIPTION.—*Carapax* of nearly equal length and breadth, nearly smooth, but exhibiting, under a lens, minute, piliferous lines; *front* not trifold, middle portion prominent, lateral portions rounded; *eyes* prominent, as also in the last species, outer angle of orbits obtuse; at a little distance behind it, on the edge of the carapax, an acute spine, from which an indistinct border runs back; *exterior antennæ* with filament about twice the length of carapax.

*Anterior feet* nearly equal, right somewhat the larger; *carpus* about  $\frac{3}{4}$  length of body, twice as long as broad, anterior edge with three acute teeth, posterior edge with four or five small spines beyond the middle; *hand* subtriangular in outline, lower or outer edge serrulate with minute spines; upper surface, as also that of carpus, covered with minute granulations, sometimes becoming short ridges. *Posterior feet*, the three first pair with the upper



edge spinulose, and a small spine at the anterior termination of lower edge.

*Color*, a reddish brown in the dry specimen.

GEO. DISTR.—*Florida Coast*.

REMARKS.—Say's description of the second species in the manuscript notes above mentioned applies to this species; he uses no specific name. Dana's *P. armata*, Crust. U. S. Explor. Exp., is a different species, and he has since changed the name to *P. spinuligera*, Crust. Expl. Exp., 1593.

### C.—FRONT TRIDENTATE.

#### 5. PORCELLANA SOCIATA. *Plate I, fig. 6, natural size.*

SYNONYMES.—*Porcellana soriata*, SAY, *Jr. Ac. Nat. Sci.*, vol. I., p. 456. 1818.

*Pisidia sociata*, LEACH, *Dict. des Sci. Nat.*, tom. xviii., p. 54. 1820.

*Pisidia sociata*, DESMAREST, *Consid. Gen. sur les Crust.*, p. 199. 1825.

*Porcellana sociata*, MILNE EDWARDS, *Hist. Nat. des Crust.*, vol. II., p. 258. 1837.

*Porcellana sociata*, GIBBES, *Proc. Amer. Assoc.*, vol. III., p. 190. 1850.

DESCRIPTION.—*Carapax* nearly smooth, tuberculate before, tubercles in a transverse line of four, obtuse, giving the *front* the appearance of being depressed rather suddenly, edge of the front bent down, three toothed; *eye* not very prominent; *external antennæ*, with filament about the length of *carapax*.

*Anterior feet* nearly equal, in some the right, in others the left, the greater; *carpus*, about two-thirds the length of *carapax*, smooth beneath, tuberculate above, tubercles granulate, anterior edge granulate, with a large tooth near articulation with third segment; *hand* smooth beneath, tuberculate above, tubercles, granular like those of *carpus*, with a tendency to a longitudinal linear arrangement; *finger* granulate, hooked at tip, opposing edges with fine granular teeth.

*Color*, dirty ivory white; length about 0.2 of inch.

GEO. DISTR.—*Atlantic Coast of Southern United States*.

REMARKS.—In Say's original description the specific name is as I have given it above, *soriata*. Leach, who received specimens from Say, gives the specific name *sociata*, so that *soriata* is most probably a typographical error. Desmarest and Edwards use Leach's specific name, and I have done the same, as there can scarcely be a doubt that it was the one intended by Say to be applied to his species. In 1847, Say's original specimens were in the collection of the Academy of Natural Sciences in Philadelphia, but the label could not be found to determine how he wrote the name.

#### 6. P. OCELLATA. *Plate I, fig. 2, natural size.*

SYNONYME. *P. ocellata*, GIBBES, *Proc. Amer. Assoc.*, vol. 3, p. 190. 1850.

DESCRIPTION.—*Carapax* about as long as broad, nearly smooth, without spines, with distinct border running back; *front* trifold, middle lobe most pro-



minent, with central depression, in some individuals subacute with subdentate edges; outer angle of *eye* acute but without spine, from it a distinct border to carapax runs back for two-thirds of its length; *exterior antennæ* with filament about the length of carapax or a little shorter.

*Anterior feet* subequal, in some individuals the right, in others the left is the larger, *carpus* short, about half the length of body, and a little longer than broad, with a projecting lobe at base of inner edge, this edge without spines, outer edge with a slightly raised border, and a single spine at articulation with hand; *hand* about as long as carapax, subtriangular in outline, lower edge ciliate, finger and thumb with opposing edges nearly straight and without teeth, the tip of former incurved and folding within the slightly incurved tip of latter. Four pair of *posterior feet*, without spines, and ciliate on the edges of the different segments.

*Color.* In the recent specimen the carapax and anterior feet are ocellate with white spots on a reddish ground, which is frequently deeper around the spots; posterior part of carapax and abdomen with alternating whitish and reddish longitudinal bands, posterior feet with transverse reddish bands, in which the ocelli may frequently be perceived. All these markings are less distinct in the dry specimen.

*GEO. DISTR.*—*Coast of South Carolina.* Readily distinguished by its trifid front and ocellate markings, and short carpus.

*REMARKS.*—Say's description of the third species in the manuscript notes above mentioned applies to this species.

---

JUNE 6TH, 1854.

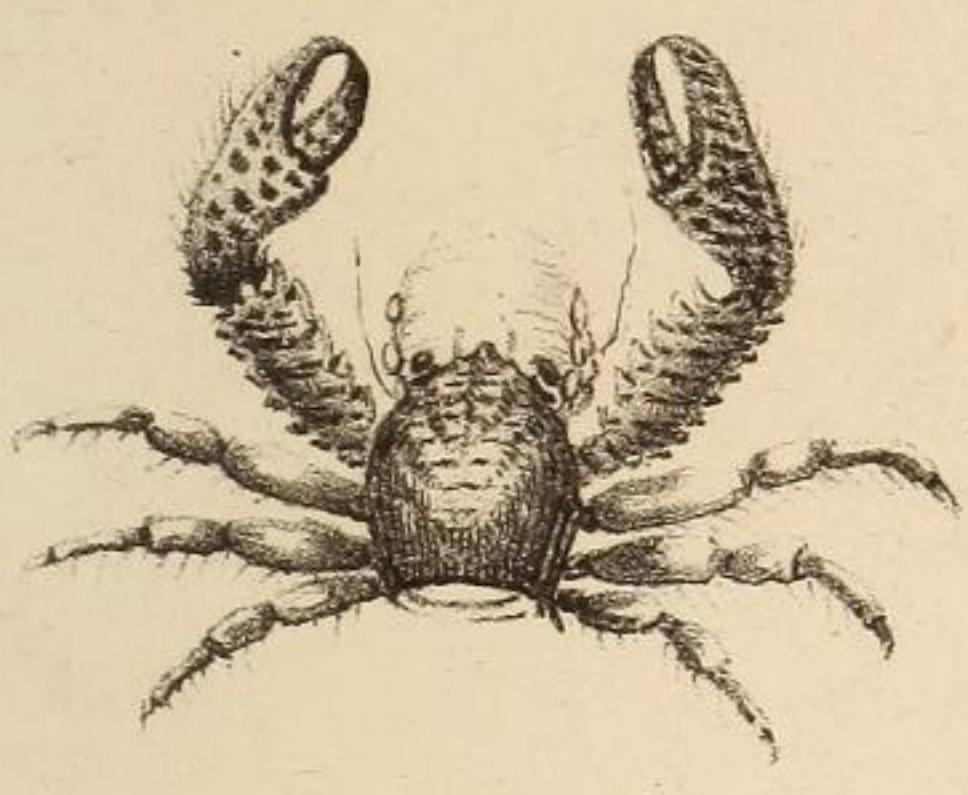
Vice-President L. R. Gibbes in the chair.

Professor F. S. Holmes submitted a paper entitled Descriptions of new fossil Balani from the Eocene marl of Ashley River, South Carolina; intended for publication in the Proceedings. Referred to Curators.

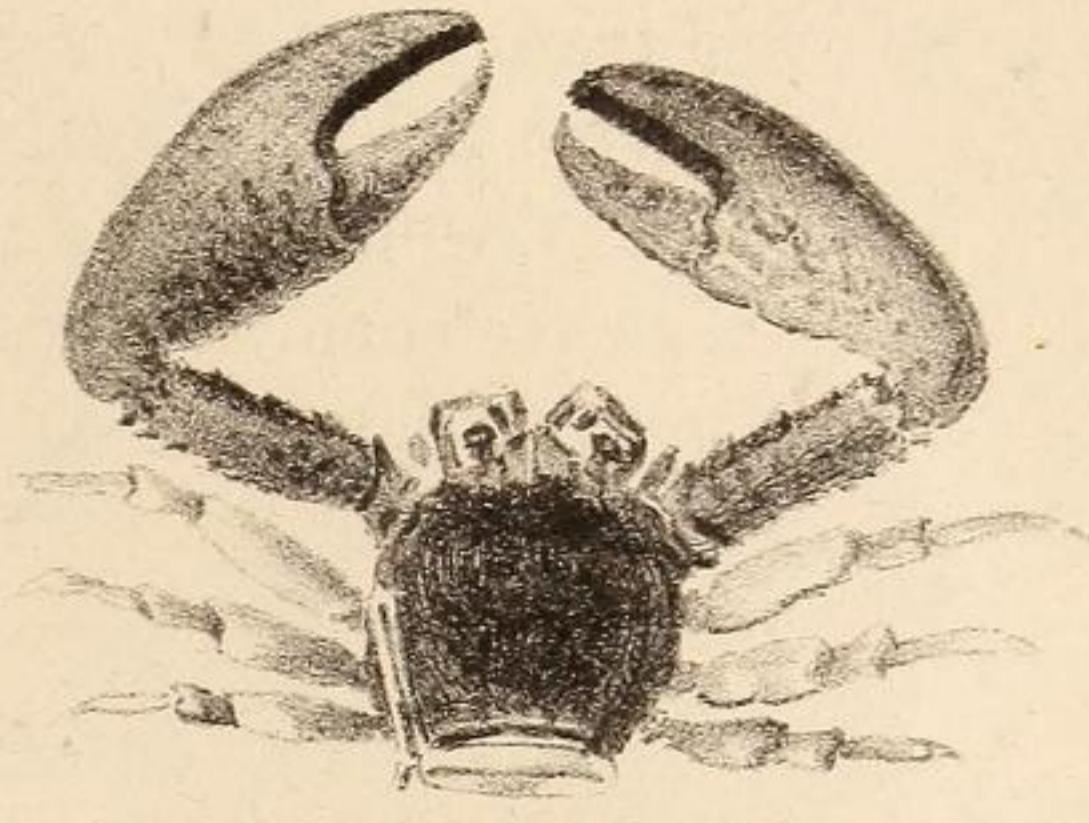
Professor Holmes read the following extract from a letter received from Lieut. Herndon, late Commander of the United States Expedition to explore the River Amazon, and submitted the specimens therein named to the inspection of the members.



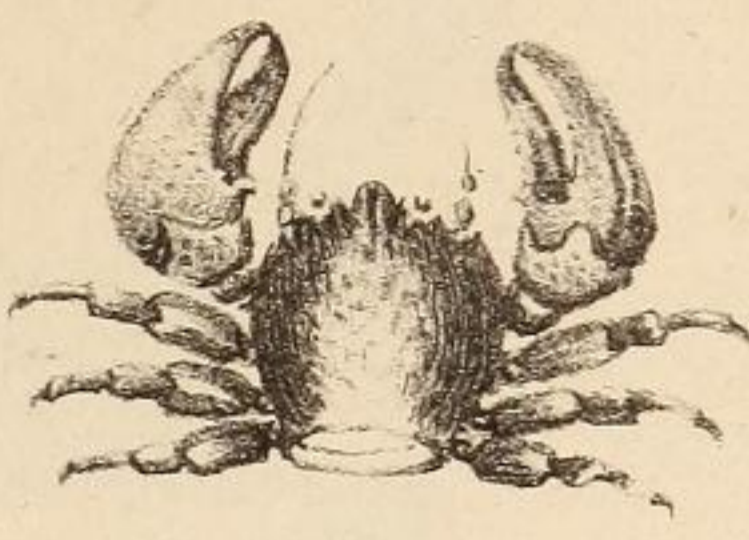
1.



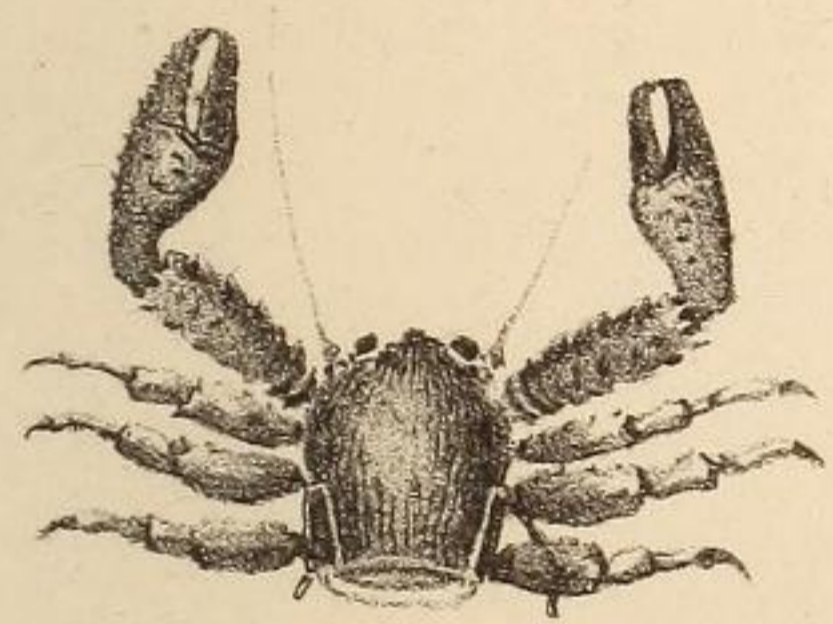
3.



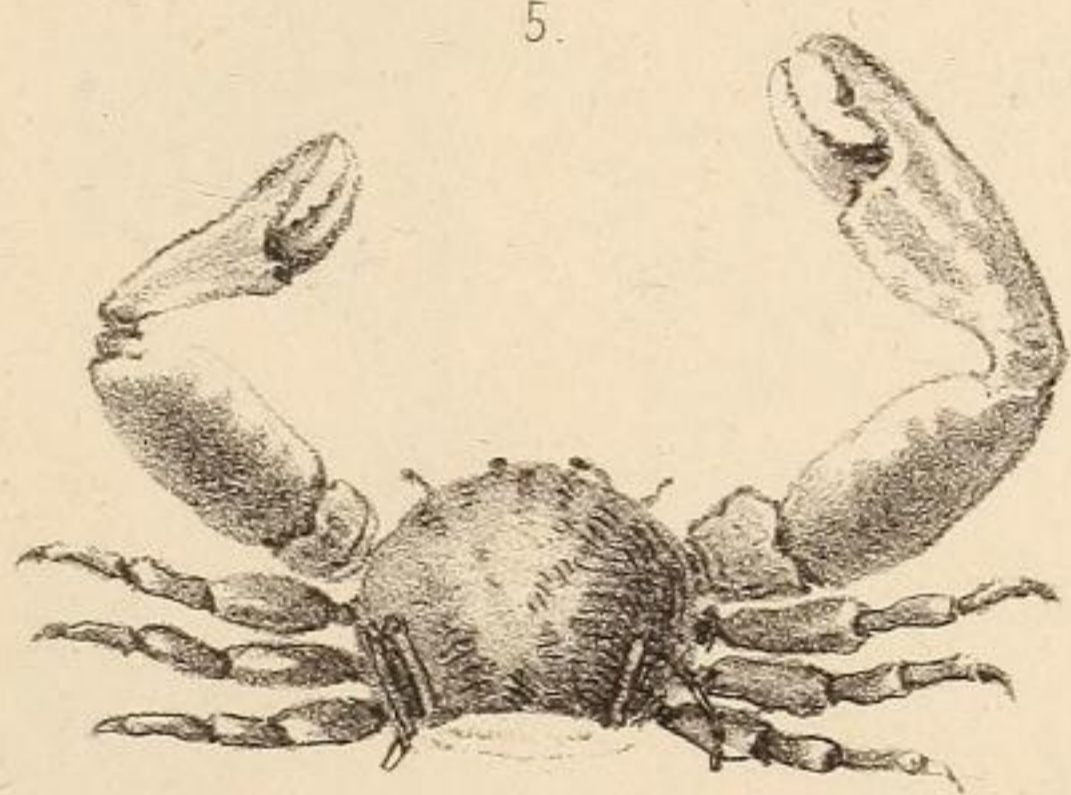
2.



4.



5.



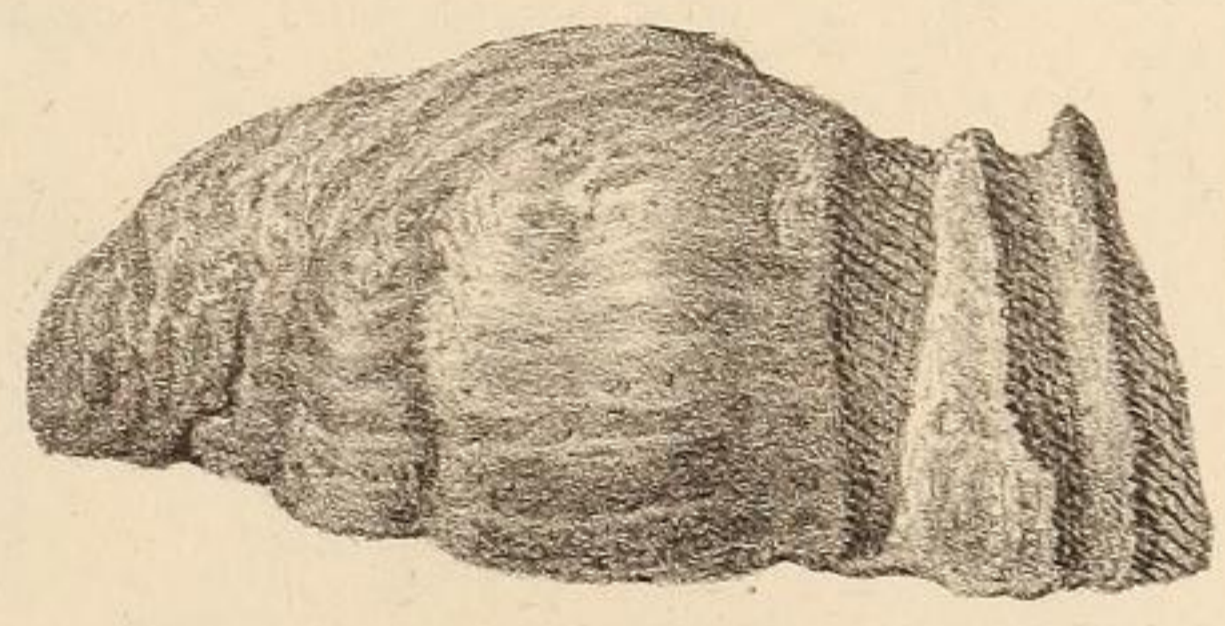
6.



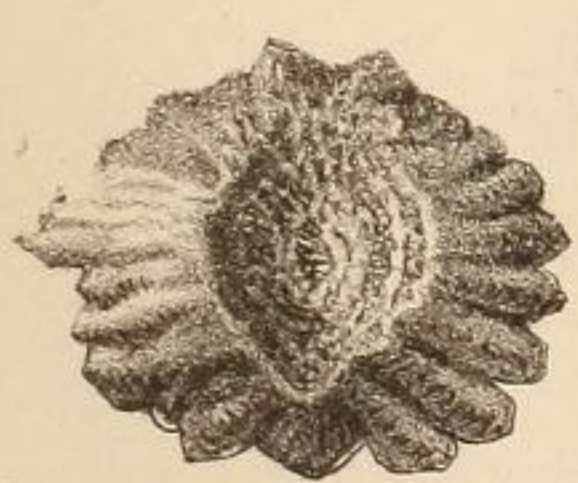
7.



8.



9.



10.



11.



12.

