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ART. XVII.—*Some Palaeozoic Fossils from Victoria.*

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(With Plate XI.)

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### Introduction.

The following notes relate to a few interesting palaeozoic fossils, mostly of recent acquisition, that seem worthy of description. They comprise a form of the ancient shallow-water seaweed, of the Silurian mud-line, already known from England as *Bythotrephes divaricata*; two new species of foraminifera from the Silurian, *Hemigordius lilydalensis* and *Trochammina bursaria*, both of which genera have hitherto been unknown from rocks older than the Carboniferous; and a striking and new species of the neotrematous brachiopod, *Orbiculoidea*, as *O. antipodum*, from the Darriwilian (Lower Ordovician) of the Parish of Goldie, near Lancefield.

### Systematic Descriptions.

#### PLANTAE.

##### Series THALLOPHYTA.

Genus **Bythotrephes** James Hall, 1847.

BYTHOTREPHES DIVARICATA Kidston.

(Plate XI., Fig. 1.)

*Bythotrephes divaricata* Kidston, 1886, p. 243. Chapman, 1912, p. 231, pl. xxxviii., fig. 1.

Observations.—The specimen here figured agrees with Kidston's description of the type specimen from the Wenlock of England, in its long lateral branches and more numerous segments, when compared with *B. gracilis* James Hall, as noted by Kidston.

My previous record of this species from Victoria (Chapman, 1912, p. 231) was based on a specimen from the Centennial Mine at Walhalla, and probably of Wenlockian age, like that of the British occurrence.

It is now evident, from the results of an examination of the preserved cuticle of a *Bythotrephis* from the Silurian of Brunswick, Victoria, that there is no doubt about the thallophytic nature of these particular fossils (Lucas, 1927, p. 157, pl. xiv., fig. 3).

Occurrence.—From the Silurian micaceous and ochreous sandstone of the Johnstone-street cutting, near Studley Park, Kew. Found by Master Alec. Chapman.

Phylum PROTOZOA.

Order FORAMINIFERA.

Super-Family AMMODISCOIDEA.

Family CORNUSPIRIDAE.

Genus **Hemigordius** Schubert, 1908.

HEMIGORDIUS LILYDALENSIS, sp. nov.

(Plate XI., Fig. 2.)

*Ammodiscus incertus* Chapman (non d'Orb.), 1913, p. 221 (name only).

Description:—Test sub-arenaceous, depressed, ovately quadrate; consisting of a comparatively wide tube, coiled loosely and not in the same plane. There are about four or five turns in the test, the central one being more circular.

Dimensions.—Longest diameter, 0.52 mm. Minimum width, 0.32 mm.

Observations.—The quadrate coiling of the test in the above species recalls Brady's *Trochammina robertsoni* (Brady, 1876, p. 80, pl. iii., figs. 6, 7) from the Upper Carboniferous of Scotland. The latter is a true *Hemigordius*, but differs from the Lilydale species in having a more acutely ovate test, with the tube successively doubled on itself. The earliest known specimens of the genus hitherto recorded date from the Carboniferous.

Occurrence.—In a thin section of limestone, associated with *Girvanella* and other calcareous algae. Cave Hill, Lilydale, Silurian (Yeringian stage). Collected by F. Chapman, about 1904.

Family TROCHAMMINIDAE.

Genus **Trochammina** Parker and Jones, 1860.

TROCHAMMINA BURSARIA, sp. nov.

(Plate XI., Fig. 3.)

Description.—Test of a rich brown colour, texture finely arenaceous. In outline roughly circular, but bluntly truncated on one side at (?) general aperture, and angular at the opposite



extremity. Surface depressed and concave in part, the last turn of the interrupted internal tubular chamber being represented by a raised and rounded rim-like border. Interior not visible, but probably consisting of an irregularly septate and tubular chamber. The deflated and purse-like exterior is denoted by the trivial name, *bursaria*.

Dimensions.—Maximum diameter of test, 1.13 mm.

Observations.—A Carboniferous fossil figured by H. B. Brady (Brady, 1876, pl. ii., Fig. 11), as *Trochammina incerta* (non d'Orbigny), is almost exactly comparable with our specimen from Mitcham, with the exception that in the latter specimen the septation is not so distinct. Brady's fossil is rightly referred to *Trochammina*, whereas d'Orbigny's species is a true *Ammodiscus*. Brady does not indicate the locality of the Carboniferous specimen that he figured, as cited here.

The present occurrence of the genus *Trochammina* in Silurian rocks constitutes a record, since it has hitherto been unknown from rocks older than the Carboniferous.

Occurrence.—In olive-brown Silurian mudstone. East side of Allotment 119,  $\frac{1}{2}$  mile North of Mitcham, near Melbourne. Collected by David E. Thomas, B.Sc., of the Victorian Geological Survey.

Phylum MOLLUSCOIDEA.

Class BRACHIOPODA.

Order NEOTREMATA.

Family DISCINIDAE.

Genus **Orbiculoidea** d'Orbigny, 1847.

ORBICULOIDEA ANTIPODUM, sp. nov.

(Plate XL, Fig. 4.)

Description.—Shell (upper valve) roundly ovate, slightly longer than wide; depressed. Vertex almost central. Shell surface ornamented with excessively fine concentric striae. The posterior area behind the vertex is triangular and marked with radiating folds, of which the central one indicates the impression of the internal tube.

Dimensions.—Longest diameter (width), 10 mm. Length (post-ant.), 8.5 mm.

Observations.—This species appears to be very closely related to the *Orbicula perrugata* of McCoy (McCoy, 1846, p. 24, pl. iii., fig. 2) from the Caradoc beds of County Tyrone and the Chair of Kildare, in Ireland. The latter species, however, is rounder

in outline, the concentric ornament is coarser, and the apex is more central than in our species. The trivial name here used serves to denote a closely related species occurring in a locality widely separated from the earlier known form.

Occurrence.—In the soft blue slate of the Darriwilian series, zone 2; Lower Ordovician. Allotment 73, Parish of Goldie. Collected on a University Geological excursion by Wilfrid D. Chapman, M.C.E., 23rd April, 1932.

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### Explanation of Plate XI.

- FIG. 1.—*Bythotrephis divaricata*. Kidston. Silurian. Johnston-street Cutting, Kew. Nat. size.
- FIG. 2.—*Hemigordius lilydalensis*, sp. nov. Silurian. Cave Hill, Lilydale.  $\times 44$ .
- FIG. 3.—*Trochammina bursaria*, sp. nov. Silurian. North of Mitcham, near Melbourne.  $\times 22$ .
- FIG. 4.—*Orbiculoidea antipodum*, sp. nov. Lower Ordovician (Darriwil Series), near Lancefield. Nat. size.
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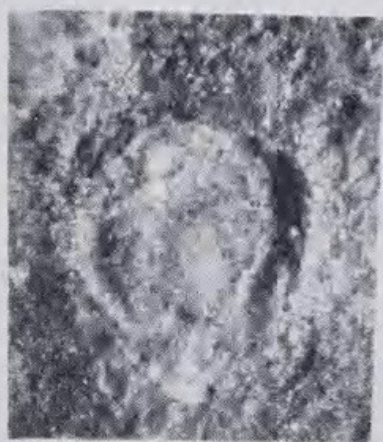




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*F. C. photo.*]

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