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XXIV.—Contributions to the Study of the Entomostraca.

By GEORGE STEWARDSON BRADY, C.M.Z.S. &c.

No. III. Marine Ostracoda from Tenedos.

[Plates XIV. & XV.]

IN this gathering, for which I am indebted to my friend Mr. Thomas Blain, of Sunderland, the chief point of interest is the occurrence of two British species, *Cythere antiquata* (Baird), and *Pontocypris* (?) *angusta*, Brady. The shells of the second are empty, and I am not yet able to state with certainty whether the generic position assigned to it is correct. The first-named occurs abundantly, and is very finely developed; I have noticed it also in other collections from the shores of the Levant and Grecian Archipelago. The prevailing species in the gathering are *Cythere tarentina*, Baird, *C. Speyeri*, Brady, *C. favoides*, Brady, and *Loxoconcha affinis*, Brady.

List of Species.

CYPRIDÆ.

?*Aglaia pulchella*, Brady.
Pontocypris (?) *angusta*, Brady.
 — *intermedia*, nov. sp.
Bairdia formosa, nov. sp.

CYTHERIDÆ.

Cythere favoides, nov. sp.
 — *Speyeri*, nov. sp.
 — *tarentina*, Baird.
 — *crispata*, nov. sp.
 — *dissimilis*, nov. sp.

Cythere prava (Baird).
 — *fistulosa* (Baird)
 (? = *runcinata*, Baird).
 — *senticosa*, Baird
 (= *hystrix*, Reuss).
 — *antiquata* (Baird).
Loxoconcha affinis, Brady*.
 — *alata*, nov. sp.
Xestoleberis margaritea, Brady†.
Cytherura acris, nov. sp.
Sclerochilus (?) *ægæus*, nov. sp.
Paradoxostoma (?) *reniforme*, nov. sp.

Pontocypris intermedia, nov. sp. (Plate XIV. figs. 1, 2.)

Shell, viewed from the side, subtriangular; greatest height a little in front of the middle, and equal to half the length: anterior extremity broad and well rounded, posterior narrowed, almost angulated: superior margin forming an obtuse angle a little in front of the middle, thence sloping with a gentle curve to the front, but much more steeply backward; inferior margin scarcely sinuated. Outline, seen from above, ovate, with pointed extremities; greatest width situated in front of the middle, much less than the height. Colour white; surface smooth, granular. Length $\frac{1}{37}$ inch.

This presents characters intermediate between those of the

* *Normannia affinis*, Brady, Trans. Zool. Soc. vol. v. p. 382.

† *Cytheridea margaritea*, Brady, *ibid.* p. 370.

two common northern species, *P. trigonella* and *P. mytiloides*, but cannot, I think, be properly referred to either of them.

Bairdia formosa, nov. sp. (Plate XIV. figs. 5-7.)

Carapace, as seen from the side, subtriangular, highest in the middle; height equal to considerably more than half the length: anterior extremity rounded and bordered below the middle with several (usually from six to ten) unequal short spines; posterior produced below the middle into a short sharp beak, below which it bears a variable number of slender curved spines: superior margin very boldly arched, inferior almost straight. Seen from above, subrhomboidal, widest in the middle, more acutely pointed behind than in front; width equal to half the length. Surface of the shell closely and regularly impressed with small rounded punctures; colour white. Left valve much larger than the right, and overlapping on the dorsum. Length $\frac{1}{2}$ inch.

Cythere crispata, nov. sp. (Plate XIV. figs. 14, 15.)

Carapace, as seen from the side, compressed, oblong, subreniform; greatest height near the middle, and equal to rather more than half the length: anterior extremity obscurely rounded and crenulated below the middle, posterior truncate: superior margin gently arched, slightly excavated in front of the eyes; inferior almost straight: all the margins more or less rugged. Outline, as seen from above, oblong, subquadrangular, widest behind the middle, broadly mucronate in front, truncate behind, deeply constricted at the anterior third, and more gently near the middle; width considerably less than half the height. Surface of the valves exceedingly irregular, marked with waved, rounded, and irregularly flexuous ridges. Colour yellowish brown. Length $\frac{1}{4}$ inch.

This so much resembles, in outline and in style of surface-marking, *Cythere badia*, Norman, that in my 'Monograph of the Recent British Ostracoda,' I have, in the note on distribution, referred it to that species. A reexamination of the specimens, however, has induced me to believe that it ought to be considered distinct, though it must be admitted that the differences are chiefly of degree rather than of kind, consisting in the larger size and the excessive development of the rugosities of the surface. There is, however, a good distinctive character in the truncate posterior extremity. It seems to constitute a link between *C. badia* and a form previously (Trans. Zool. Soc. vol. v.) referred by me to *Cythere canaliculata*, Reuss.

Cythere favoides, nov. sp. (Plate XV. figs. 5-7.)

Carapace of the *female*, as seen from the side, subquadrangular, higher in front than behind; greatest height equal to rather more than half the length: anterior extremity well rounded and slightly dentate below the middle; posterior produced below the middle into a subsquamous flange or bordering process, slightly emarginate above the middle: superior margin a little elevated over the eyes, thence sloping gently backwards in an almost straight line; inferior gently sinuated. Seen from above, ovate, widest behind the middle; extremities obtusely mucronate; greatest width equal to half the length. Shell of the *male* much more elongated, the dorsal margin slightly sinuated; posterior extremity not so deeply excavated above the middle. Surface of the valves marked with a beautiful hexagonally reticulated pattern of delicate raised ridges, and towards the anterior extremity with a broad border, which is crossed by numerous radiating hair-like lines. Length of female $\frac{1}{24}$ inch.

Cythere Speyeri, nov. sp. (Plate XV. figs. 8-11.)

Shell of the *female* tumid. Seen from the side, broadly subreniform, highest in the middle; greatest height equal to nearly two-thirds of the length: anterior extremity rounded, posterior produced into a sort of beak below the middle, and excavated above: superior margin boldly arched, highest in the middle; inferior slightly sinuated in front of the middle, bending upwards behind. Seen from above, ovate, widest in the middle, broadly mucronate behind, obtusely pointed in front. Shell of the *male* (?) larger (fig. 8), the dorsal margin less conspicuously arched, the posterior not so prominently beaked. Surface of the valves marked with close and coarsely impressed round puncta; the ventral margin (of each valve) bearing towards the posterior extremity a single, sharp, downward-pointing spine. Length of female $\frac{1}{30}$ inch.

This species is very similar in general appearance to the British *C. convexa*, and differs chiefly in being very much more tumid: the peculiar ventral spine is also sometimes present in the British species.

Cythere dissimilis, nov. sp. (Plate XV. figs. 12 & 13.)

Valves, as seen from the side, subquadrate, highest in front of the middle; greatest height equal to rather more than half the length: anterior extremity broadly and somewhat obliquely rounded, posterior oblique, deeply excavated, and

terminating below in a strong triangular projection: superior margin gibbous over the anterior hinge, then deeply excavated, and terminating behind in a strong spinous elevation; inferior straight. Seen from above, the outline is hexagonal, deeply constricted in the middle, extremities mucronate. Shell-surface covered with closely set angular pittings, having an elevated ridge just within and parallel to the anterior margin, and two short and sharp longitudinal ribs on the central portion of the valve; one large triangular spine at the postero-superior angle, with two or three smaller ones below. Length $\frac{1}{3\frac{1}{2}}$ inch.

Loxoconcha alata, nov. sp. (Plate XIV. figs. 8-13.)

Carapace of the *female*, as seen from the side, flexuous, sub-rhomboidal; greatest height near the middle, and about equal to two-thirds of the length; extremities obliquely rounded, the posterior slightly emarginate above the middle: superior margin gently arched, highest in the middle; inferior sinuated in the middle. Seen from above, the outline is rhomboidal, acutely pointed in front, mucronate behind, slightly constricted in the middle, behind which the lateral alæ form two conspicuous protuberances ending abruptly behind; greatest width behind the middle, nearly equal to the height. The shell of the *male* is more elongated, nearly equal in height throughout, the dorsal margin straight and abruptly angular at its posterior extremity. Surface of the shell marked with fine, closely set, subconcentrically arranged pittings, and having below the middle of each valve a subangular alæform projection. Length $\frac{1}{4\frac{1}{8}}$ inch.

The nearest ally of this species is probably *Cytheropteron multiforum* (Norman). It is, perhaps, questionable whether *C. multiforum* ought not to be referred to the genus *Loxoconcha*; and had I, at the time of writing my monograph of the British species, been acquainted with the form now under notice, I should probably have taken that view of the matter. But, not having seen the animal of *C. multiforum*, having, moreover, seen no *female* carapaces recognizable as such (which in the present species have all the normal characters of the genus), and knowing of no instance of a distinct lateral ala in *Loxoconcha*, I was induced to consider it a *Cytheropteron*. It will be interesting, when opportunity occurs, to examine the animal of *C. multiforum*: if it be a true *Loxoconcha*, we must expect some day to find the hitherto overlooked females; if not, the present species would appear to form a curious connecting link between the two genera.

Cytherura acris, nov. sp. (Plate XV. figs. 3-4.)

Carapace of the (*male?*), as seen from the side, oblong, subclavate, nearly equal in height throughout; height scarcely equal to half the length: anterior extremity rounded, posterior produced in the middle into a long tapering process: superior margin nearly straight; inferior also straight or very slightly sinuated, produced posteriorly into a sharp spine. Seen from above, subhexagonal, oblong, with parallel sides, obtuse in front, sharply mucronate behind; width equal to the height. Valves obscurely reticulated, marked with two subparallel longitudinal ridges, the lower of which terminates behind, on the ventral surface, in a sharp spine, and thence runs rectangularly across the valve, forming a sharply cut declivity. Length $\frac{1}{50}$ inch.

The gathering contains also several specimens smaller and more tumid than those here described, which are probably the female of the same species.

Sclerochilus (?) *ægæus*, nov. sp. (Plate XIV. figs. 3, 4.)

Carapace, seen from the side, elongate, siliquose, highest in the middle; greatest height equal to less than half the length; extremities narrowly rounded, the posterior almost angular: superior margin boldly arched, sloping almost in a straight line to the front, but with a more distinct curve backwards; inferior sinuated in front of the middle, curving upwards behind. Outline, as seen from above, ovate, widest in the middle, extremities equally and subacutely pointed; width equal to fully one-third of the length. Surface smooth, white, with clouded patches. Length $\frac{1}{36}$ inch.

Paradoxostoma (?) *reniforme*, nov. sp. (Plate XV. figs. 1, 2.)

Carapace, seen from the side, elongate, reniform, nearly equal in height throughout; height much less than one-half the length; extremities evenly rounded: superior margin gently arcuate, inferior sinuated in the middle. Seen from above, compressed, ovate, acutely pointed in front, subacutely behind; width equal to scarcely one-third of the length. Surface smooth; colour whitish, marked with spots of white opacity. Length $\frac{1}{48}$ inch.

EXPLANATION OF THE PLATES.

PLATE XIV.

- Fig. 1.* *Pontocypris intermedia*, seen from left side.
Fig. 2. The same, seen from above.
Fig. 3. *Sclerochilus* (?) *ægæus*, seen from left side.
Fig. 4. The same, seen from above.

- Fig. 5. *Bairdia formosa*, seen from left side.
 Fig. 6. The same, seen from above.
 Fig. 7. The same, seen from the front.
 Fig. 8. *Loxoconcha alata* (male), seen from left side.
 Fig. 9. The same, seen from above.
 Fig. 10. The same, seen from below.
 Fig. 11. The same, seen from the front.
 Fig. 12. The same (female), seen from left side.
 Fig. 13. The same, seen from below.
 Fig. 14. *Cythere crispata*, seen from left side.
 Fig. 15. The same, seen from above.

PLATE XV.

- Fig. 1. *Paradoxostoma* (?) *reniforme*, seen from left side.
 Fig. 2. The same, seen from above.
 Fig. 3. *Cytherura acris* (male?), seen from left side.
 Fig. 4. The same, seen from above.
 Fig. 5. *Cythere favoides* (male), seen from left side.
 Fig. 6. The same (female), seen from left side.
 Fig. 7. The same, seen from above.
 Fig. 8. *Cythere Speyeri* (male), seen from left side.
 Fig. 9. The same (female), seen from left side.
 Fig. 10. The same, seen from below.
 Fig. 11. The same, seen from the front.
 Fig. 12. *Cythere dissimilis*, right valve, seen from the side.
 Fig. 13. The same, seen from above.

[All magnified 40 diameters.]

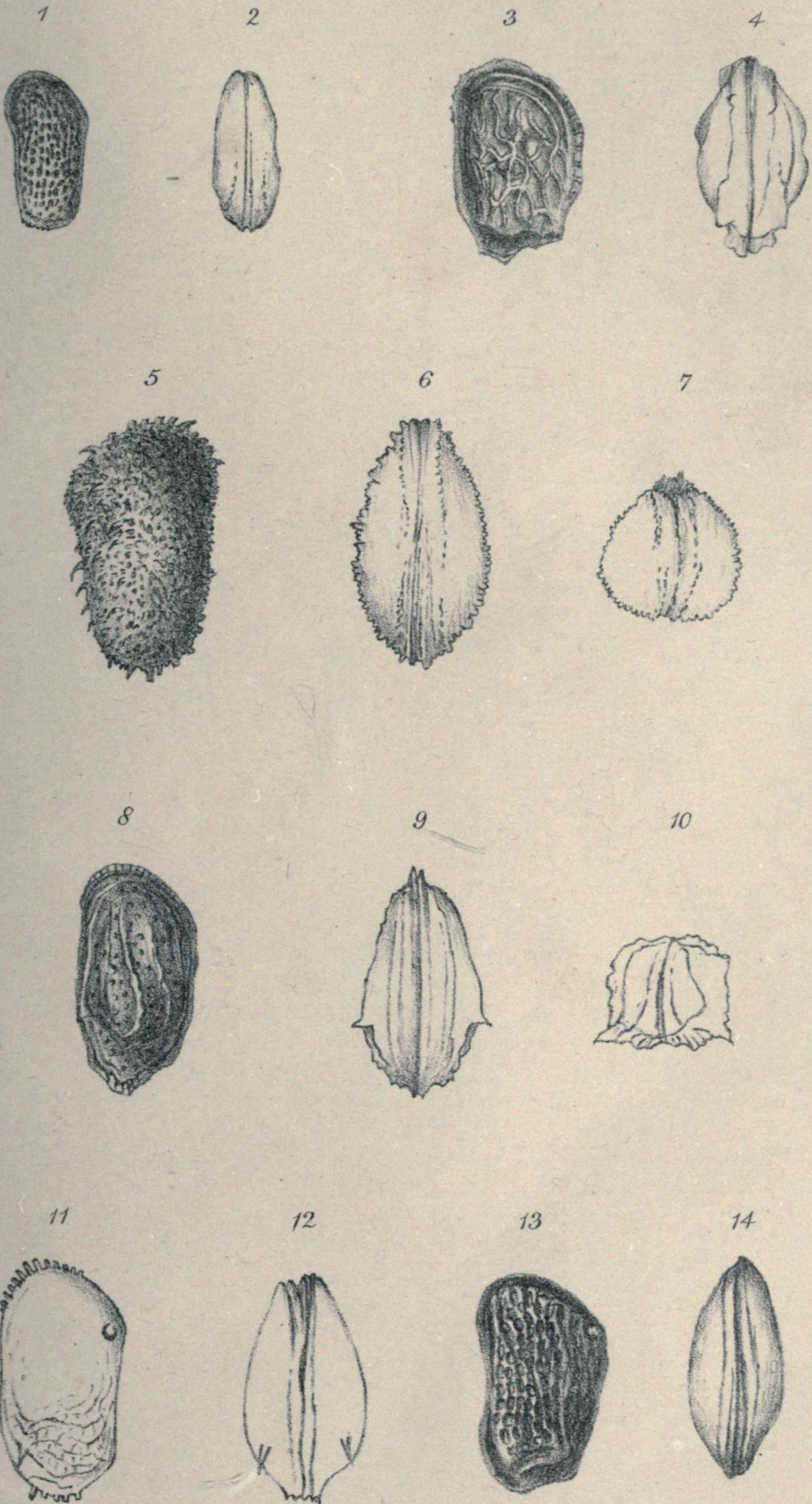
XXV.—*Observations on the Classification of Echinida, to serve as an Introduction to the Description of the Tertiary Fossil Echinodermata of Western Algeria.* By A. POMEL*.

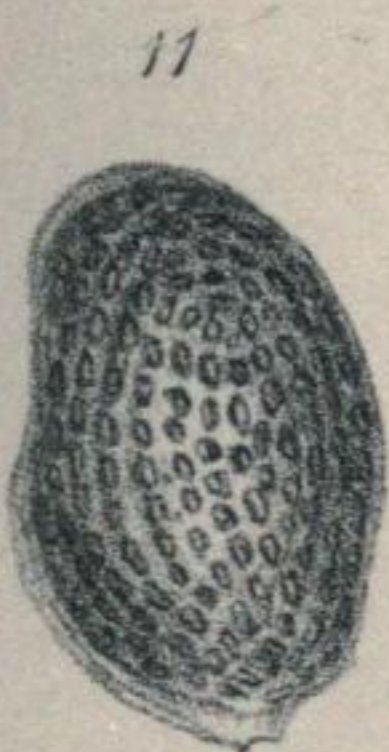
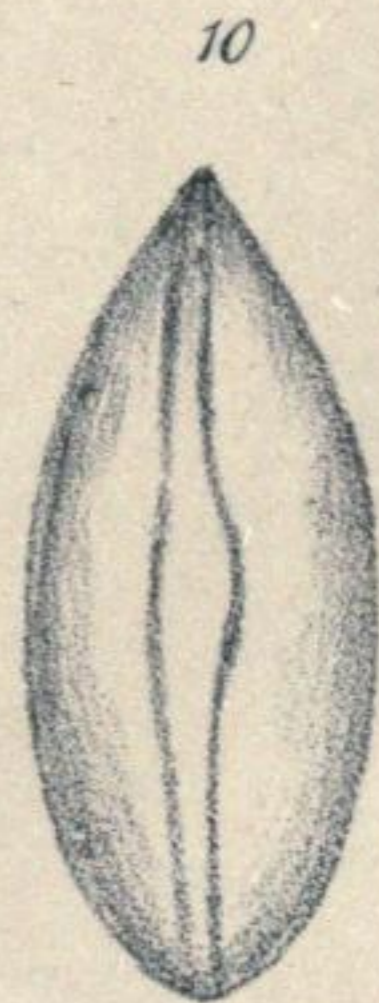
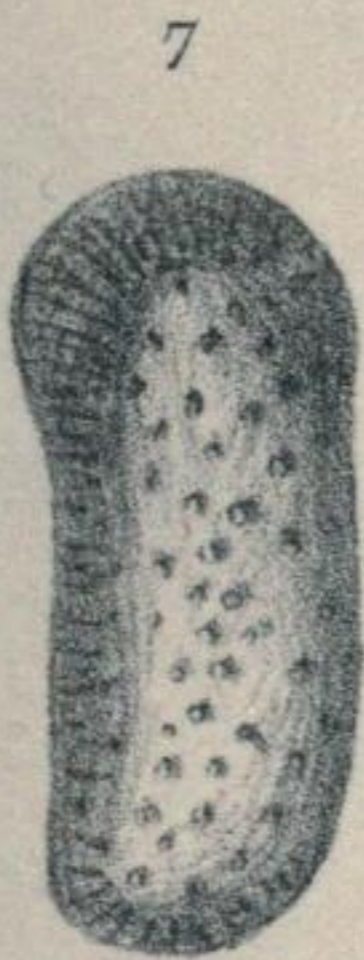
I HAVE had the honour to present to the Academy a series of lithographic drawings representing some fossil Echinodermata from Algeria, which are to form a part of the palæontology of that country. The descriptive part of the work is not yet printed; and I now submit to the judgment of the Academy the introduction to this work, in which I propose certain modifications in the classification followed by authors.

The number of the series of coronal plates, sometimes twenty, or two in each area, in the true Echinida, sometimes much greater by their multiplication in the interambulacral areas, and even in the ambulacral areas in the Tessellata, gives a first division, of the rank of a suborder.

The Echinida present three types, which advance regularly from the bilateral to the radial symmetry, and which I name *Spatiformes*, *Lampadiformes*, and *Globiformes*. The first have the mouth placed very eccentrically in front, and the anus behind; the obliteration of the anterior ambulacrum

* Translated from the 'Comptes Rendus,' Aug. 3, 1868, pp. 302-305.





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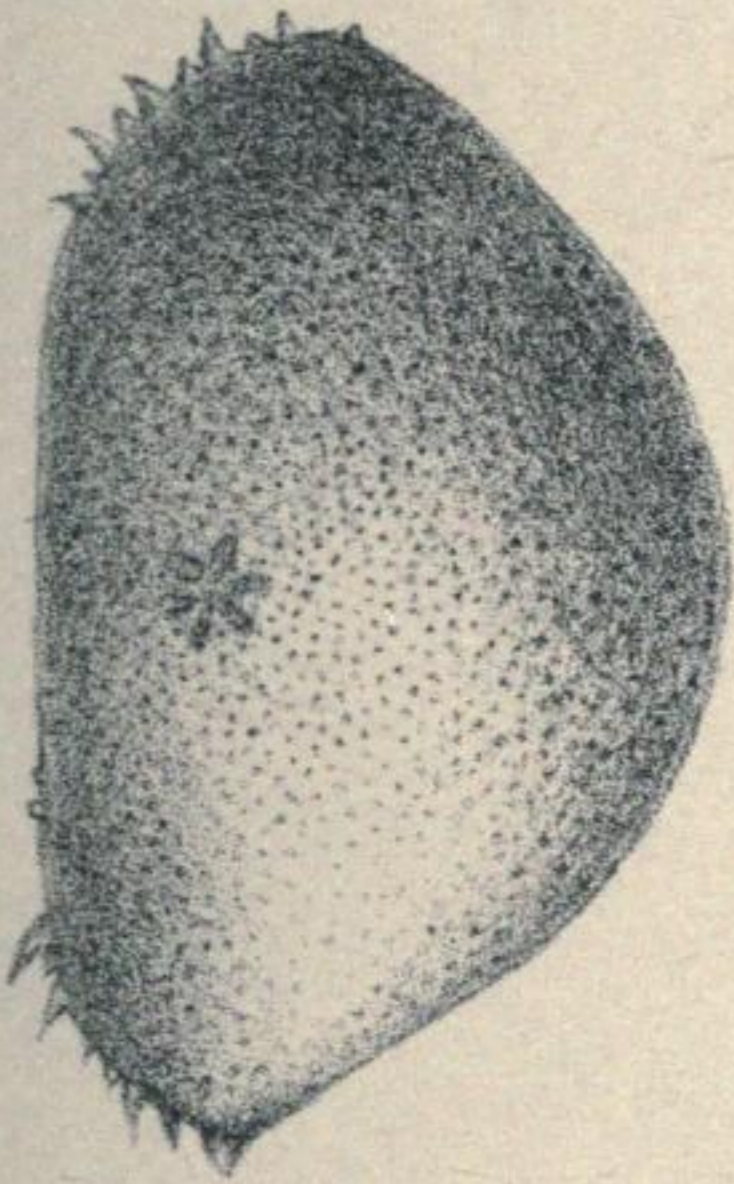
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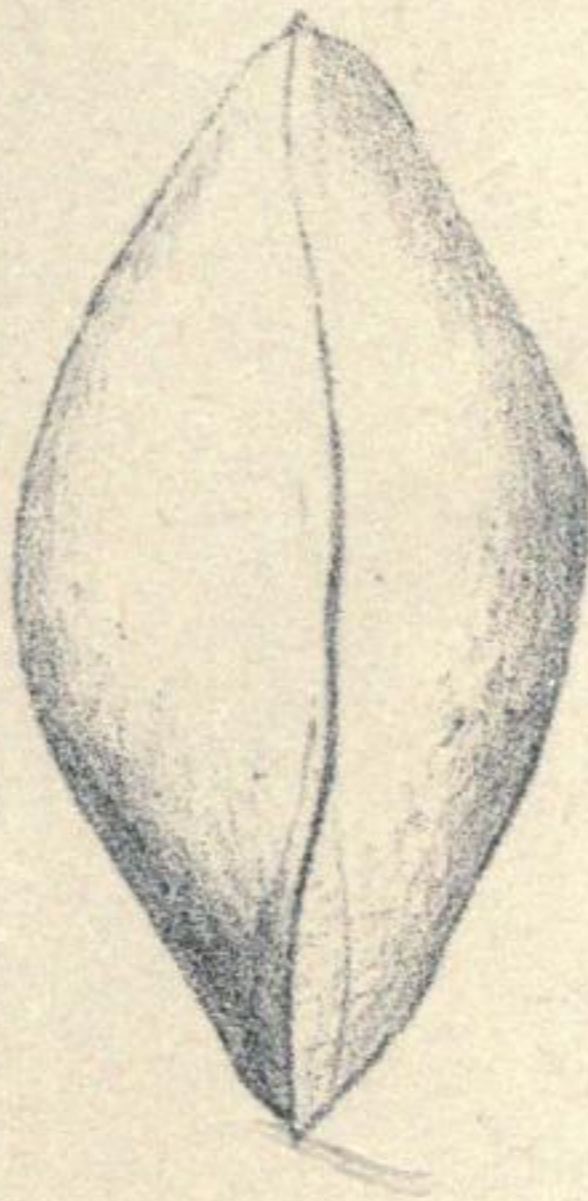
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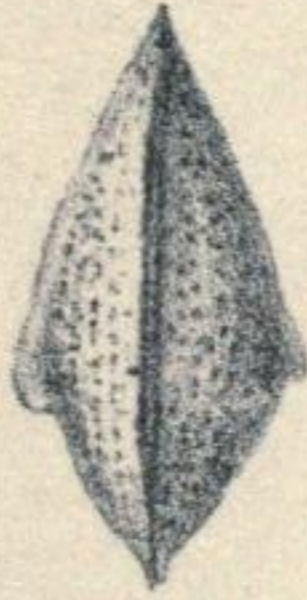
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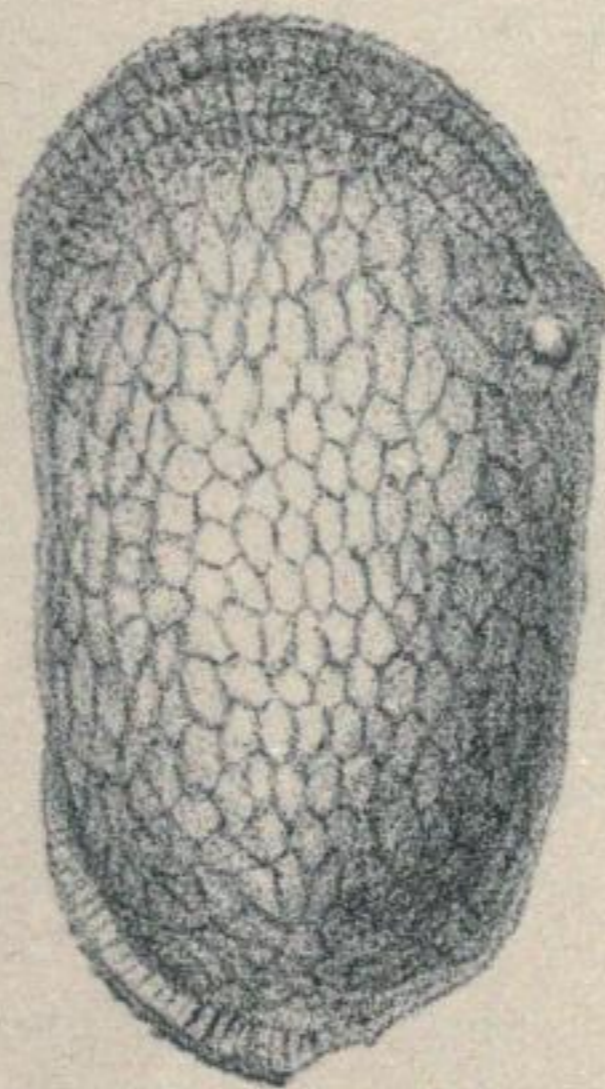
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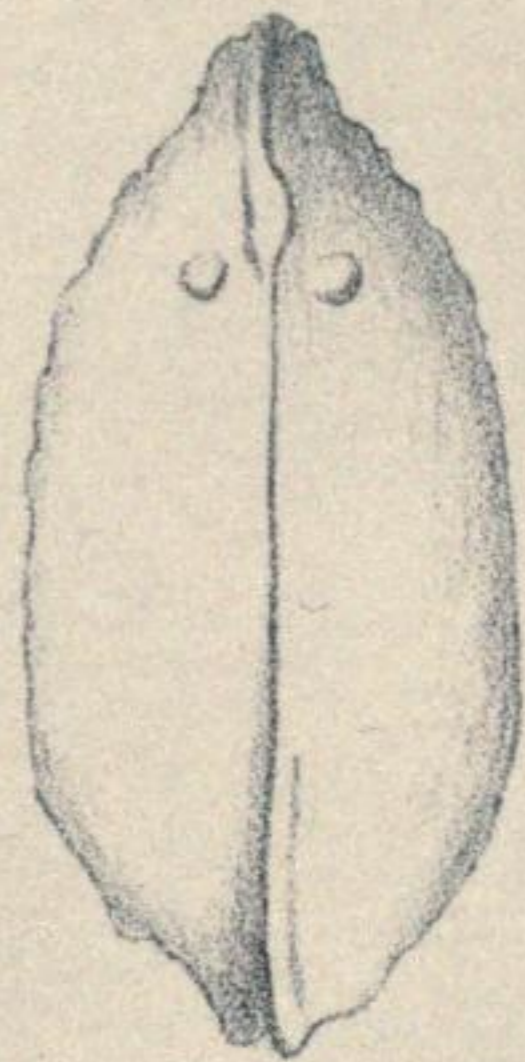
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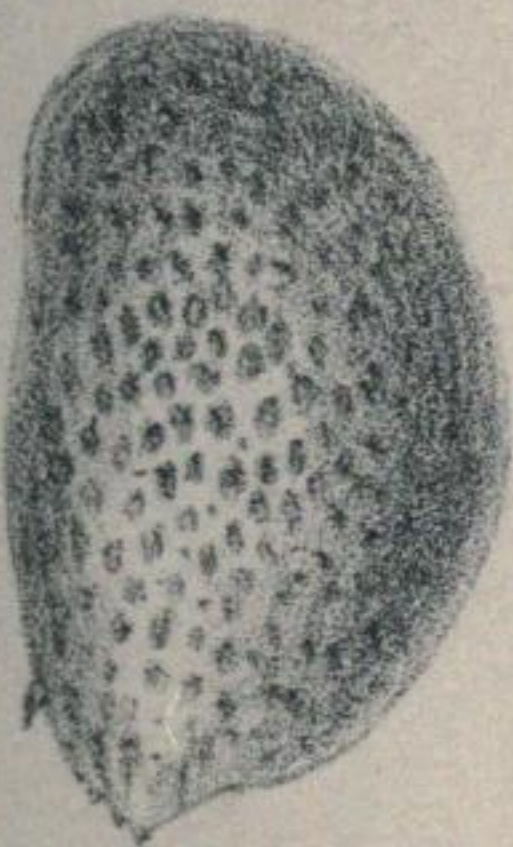
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