REPORT

OF THE

THIRTY-SIXTH MEETING

OF THE

BRITISH ASSOCIATION

FOR THE

ADVANCEMENT OF SCIENCE;

HELD AT

NOTTINGHAM IN AUGUST 1866.

LONDON:
JOHN MURRAY, ALBEMARLE STREET.
1867.

Ascidia depressa.
—— intestinalis.
—— parallelogramma.
Molgula arenosa.
Cynthia tessellata.
—— squamulosa, young.
—— echinata.
Cynthia tuberosa.
—— informis?
Cynthia violacea.
—— grossularia.
Clavellina lepadiformis.
Diazona Hebridica.
Parascidia Flemingii.
—— ——?
Didemnum gelatinosum.
Botryllus —— ?

NUDIBRANCHIATA.

Doris tuberculata.
—— Johnstoni.
Dendronotus arborescens.
Hero formosa.
Eolis —— ?

Report on the Ostracoda *dredged amongst the Hebrides.*

By GEORGE S. BRADY.

List of Species.

Paracypris polita, *G. O. Sars.*
*Pontocypris mytiloides, *Norman.*
—— acupunctata, n. sp.
*Bairdia inflata, *Norman.*
—— obtusata, *G. O. Sars.*
—— complanata, n. sp.
*Cythere lutea, *Müller.*
*—— viridis, *Müller.*
*—— pellucida, *Baird.*
*—— badia, *Norman.*
*—— albomaculata, *Baird.*
*—— convexa, *Baird.*
*—— angustata, *Münster.*
—— subflavescens, n. sp.
*—— ventricosa, *G. O. Sars.*
*—— villosa, *G. O. Sars.*
—— Finmarchica, *G. O. Sars.*
*—— angulata, *G. O. Sars.*
*—— tuberculata, *G. O. Sars.*
*—— concinna, *Jones.*
—— quadridentata, *Baird.*
—— emaciata, n. sp.
*—— limicola, *Norman.*
*—— Dunelmensis, *Norman.*
—— antiquata, *Baird.*
*—— Jonesii, *Baird.*
—— multifora, *Norman.*
—— complexa, n. sp.
*Cytheridea papillosa, *Bosquet.*
*—— punctillata, *Brady.*
*Cytheridea inermis, *G. O. Sars.*
*—— dentata, *G. O. Sars.*
*Cytheropsis declivis, *Norman.*
Ilyobates prætexta, *G. O. Sars.*
*Loxoconcha granulata, *G. O. Sars.*
—— impressa, *Baird.*
—— guttata, *Norman.*
*—— tamarindus, *Jones.*
*Xestoleberis depressa, *G. O. Sars.*
Cytherura nigrescens, *Baird.*
*—— undata, *G. O. Sars.*
—— humilis, n. sp.
*—— acuticostata, *G. O. Sars.*
*—— clathrata, *G. O. Sars.*
*Cytheropteron latissimum, *Norman.*
—— tricorne, *Bornemann.*
*Bythocythere simplex, *Norman.*
—— flexuosa, n. sp.
—— constricta, *G. O. Sars.*
Pseudocythere caudata, *G. O. Sars.*
*Sclerochilus contortus, *Norman.*
*Paradoxostoma variabile, *Baird.*
—— abbreviatum, *G. O. Sars.*
Cypridina teres, *Norman.*
—— MacAndrei, *Baird.*
Philomedes Mariæ, *Baird.*
—— longicornis, *Lilljeborg.*
Polycope orbicularis, *G. O. Sars.*
Cytherella lævis, n. sp.
—— Scotica, n. sp.

Sixty species in all, of which nine are new to science; fifteen (*Paracypris polita, Cythere ventricosa, C. Finmarchica, C. angulata, C. concinna, C. emaciata, Cytheridea inermis, C. dentata, Ilyobates prætexta, Cytherura clathrata, C. acuticostata, C. undata, Bythocythere constricta, Pseudocythere caudata, Polycope orbicularis*) are new to Britain, though they have been described as

inhabitants of other seas, and one (*Cytheropteron tricorne*) is now for the first time noted as occurring in a recent state. It should, however, be mentioned that, of the fifteen species here named as new to our seas, eleven were previously represented in my collection by specimens (unrecorded) from other parts of the British coast.

A species closely allied to *Ilyobates prætexta* (*I. glacialis*, MS.) has been found by Messrs. Crosskey and Robertson pretty abundantly in the fossil state in the oldest deposit of glacial clay which has come under their notice, and it is worthy of remark that the recent species now dredged is much smaller and apparently more poorly developed than the fossil one, though in general character and appearance so much like it as to make me suspect that the one may possibly be the lineal descendant of the other. If this be so, it forms an interesting contrast to *Cytheridea papillosa*, the living specimens of which are mostly much finer than those of the tertiary period. *C. papillosa* is an abundant species in many districts—in Loch Fyne, for instance, it occurs in immense numbers and of fine growth—while *Ilyobates prætexta* appears to be rare, and is probably confined to our northern seas. We may therefore infer that the one species is verging towards extinction, at least in our latitudes, while the other is thriving, and for the present successful in the "struggle for existence." Of the sixty species here catalogued, thirty-two are known to occur in the glacial clays of Scotland; these are marked with an asterisk, and it may be noted that the two species which perhaps occur most abundantly in the older clays, *Cytheridea punctillata* and *Cythere concinna*, do not appear to be of frequent occurrence at the present day, and are confined to northern habitats.

As to the geographical distribution of the various species, it may be remarked that sixteen of the number are essentially northern in their range, so far as our present knowledge extends; these are *Bairdia obtusata, B. complanata, Cythere concinna, C. angulata, C. Dunelmensis, Cytheridea papillosa, C. punctillata, C. inermis, C. dentata, Ilyobates prætexta, Bythocythere simplex, B. flexuosa, Pseudocythere caudata, Cytherella lævis, C. Scotica*, and *Cypridina MacAndrei*. None of these have been found (except one or two specimens of *Cytheridea punctillata*) in any locality south of the Dogger Bank, and most of them are confined to the shores of Scotland. On the other hand, our list includes one species which attains its highest development in more southern localities, such as the seas around the Channel Islands, the south coast of England, and the south-west of Ireland. This is *Cythere emaciata*, of which only one specimen, and that a poor one, has been detected in the Hebridean gatherings.

It is impossible at present to institute any satisfactory comparison between the recent *Ostracoda* of our seas and those of the Continent, as, except in Scandinavia, scarcely anything has been done amongst this group by continental naturalists. In general terms, however, it may be said that the *Ostracoda* of the Northern British seas exhibit a close approach to those of Norway.

Descriptions of new Species.

PONTOCYPRIS ACUPUNCTATA, n. sp.

Oblong, subreniform, highest in the middle, height equal to half the length. Anterior extremity rounded, posterior obtusely pointed. Dorsal margin arched, sloping more steeply behind than in front, ventral margin deeply sinuated at the anterior third. Outline, as seen from above, com-

pressed, oval, widest in the middle. Surface minutely punctate. Colour purplish brown. Length $\frac{1}{48}$ in.

Hab. The Minch, 45–60 fathoms; and in shell sand from Roundstone.

BAIRDIA COMPLANATA, n. sp.

Subreniform, highest in the middle, greatest height equal to about half the length; anterior extremity evenly rounded, posterior narrowed and somewhat obliquely rounded. Dorsal margin boldly arched, highest in the middle and sloping steeply behind; ventral gently sinuated in front, and slightly convex behind. Outline, as seen from above, compressed, oval; greatest width in the middle, and equal to about one-third of the length. Shell smooth, colour pale ochreous or white. Length $\frac{1}{20}$ in.

Hab. The Minch, 45–60 fathoms.

CYTHERE (?) SUBFLAVESCENS, n. sp.

Oval or subtriangular, highest in the middle, greatest height equal to more than half the length, rather tumid. Extremities rounded and nearly equal in width. Superior margin arched, somewhat gibbous in the middle, inferior margin rather convex. Seen from above, oval, widest in the middle, obtusely pointed in front, rounded behind, width equal to nearly half the length. Shell smooth, pale yellow, finely and closely punctate. Length $\frac{1}{30}$ in.

Hab. The Minch, 45–60 fathoms.

CYTHERE EMACIATA, n. sp.

Quadrangular, higher in front than behind, length equal to more than twice the height. Anterior margin slightly rounded, often fringed with eight or nine teeth; posterior narrowed, emarginate above, produced and toothed below. Superior and inferior margins nearly straight. Outline, as seen from above, oblong, widest behind, nearly thrice as long as broad. Surface marked with large pits arranged longitudinally; along the middle of the valve a conspicuous elevated rib; a less distinct ridge within the ventral margin, and another smaller oblique rib behind the antero-dorsal angle. Length $\frac{1}{40}$ in.

Hab. Hebrides (locality doubtful), and many other places in Great Britain and Ireland.

CYTHERE COMPLEXA, n. sp.

Rhomboidal, excessively tumid below, somewhat higher in front than behind; greatest height equal to two-thirds of the length. Anterior margin rounded; posterior obliquely truncate below, and produced into a short blunt beak above; dorsal margin straight, slightly sloping from the front; ventral margin straight. Seen from above the outline is triangular, with deeply constricted sides, pointed in front, and centrally mucronate behind. Surface rather coarsely reticulated; one tubercle situated near the anterior hinge, and two larger ones with an intermediate connecting ala a little above the ventral margin. Length $\frac{1}{66}$ in.

Hab. Uncertain (probably Loch Alsh).

CYTHERURA HUMILIS, n. sp.

Subrhomboidal, nearly equal in height throughout; anterior margin obliquely rounded, sloping steeply above; posterior obliquely truncate. Superior margin very gently arched, sloping steeply behind, inferior straight or slightly sinuous. Seen from above the outline is oblong, subquadrilateral, obtusely pointed in front, truncate and mucronate behind. Surface irregularly waved; a conspicuous rib parallel to the ventral margin, which gives off in front of the middle another ridge running toward the anterior hinge, which again sends forward from its middle a short longitudinal rib. Length $\frac{1}{58}$ in.

BYTHOCYTHERE? FLEXUOSA, n. sp.

Elongated, compressed, siliquose; greatest height in the middle, equal to about one-third of the length. Superior margin arched, sloping steeply downwards in front, more gently behind. Extremities obtusely pointed. The ventral margin slightly concave in front, then curving upwards to the posterior extremity. Seen from above compressed oval, widest in the middle, and tapering equally to the extremities, which are somewhat mucronate. Surface smooth, pellucid, with white clouded patches. Hinge-processes feebly developed. Length $\frac{1}{42}$ in.

Hab. The Minch, 45–60 fathoms.

CYTHERELLA SCOTICA, n. sp.

Elliptical, equal in height throughout, height equal to nearly two-thirds of the length; right valve considerably larger than the left; anterior and posterior margins obliquely rounded, superior and inferior margins nearly parallel, gently sinuated in the middle. Outline, as seen from above, subconical; greatest width at the posterior extremity, equal to less than half the length, obtusely rounded, and emarginate in front, rounded behind. Surface marked with very small punctæ. Length $\frac{1}{30}$ in.

Hab. The Minch, 45–60 fathoms.

CYTHERELLA LÆVIS, n. sp.

Valves elliptical, broader in front than behind, greatest height equal to two-thirds of the length, broadly rounded in front; rather narrowed, and obliquely rounded behind; dorsal margin gently arched, sloping steeply behind; ventral margin straight, or very slightly incurved. Seen from above the valves are compressed, broadest at the posterior third, and rounded at each extremity; smooth, opaque-white. Length $\frac{1}{37}$ in.

Hab. The Minch, 45–60 fathoms.

Only two detached valves of this species were found, but they are sufficiently distinct from *C. Scotica*, the only other British species, to require separate description.

Report on Dredging in the Moray Firth.

By the Rev. WALTER MACGREGOR *and* ROBERT DAWSON.

THE Committee appointed by the British Association for the Advancement of Science for dredging the Moray Firth engaged the same vessel as they did last year, and sailed from Macduff on the 13th of July. They continued at sea for fifteen days. During the whole time the weather was most unfavourable, and in consequence the dredgings were in a great measure confined to the western part of the Firth. So stormy was the weather on the 18th, that the vessel was obliged to run into Cromarty Firth.

In the Report laid before the Association at their Meeting of 1865, the number of Mollusca belonging to the district was set down at 259. Since