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Notes on marine Ostracoda from Madeira

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27. Notes on Marine Ostracoda from Madeira.

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(Plates XX.–XXII.*)

I am indebted for the specimens which form the subject of the following notes to my friend the Rev. Canon Norman, F.R.S., by whom they were collected in the spring of the year 1897. The mountings submitted to me consisted altogether of dried shells, and in no case was the contained animal preserved, excepting in a few of those collected between tide-marks, and only in some of these littoral forms was the original colouring discernible. Not a few of the species appear to be new to science, the collection as a whole extending the known range of several species in the European and North Atlantic areas much further southward, though not quite into the tropical zone. All the species are marine, so far as can be ascertained from the shell-characters, to well-known genera. The following lists show separately the species found in the littoral zone and in deep water.

Between tide-marks.

Cythere convexa *Baird.*
„ albo-maculata *Baird.*
Xestoleberis depressa *G. O. Sars.*
„ nigromaculata, sp. n.
„ margaritea *Brady.*
Loxoconcha impressa *Baird.*
Cytherura maculosa, sp. n.
„ cellulosa *Norman.*
Sclerochilus lævis? *G. W. Müller.* (Pl. XXII. fig. 10.)
Paradoxostoma hibernicum *Brady.*
„ arcuatum *Brady.*

Dredged in 30–70 fathoms.

Bythocypris reniformis *Brady.*
Macrocypris decora *Brady.*
Pontocypris succinea *G. W. Müller.*
„ dispar? *G. W. Müller.*
Bairdia amygdaloides *Brady.*
„ obtusata *G. O. Sars.*
„ dubia, sp. n.
„ mediterranea *G. W. Müller.*
„ acanthigera *Brady.*
Argilloecia affinis, sp. n.
Cythere crispata *Brady.*
„ cingulata, sp. n.
„ tuberculata *G. O. Sars.*
„ emaciata *Brady.*
Cythereis runcinata *Baird.*
„ deformis, sp. n.
„ antiquata *Baird.*
„ jonesii *Baird.*
Cytheridea elongata *Brady.*
Eucythere prava *Brady & Robertson.*
Loxoconcha obesa, sp. n.
„ decipiens *G. W. Müller.*
„ impressa *Baird.*
„ subalata, sp. n.
Xestoleberis latissima, sp. n.
Cytherura striata *G. O. Sars.*
„ cribrosa, sp. n.
„ cribriformis *G. W. Müller.*
„ fossulata, sp. n.
Cytherideis subulata, var. crenulata *Brady.*
Sclerochilus contortus *Norman.*
„ lævis? *G. W. Müller.* (Pl. XXII. fig. 10.)
Paradoxostoma gracile, sp. n.
„ flexuosum *Brady.*
„ cylindricum *G. W. Müller.*
Sarsiella capsula *Norman.*
Cytherella? ovalis, sp. n.

* For explanation of the Plates see p. 601.

BAIRDIA DUBIA, sp. n. (Plate XX. figs. 1, 2.)

The outline of the shell as seen laterally is rhomboidal (fig. 1), the greatest height situated near the middle and equal to half the length; anterior extremity obliquely subtruncate, posterior produced below the middle into a wide, obtuse beak; dorsal margin forming a flattened arch, inferior nearly straight, gently sinuated in the middle: seen from above (fig. 2) oblong, ovate, twice as long as broad, greatest width in the middle, sides gently curved, subparallel, extremities produced, the anterior obtusely rounded, posterior prominent and submucronate. Surface of the shell smooth, covered throughout with very small, closely-set, impressed, circular punctations. Colour yellowish grey. Length 0·65 mm.

One specimen only, dredged in 30 fathoms.

ARGILLŒCIA AFFINIS, sp. n. (Plate XX. figs. 9, 10.)

Shell, seen laterally, elongated, siliquose (fig. 9), greatest height in the middle, equal to more than one third of the length; anterior extremity evenly rounded, narrow, posterior scarcely at all angulated ventrally; dorsal margin forming a continuous even arch throughout, ventral nearly straight through its whole length: seen from above (fig. 10) the outline is narrowly subovate, thrice as long as broad, greatest width in the middle, tapering towards the subacuminate extremities, but more abruptly behind than in front. Surface of the shell perfectly smooth. Colour light grey. Length 0·54 mm.

Several specimens dredged in 70 fathoms.

The differences in form of shell between the various species of *Argillœcia* hitherto described appear to be extremely slight, but that here figured does not seem fairly referable to any one of them.

CYTHERE CRISPATA Brady. (Plate XX. figs. 3, 4.)

Specimens of *C. crispata*, an extreme form of which is here figured, were dredged in 70 fathoms. This form differs from the type in having the extremities and to some extent the ventral margins—irregularly dentated. This condition, however, is found, though to a much less marked degree, in some of the type-specimens.

These specimens seem indistinguishable from a species described by G. W. Müller—*C. diffusa* *: perhaps also from *C. elegans* of the same author.

CYTHERE CINGULATA, sp. n. (Plate XX. figs. 5, 6.)

Shell, seen laterally, oblong subquadrate (fig. 5), of nearly equal height throughout, height equal to at least half the length; extremities well rounded, the posterior rather the narrower, dorsal margin nearly straight, inclined gently from before backward,

* Die Ostracoden des Golfes von Neapel, p. 354.

ventral slightly sinuated at the middle: seen from above (fig. 6) the outline is oblong, with straight, parallel, lateral margins and strongly produced extremities; the margins converge steeply in front terminating in a short median process, behind they converge almost rectangularly to a wide central hump. Surface of the shell covered with rounded and closely-set impressed pittings, and bordered in front and behind with a smooth depressed fillet. Length 0·78 mm.

One specimen dredged in 30 fathoms, and one in 70 fathoms.

CYTHEREIS DEFORMIS, sp. n. (Plate XX. figs. 7, 8.)

Shell, seen laterally, oblong, subquadrate, greatest height situated near the front and equal to nearly half the length (fig. 7); anterior extremity well rounded and bordered with a series of short, blunt teeth; posterior extremity much narrower, truncated, prominently angular in the middle and divided below the middle into a few irregularly tooth-like processes; dorsal margin sloping gradually from the front backwards, ventral margin almost straight: seen from above (fig. 8) the outline is compressed, oblong, about three times as long as broad, the lateral margins very irregular, with a strongly prominent angle at the posterior third; extremities much compressed, broadly truncate, with irregularly dentate margins; surface irregularly rugose, with a wide depressed band rounded within the anterior margin; a sharply elevated ridge running obliquely across the posterior half and terminating in a sharply produced angle on its dorsal aspect. Length 0·5 mm.

Dredged in 70 fathoms.

It is impossible, by the shell characters alone, to separate clearly the species belonging to the two genera *Cythere* and *Cythereis* as they are now understood by most authors, nor, as it appears to me, are the distinctive characters of the contained animal much more satisfactory.

LOXOCONCHA OBESA, sp. n. (Plate XXI. figs. 3, 4.)

Shell, seen laterally, elliptical, greatest height situated in the middle and equal to half the length (fig. 3); extremities evenly rounded, the posterior somewhat the narrower of the two; dorsal margin very slightly arcuate, ventral almost straight, not at all sinuated: seen from above (fig. 4) the outline is very broadly oval with strongly produced mucronate extremities, width considerably exceeding half the length, lateral margins very strongly convex. Shell surface perfectly smooth. Colour grey. Length 0·46 mm.

Dredged in 70 fathoms: one specimen only.

LOXOCONCHA DECIPIENS G. W. Müller. (Plate XXI. figs. 1, 2.)

Several specimens, agreeing very accurately with the figures given by Dr. G. W. Müller, were dredged in 70 fathoms. One

Loxoconcha subalata, sp. n. (Plate XXI. figs. 5, 6.)

Shell seen from the side, oblong, subrhomboidal, twice as long as broad (fig. 5); anterior extremity obliquely rounded, posterior very obliquely rounded below the middle; ventral margin rather deeply sinuated in the middle, curving suddenly upwards behind, dorsal margin perfectly straight; seen from above (fig. 6) hastate outline, prominently angulated behind the middle, from which point the sides converge with a gentle curve to the anterior extremity, which is sharply acuminate; behind the two lateral angles the margins converge rather sharply in an irregularly sinuous curve to the posterior extremity: the general contour is thus made of two wedge-shaped portions—an anterior larger wedge and a posterior small one. Shell-surface rough, marked by closely-set small fossæ, sharply elevated in the postero-ventral regions, beneath which it is depressed, forming a somewhat flattened curved lip. Length 0·38 mm.

Dredged in 70 fathoms.

Xestoleberis latissima, sp. n. (Plate XXI. figs. 10–13.)

Shell, seen laterally, oblong, subovate, quite twice as long as broad (fig. 10), highest behind the middle; anterior extremity narrowly rounded, posterior sloping with a steep curve to the ventral margin, where it forms a rounded angle; dorsal margin forming a somewhat flattened arch, sloping steeply behind, more gently in front, ventral margin nearly straight: seen from above (fig. 11) the outline is excessively tumid, ovate, widest behind the middle, width equal to two-thirds of the length, mucronate in front, broadly rounded behind; the end view (fig. 12) is very broadly wedge-shaped, widest ventrally where the angles are moderately rounded off, height equal to about two-thirds of the width. Shell-surface perfectly smooth, marked in some cases with a very few small papilliform tubercles. Colour white. Length 0·75 mm.

Dredged in 70 fathoms.

The outline shown in fig. 13 may perhaps be referable to the male, the more tumid outline to the female.

Xestoleberis nigromaculata, sp. n. (Plate XXII. figs. 1–3.)

Shell of the female, seen laterally, oblong, subreniform, greatest height situated in the middle and equal to half the length (fig. 1); anterior extremity depressed, rounded, posterior much wider and evenly rounded; dorsal margin boldly arched, ventral sinuated in the middle: seen from above (fig. 2) ovate, gradually tapering to the anterior extremity, which is rather sharply pointed, much broader and well rounded behind, width and height equal. Surface of the shell smooth, yellowish in colour, with irregular clouded dark patches, and bearing a few very minute distinctly scattered circular papillæ. Eye spots very conspicuous. Length 0·55 mm.

Shell of the male (fig. 3) rather smaller, more markedly depressed in front and more elevated dorsally.

Several specimens taken between tide-marks.

CYTHERURA MACULOSA, sp. n. (Plate XXII. figs. 6, 7.)

Shell, seen laterally, oblong, subreniform, highest in the middle (fig. 6), height equal to half the length; anterior extremity evenly rounded, posterior produced in the middle into a wide obtusely pointed beak; dorsal margin evenly arched throughout, ventral rather deeply sinuated in the middle, prominent behind, thence sloping with a sinuous curve up to the beak: seen from above (fig. 7) oblong, three times as long as broad, lateral margins parallel throughout the greater part of their length, converging towards the front; anterior extremity broad and truncated, posterior produced into a wide median beak. Surface of the valves marked with faint longitudinal striæ and with minute, closely-set, impressed pits; in most cases the middle of the valve bears a dark transverse blotch of irregular shape, but this may be absent or much reduced in size. Length 0·39 mm.

Several specimens from low water mark.

CYTHERURA CURTOSA, sp. n. (Plate XXII. figs. 4, 5.)

Shell, seen laterally, oblong, rhomboidal, height scarcely equal to half the length; anterior extremity well rounded, posterior produced above the middle into a very large and rather sharp beak (fig. 4); dorsal margin straight throughout almost its whole length, ventral rather deeply sinuated in the middle, behind which it bulges ventrally: seen from above, oblong, subovate, width scarcely equalling half the length (fig. 5), rather abruptly tapered and subacuminate in front, posteriorly abruptly truncated and produced into a large central beak. Surface of the shell honeycombed with large subrotund fossæ, which are arranged in irregular longitudinal rows. Length 0·44 mm.

Many specimens dredged in 50 fathoms.

CYTHERURA FOSSULATA, sp. n. (Plate XXII. figs. 8, 9.)

Shell, seen laterally, oblong, rhomboidal, of nearly equal height throughout, length equal to more than twice the height (fig. 8); anterior extremity obliquely subtruncate, often indented below the middle, the sinuations bounded by two small nodules, two rounded tubercles near the anterior extremity, just within the superior margin, over the region of the eyes; posterior extremity oblique, produced above the middle into a large upward-pointing beak; dorsal margin perfectly straight, ventral nearly straight, with a slight ventral convexity: seen from below (fig. 9) the outline is that of an arrowhead, the lateral acute prominences situated near the posterior third, the width at that point equal to more than half the length of the shell, behind these angles the shell is suddenly narrowed, forming a rounded hinder end which terminates in a large median beak: anteriorly the lateral margins converge with a deep curvature to the front, ending in a wide bluntly rounded extremity. The surface of the shell is variously and very irregularly marked with furrowed undulations more or less transverse in their direction, and by a conspicuous curved longitudinal crest which ends behind the middle near the ventral

margin in a sharply angular projection: in some cases there is a distinct longitudinal striation, more especially on the ventral surface, and posteriorly near the base of the beak may be seen a series of four nodules, the terminations of small curved carinæ (fig. 9). Length 0·46 mm.

Several specimens were dredged in depths of 50–70 fathoms.

The surface-ornament of this species varies very much: the foregoing description should be taken as belonging to a rather strongly marked specimen. The variations of sculpture seem to depend chiefly on conditions of age and sex.

CYTHERIDEIS SUBULATA, var. CRENULATA, nom. n. (Plate XXI. fig. 7.)

Specimens, of which a figure is here given, seem to be identical with a form described in 1874 by myself and the late Dr. Robertson under the name *Cytheridea subulata* var. *fasciata*, the varietal designation having been used on account of the presence of a dark band across the shell. But the type specimens, taken among the Scilly Islands and now in my collection, do not now exhibit any such marking. It is possible that the markings may have disappeared with exposure to the air, and as the published name is inappropriate, I propose to substitute the varietal term *crenulata*. In the Madeira specimens, which were taken in a depth of 70 fathoms, the anterior crenulations are much more developed than in those from Scilly, but in all other respects those from the two localities are alike.

PARADOXOSTOMA GRACILE, sp. n. (Plate XXI. figs. 8, 9.)

Shell, seen laterally, oblong, subclavate, height equal to more than one-third of the length; extremities rounded off, the anterior narrower and somewhat depressed (fig. 8), dorsal margin evenly but not very strongly arcuate, ventral almost straight; seen from above (fig. 9) extremely compressed, widest in the middle and tapering evenly to the extremities, which are very acutely pointed, width equal to about one-fourth of the length. Shell-surface perfectly smooth and colourless. Length 0·55 mm.

One specimen only, taken in 70 fathoms.

CYTHERELLA (?) OVALIS, sp. n. (Plate XXII. figs. 11, 12.)

Shell, seen laterally, subelliptical, about twice as long as broad (fig. 11); anterior extremity rounded above and below, almost subtruncate, posterior narrower and somewhat oblique, dorsal margin almost straight, ventral straight, upcurved toward the posterior extremity; seen dorsally the outline is ovate (fig. 12), twice as long as broad, greatest width behind the middle; extremities well rounded, the anterior much narrower than the posterior. Shell-surface perfectly smooth. Colour white. Length 0·42 mm.

Dredged in 70 fathoms.

EXPLANATION OF THE PLATES.

Plate XX.

Figs. 1, 2. *Bairdia dubia.* × 84.
3, 4. *Cythere crispata.* × 110.
5, 6. " *[illegible].* × 110.
7, 8. *[illegible].* × 84.
9, 10. *[illegible] affinis.* × 84.

Plate XXI.

Figs. 1, 2. *Loxoconcha decipiens.* × 90.
3, 4. " *obesa.* × 84.
5, 6. " *subalata.* × 115.
Fig. 7. *Cytherideis subulata*, var. *crenulata.* × 84.
Figs. 8, 9. *Paradoxostoma gracile.* × 84.
10–13. *Xestoleberis latissima.* × 110.

Plate XXII.

Figs. 1–3. *Xestoleberis nigromaculata*, ♀ ♂. × 84.
4, 5. *Cytherura cellulosa.* × 100.
6, 7. " *[illegible].* × 100.
8, 9. " *[illegible].* × 100.
Fig. 10. *Sclerochilus [illegible].* × 84.
Figs. 11, 12. *Cytherella [illegible].* × 100.

28. On Colour and Colour-pattern Inheritance in Pigeons. By J. [illegible], M.A., F.L.S., F.Z.S., and F. W. [illegible], F.Z.S.

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(Plates XXIII.–XXVI.*)

The following is a preliminary account of some experiments undertaken by the authors to throw some light on the inheritance of colour and colour-pattern in Pigeons. These experiments are being continued, as the matter is a long and complicated one and will of necessity take several years to complete.

The experiments on certain colours and colour-patterns, however, have been practically completed, and the results are briefly given below.

Apart from the practical knowledge given in books on fancy pigeons, no serious work has been published on the inheritance of colour in Pigeons except Darwin's (Animals and Plants under Domestication, vol. i. p. 197 *et seq.*, 1868 ed.), and a recent paper by Mr. Staples-Browne (P. Z. S. 1908, p. 67).

The information in the 'fancy' books, valuable as a guidance for practical breeding, is of little utility from the scientific point of view, as details of pedigrees are often lacking. The work of Darwin we have also had to pass over, for the present, owing to the difficulty of making out with any accuracy the exact colour of his birds from the terms he used. It is by no means intended to imply inaccuracy in that most accurate of observers, but the 'fancy' terms for colours, though well understood by breeders, do

* For explanation of the Plates see p. 619.

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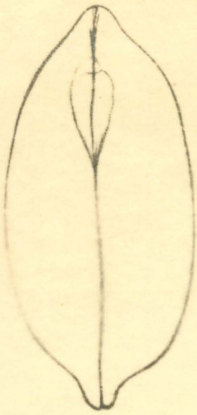

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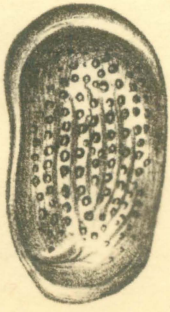

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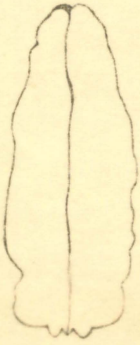

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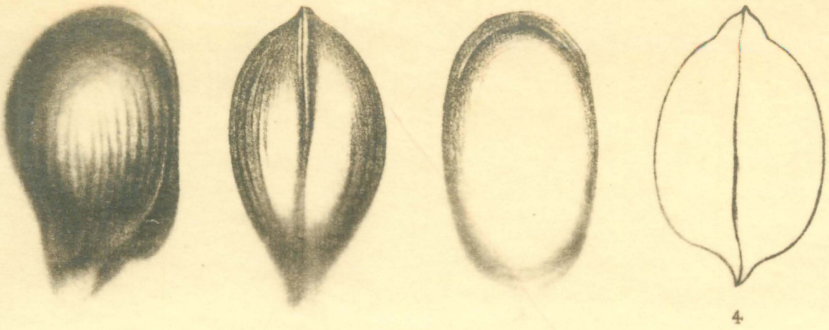
West, Newman lith.

OSTRACODA FROM MADEIRA.



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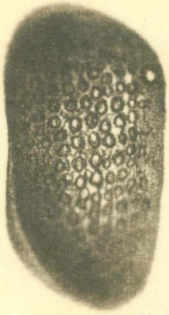

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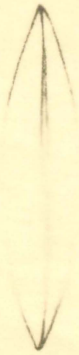

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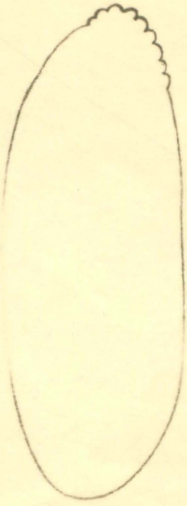

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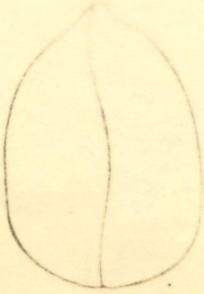

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West, Newman lith.

OSTRACODA FROM MADEIRA.

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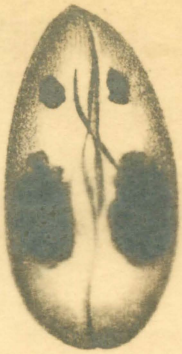

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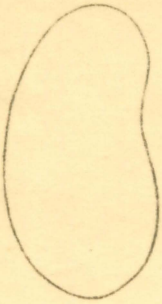

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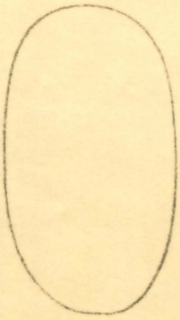

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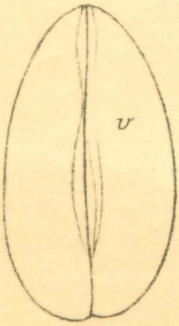

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West, Newman lith.

OSTRACODA FROM MADEIRA.