

and *Samotherium* (the unfortunate former name will presumably, as previously stated by me, supersede the latter); it is therefore probable that its anterior and posterior limbs were of approximately the same relative length as in *Samotherium Boissieri*, and not giraffe-like as in *Camelopardalis Attica*. If this suggestion proves to be correct, the proper name for this intermediate-sized member of the Giraffidæ will be *Palæotragus vetustus* (Wagn.).

The hornless skull and the teeth described under the name of *Alcicephalus Neumayri* in Rodler & Weithofer's paper on the Ruminants of Maragha (1890) belong to *Samotherium Boissieri* (1888); not so the limb-bones ascribed to *A. Neumayri*, which agree better with the size of *Palæotragus Rouenii*.

It is but fair to state that there are labels in the Stuttgart Museum to show that the Giraffoid affinity of the two fossils in question had been duly recognized.

V.—WOODWARDIAN MUSEUM NOTES: SALTER'S UNDESCRIBED SPECIES. V.

By F. R. COWPER REED, M.A., F.G.S.

(PLATE XV.)

PLEUROTOMARIA STRIATISSIMA (Salter). (Pl. XV, Figs. 1 and 2.)

1873. *Pleurotomaria striatissima*, Salter: Cat. Camb. Sil. Foss. Woodw. Mus., p. 171 (a 987, a 991).

1891. *Pleurotomaria striatissima*, Woods: Cat. Type Foss. Woodw. Mus., p. 113.

There are two specimens of this species in the Woodwardian Museum, both of which were named and labelled by Salter. The smaller and more perfect one, a 987 (Fletcher Collection), is first mentioned, and is stated to have come from the Lower Ludlow of Dudley. The larger specimen is from the same horizon of Green Quarry, Leintwardine, and shows only a portion of the upper surface.

DIAGNOSIS.—Shell much flattened, discoidal; very low, short spire; whorls five or six in number, much flattened, coiled into a nearly flat spiral; outer whorl with acute margin furnished with small, narrow projecting band, marked off by groove from rest of whorl, and bordered by a raised thread-like line above and below (shown in Leintwardine specimen). On the inner whorls this band lies on the suture-line and is almost hidden. Apical surface of whorls ornamented with regular, equidistant, longitudinal, revolving striæ, 30–40 in number. At about one-third the distance from the outer margin is a raised thread-like line or keel, parallel to the striæ and more conspicuous on the inner whorls. Umbilical surface of shell flattened or very weakly convex, swelling slightly towards the mouth (which is not preserved). This surface is ornamented with revolving striæ, similar to the apical surface, but there is no raised thread-like line or keel amongst them. Umbilicus deep, circular, and about one-fifth the width of the base.

MEASUREMENTS.

							mm.
Diameter of larger specimen	...	...	...	...	...	...	35
Diameter of smaller specimen	...	...	...	...	...	...	22

PLEUROTOMARIA UNIFORMIS, Salter. (Pl. XV, Fig. 3.)

1873. *Pleurotomaria uniformis*, Salter, n.sp.: Cat. Camb. Sil. Foss. Woodw. Mus., p. 155 (a 879).

Salter (*loc. cit. supra*) described this species as "large, quite without ridges except band." His original specimen (a 879), from the Fletcher Collection, is the only one which we possess, and it is poor material on which to base a new species, as it is distorted and the shell mostly missing. It was found in the Wenlock Limestone of Dudley, and measures approximately 65 mm. in length and 60 mm. in width across the body-whorl.

DIAGNOSIS.—Shell large, broadly conical, of few whorls (the three upper ones are alone preserved). Whorls convex, with apical face oblique to axis and having its surface slightly raised in the middle between the suture-line and slit-band. Slit-band of moderate width, marginal, separating apical face from convex portion of whorl below, and situated above the middle line of the whorl; with rounded prominent borders, and with a convex surface crossed by transverse crescentic striæ and occasionally by thicker lamellæ. Suture-line shallow. Body-whorl large, apparently nearly half the length of shell. Ornamentation of apical face of whorls consisting of transverse sigmoidal lines; rest of whorls crossed by transverse non-sigmoidal striæ, with a few thicker striæ interspersed at irregular intervals.

PLEUROTOMARIA ? HELICOIDES, Salter.

1873. *Platyschisma helicoides*, Salter: Cat. Camb. Sil. Foss. Woodw. Mus., p. 186 (b 140, c 26).

1891. *Platyschisma helicoides*, Woods: Cat. Type Foss. Woodw. Mus., p. 111.

The two specimens on which Salter founded this species are both from the Upper Ludlow of Lesmahagow. Neither is at all well preserved, and but very few characters are visible. Salter says of this species: "A shell very like the *Trochus helicitæ* of the British Ludlows, but flatter and having a marked subangular band."

DIAGNOSIS.—Shell small, coiled into a low spiral of five or six whorls. Whorls angulated; apical surface narrow, flat, horizontal, with elevated keel round edge; sides steeply sloping. Margin of last whorl appears to be expanded into horizontal lamellar band. No slit-band visible. Surface ornamentation unknown.

MEASUREMENTS.

								mm.
Height	...	...	...	...	...	...	...	2.5
Width	...	...	...	...	...	...	...	7.0

REMARKS.—As Salter remarks, this species is quite distinct from Sowerby's *Trochus* [*Platyschisma*] *helicitæ*,¹ but it is unfortunate

¹ Sil. Syst., pp. 603; 706, t. iii, figs. 1e, 5. Siluria, 4th ed., p. 162, Foss. 26, fig. 9; t. xxxiv, fig. 12.

that the material is so badly preserved that even the genus is doubtful. It is quite possible that it is a *Horiostoma*, but the apparently alate margin reminds one of *Pleurotomaria alata* (His.),¹ and the shape of the whorls is also similar, especially in the variety *subcarinata*.

TRICHONEMA BIJUGOSA, Salter. (Pl. XV, Fig. 4.)

1873. *Trochonema bijugosa*, Salter, n.sp.: Cat. Camb. Sil. Foss. Woodw. Mus., p. 156 (a 87a).

1891. *Trochonema bijugosa*, Woods: Cat. Type Foss. Woodw. Mus., p. 115.

There are only two specimens of this species in the Woodwardian Museum, and they are the original ones determined by Salter. The larger one shows a portion of the body-whorl and succeeding whorl with the shell well preserved; the smaller one is merely an imperfect internal cast of the two basal whorls, and it is doubtful if it is rightly attributed to the same species. Both are from the Wenlock Limestone of Dudley and belong to the Fletcher Collection. Salter describes the species as "much resembling *T. (Turbo) trochleatus* of McCoy and Hall," and the figure in the margin appears to be a rough restoration of it.

DIAGNOSIS. — Shell conical, turbinate; of six (?) whorls; apical angle 60°. Whorls angulated by two parallel longitudinal keels, between which their surface is flattened and vertical. Apical surface of whorls sloping down steeply from suture-line to upper keel, but swollen into a low, revolving ridge close below suture-line, defined below by distinct groove. Lateral surface flattened vertical, about one-third height of whorl, bounded above by upper keel and below by lower keel; lateral surface meets apical surface at angle of 45°, and in basal whorl meets umbilical surface at same angle. Umbilical surface sloping, faintly convex. Keels forming rounded, projecting, parallel bands, marked off above and below by faint narrow grooves. The lower keel is rather the larger of the two. Surface of valves ornamented by regular, continuous, strong, equal striæ. On apical surface the striæ are oblique, and close to the upper keel bend sharply back and cross it in a series of sharp crescents resembling those on the slit-band of *Pleurotomaria*. Between the keels on the lateral surface the striæ are nearly straight and vertical, and cross the lower keel directly without bending back, and continue thence on to the umbilical surface, where they become sigmoidal.

MEASUREMENTS.

	mm.
Width of larger specimen	20·0
Estimated height of ditto	20·0

REMARKS. — It is unfortunate that the material on which this species is based is not more complete, and accordingly the species does not admit of very satisfactory definition. At any rate, it seems to be distinct from any previously described.

¹ Lindström: Sil. Gastrop. Pterop. Gotl., p. 118, pl. x, figs. 33-37.

BELLEROPHON RUTHVENI, Salter. (Pl. XV, Figs. 5 and 6.)

1873. *Bellerophon Ruthveni*, n.sp., Salter: Cat. Camb. Sil. Foss. Woodw. Mus. (b 61).

1891. *Bellerophon Ruthveni*, Woods: Cat. Type Foss. Woodw. Mus., p. 96.

It is to be regretted that the four specimens on which Salter founded this species are so poorly preserved and distorted. They are all from the Kirkby Moor Flags of Benson Knot, near Kendal, and were labelled by McCoy *B. expansus* (Sow.). Salter describes *B. Ruthveni* as "Smaller than *B. dilatatus* and with the band angular, and the whorls angular where the band becomes so. Very common, $1\frac{1}{4}$ inch wide." The shape of the shell resembles *B. expansus* with large expanded aperture, with inner lip bent down considerably and outer lip possessing a wide acuminate V-shaped sinus. The slit-band is comparatively narrow, and lies sunk between faintly elevated margins. Near the aperture the whorl seems to be slightly carinated and compressed, though this appearance may be due to crushing in the rock. In one of the smaller specimens there are traces of one or two longitudinal thread-like lines running parallel to the slit-band on the surface of the shell, slightly diverging towards the mouth, but no other ornamentation or surface-markings are visible. The specimens are so poor that it is impossible to give any satisfactory definition of the species, and it is extremely doubtful in my mind whether Salter's species can stand.

EXPLANATION OF PLATE XV.

FIG. 1a.—*Pleurotomaria striatissima*, Salter, viewed from above, enlarged twice natural size.

FIG. 1b.—The same, viewed from beneath, enlarged twice natural size.

FIG. 1c.—Side-view of same, enlarged twice natural size.

From the Lower Ludlow of Dudley.

FIG. 2.—*Pleurotomaria striatissima*, Salter, natural size; from the Lower Ludlow, Leintwardine.

FIG. 3.—*Pleurotomaria reniformis*, Salter, natural size; Wenlock Limestone, Dudley.

FIG. 4.—*Trochonema bijugosa*, Salter, enlarged twice natural size; Wenlock Limestone, Dudley.

FIG. 5.—*Bellerophon Ruthveni*, Salter (side-view), natural size; Kirkby Moor Flags, Benson Knot, Kendal.

FIG. 6.—The same (carinal aspect), enlarged twice natural size; same locality.

VI.—ON THE BRITISH EARTHQUAKES OF 1900.

By CHARLES DAVISON, D.Sc., M.A., F.G.S.

(WITH A MAP.)

DURING the past year there were only two undoubted earthquakes in this country. Some may have occurred in Glen Garry, one of our most sensitive regions; but the construction of a new railway through the valley renders it difficult to identify true earthquakes with certainty. The total number of British earthquakes during the last twelve years thus amounts to 116, of which 46 had epicentres in England and Wales and 70 in Scotland, 42 of the latter number being confined, or almost confined, to Glen Garry.