

of Cwm W. of Cefn Grugos; Lower Ludlow rock of Garden quarry, Aymestry, Herefordshire; in the nodules at Brathray, Westmoreland; in the olive schists of Peniarth uchaf; N.W. of Pen y Glog; the limestone of Balmae Shore, near Kirkcudbright; in olive-schists of Pen y Craig, Llangynyw, Montgomeryshire; in olive-schists of Gwyddelwern, Derwen; black shale bed of the Wye, Builth, Radnorshire; Cwm Bach, Builth; in the flags of Nant Moifydd, near Derwen.

Var. MINOR (*M^cCoy*).

Under this provisional reference I give a species resembling the above, but of only half the width, yet having from four to five denticles in a space of two lines. It is common in some parts of the Green Ludlow rocks or mudstone at Llangynyw Rectory, Montgomeryshire.

GRAPTOLITES MILLIPEDA (*M^cCoy*). Pl. 1. B. fig. 6.

Ref.—*M^cCoy*. An. Nat. Hist. 2nd S. Vol. VI. p. 271.

Sp. Ch.—Length unknown, occurs in short curved or spirally inrolled fragments; cell-denticles on the outer side, each broad at the base and abruptly contracted to a small mucro, deflected or strongly curved backwards, both the upper and lower margins being sigmoidally curved; the denticles touch each other (when fully preserved) at their bases. Five to six denticles in the space of two lines; width from axis to ends of cell-denticles slightly more than half a line.

The much closer, shorter and wider cell-denticles, with their abruptly recurved points, easily separate this species from the *G. concolutus* (His.), the inrolled form of which agrees with it. I only provisionally characterise the species, as there is a possibility that if the *G. concolutus* be only the tip of *G. Sedgwickii*, this might ultimately prove the corresponding portion of the *G. lobiferus*; a supposition which at present, however, is not supported by any evidence, there not being the same amount of resemblance between the two latter as between the two former species, the difference in size and structure of the cells being much greater.

Position and Locality.—Not uncommon in the black shale of Lockerby, Dumfriesshire.

Explanation of Figures.—Plate 1. B. fig. 6. Natural size from Lockerby. Fig. 6 a. Do. Magnified six diameters.

GRAPTOLITES MURCHISONI (*Beck.*)

Ref.—Murch. Sil. Syst. t. 26. f. 4.

Sp. Ch.—Upwards of two inches long, stems united in pairs at a small mucronate simple base, each branch nearly straight, about one line wide, having a simple, rather strong, capillary axis along the outer margin, from which the lines dividing the cells set off at an angle of about 35°; there are five to six cells in the space of two lines, having simple concave terminations, the lower angle acute, slightly projecting, but little or not at all recurved.

I have not actually traced the twin junction of the stems, so distinctly figured by Sir R. Murchison, but disjointed fragments are easily distinguished from the other single-sided Graptolites by the great number of cells in a given space, their obliquity to the axis, and the simple character of their serratures; much resembling in these points the *Diplograpsus folium* and *D. foliaceus*, from which, of course, they are fully distinguished by having their cells on only one side of the axis.

Position and Locality.—Common in the flags at Ffyrnwy, Llanfair, Welshpool; in the schists South of the Dee.

GRAPTOLITES SAGITTARIUS (*His.*)

Syn. and Ref.—*Prionotus Sagittarius*, id. Leth. Succ. t. 35. f. 6.

Sp. Ch.—Several inches long, two-thirds of a line wide, straight; a very fine capillary axis at the smooth edge, and rather large, angular, cell-denticles on the other, the distance between each of which is equal to the diameter of the stem; upper margin of each denticle nearly straight and horizontal; lower