Mr. D. SHARPE on Palæozoic Fossils from South Africa.

> Description of Palæozoic Mollusca from South Africa. By DANIEL SHARPE, Esq., F.R.S., Pres.G.S.

Spirifer Antarcticus, Morris and Sharpe, Quart. Journ. Geol. Soc. vol. ii. pl. xi. fig. 2. Pl. XXVI. figs. 1, 2, & 5.

S. testâ crassâ semicirculari, costis 20–24 rotundatis elevatis concentrice subimbricatis : costâ mediâ ventrali magnâ, elevatâ, imbricatâ : sulco medio dorsali lato, profundo, rotundato : areâ cardinali latitudine valvarum ; dorsali elevatâ, triangulari, longitudinaliter lineatâ ; ventrali elevatâ, rectâ.

Shell transversely semicircular, with twenty to twenty-four prominent, rounded ribs, slightly imbricated by the concentric lines of growth: mesial ridges of the ventral valve large, elevated, and imbricated; mesial furrow of the dorsal valve large, deep, and rounded. Hinge-area of the breadth of the shell; on the dorsal valve high and triangular, with strongly marked longitudinal lines; on the ventral valve high and bounded by parallel lines.

Breadth  $2\frac{1}{2}$  inches; length of dorsal valve  $1\frac{1}{2}$  inch, of ventral valve  $1\frac{1}{4}$  inch; height of hinge-area on the dorsal valve  $\frac{1}{2}$  inch, on the ventral valve  $\frac{1}{4}$  inch.

Found in the Warm Bokkeveld; occurring abundantly as casts in a hard grey siliceous rock, together with casts of Sp. Orbignii, Terebratula Bainii, Orthis palmata, and Chonetes, chiefly on the bedding-planes of the rock; also in a light-coloured soft sandstone of the same locality.

It has been also found in the Falkland Islands by Mr. C. Darwin.

The better preservation of the African specimens enables me to improve the description originally given of this species; but it is still far from complete: its most marked feature is the height of the hinge-area on both values.

Fig. 1, cast of the interior of the dorsal valve; fig. 2, cast of the interior of the ventral valve, with the exterior of the dorsal area; fig. 3, exterior of the dorsal valve, from a gutta-percha mould of an impression of the shell.

Von Buch has described a species of Spirifer brought by Dr. Krauss from Kok-



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man's Kloof\* in the Cape of Good Hope, which has considerable affinity to this shell; it is S. Capensis, Von Buch, 'Bären-Insel,' p. 12. fig. 1. It differs from S. Antarcticus in having the mesial fold and sinus broader than in our species, and in having the beak of the dorsal valve bent over, and the area deeply curved; it also wants the imbricating lines of growth.

Spirifer Orbignii, Morris & Sharpe, Quart. Journ. Geol. Soc. vol. ii. pl. xi. fig. 3. Pl. XXVI. figs. 3, 4, & 6.

S. testă semi-ovali, subæquivalvi: costis 16 rotundatis, elevatis, concentricè imbricatis: costă media ventrali latâ, elevatâ, imbricatâ, medio sulcată; sulco medio dorsali lato, profundo, rotundato, medio costato: areâ cardinali angustâ, latitudine valvarum.

Shell transversely semi-oval, nearly equivalved; with about sixteen prominent, rounded ribs, imbricated by strong concentric lines of growth: mesial ridge of the ventral valve large, prominent, and imbricated<sup>†</sup>, and marked by a slight medial furrow; mesial furrow of the dorsal valve broad, deep, and rounded, with a very slight medial rib: hinge-area of the breadth of the shell, narrow.

Breadth  $2\frac{1}{4}$  to 3 inches; length 1 to  $1\frac{1}{4}$  inch.

Found abundantly in the hard grey siliceous rock of the Warm Bokkeveld, with the preceding species; and also found in the Falkland Islands by Mr. C. Darwin.

I presume that this is the species which Dr. F. Sandberger has referred to Spirifer macropterus, Goldf., var. mucronatus, but I cannot concur in that view. All the African specimens have the uniformly curved outline represented in the figures, while S. macropterus has the outline of each wing in a curve more or less sigmoidal: the interiors of the valves are also different; S. Orbignii has a greater thickening of the interior of the dorsal valve towards the hinge, having the casts of the muscular impressions more prominent. The slight rib in the middle of the mesial furrow and the furrow in the mesial ridge of S. Orbignii (which should be more marked in the figures) are also distinguishing characters.

Fig. 3, cast of the interior of the dorsal valve; fig. 4, cast of the interior of the ventral valve; fig. 6, exterior of the ventral valve, from a gutta-percha mould of an impression of the shell.

Orthis palmata, Morris & Sharpe, sp. Pl. XXVI. figs. 7-10.

Atrypa palmata, Morris & Sharpe, Quart. Journ. Geol. Soc. vol. ii. pl. x. fig. 3.

O. testâ subhemisphæricâ, radiatim costatâ : valvâ ventrali depressâ, dorsali gibbosâ : costis 14-16 rotundatis, elevatis, simplicibus, sulcis rotundatis intermediis subæqualibus : lineâ cardinali subrectâ, breviusculâ.

\* Kokman's Kloof is a pass in the mountains north of Swellendam.

† In the specimen fig. 6 the imbrication has been rubbed off the mesial ridge, and the furrow down it is also lost.

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Shell nearly hemispherical, ribbed: ventral valve nearly flat, with the edges a little depressed; dorsal valve convex: both valves ornamented with fourteen to sixteen prominent, rounded, simple ribs, radiating from the umbo to the margin, and nearly equal in width to the rounded furrows between them. Hinge-line nearly straight, shorter than the breadth of the shell, which is rounded off at the extre-.mities of the back.

Length  $\frac{3}{4}$  of an inch; breadth 1 inch.

Found abundantly as casts in a ferruginous rock, together with casts of Strophomena Bainii and Encrinital joints, in the Cold Bokkeveld. Orthis palmata occurs also (with Homalonotus and Tentaculites) in the dark schists of the Warm Bokkeveld; with Conularia in the Cedarberg; in the light-coloured schists of Hottentots Kloof; and (with Encrinites) in a light-coloured schist from Kokman's Kloof, presented to the Geological Society's Museum by Major Colebrooke.

It has been also found in the Falkland Islands by Mr. C. Darwin.

Fig. 7, exterior of the ventral valve, from a gutta-percha mould of an impression of the shell; fig. 8, exterior of the dorsal valve, from a gutta-percha mould of an impression of the shell; fig. 9, interior of the ventral valve; fig. 10, interior of the dorsal valve.

#### Terebratula Bainii, Sharpe. Pl. XXVI. figs. 11 & 12.

T. testâ ovatâ, sublævi, concentricè rugatâ; valvâ dorsali convexâ, ventrali subdepressâ.

Shell ovate, nearly smooth, with a few deep concentric wrinkles; dorsal valve elevated; ventral valve slightly convex.

Length 1 inch; breadth  $\frac{3}{4}$  of an inch; thickness about  $\frac{3}{8}$  ths of an inch.

Found plentifully as casts in a dark-grey siliceous rock, in the Warm Bokkeveld, together with casts of Spirifers and of Orthis palmata.

The specimens of this species in Mr. Bain's collection are all more or less crushed, and do not afford good materials for defining the species.

Fig. 11, exterior of the ventral valve, from a gutta-percha mould of an impression of the shell; fig. 12a, cast of the interior of the ventral valve; fig. 12b, cast of the interior of the dorsal valve.

# Strophomena Bainii, Sharpe. Pl. XXVI. figs. 13 & 17.

S. testâ transversim semi-ovatâ, depressâ, subtiliter radiatâ: radiis numerosis simplicibus, alternatim minoribus; ad marginem 120–130: lineâ cardinali rectâ, valvarum latitudinem æquante.

Shell transversely semi-oval, depressed, covered on both valves with numerous, fine, simple rays, increasing in number as the shell enlarges by the insertion of smaller rays between the others, until they reach the number of 120 or 130 at the

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margin: hinge-line of ventral valve straight, equal in length to the greatest width of the shell: ventral valve with a slight elevation near the umbo, below which is a mesial depression extending to the margin.

Length 1 inch; breadth  $1\frac{3}{4}$  inch.

Found in the Warm Bokkeveld, in a nodule of ferruginous rock, together with casts of *Orthis palmata*; and in black schist and yellowish micaceous sand-rock of the same locality.

I take the specific characters from the ventral valve, fig. 13: if fig. 17 represent a dorsal valve, the hinge-area must be small. This shell much resembles *Strophomena Bechei*, M'Coy, sp., Carb. Foss. Ireland, pl. 22. fig. 3.

Fig. 13, exterior of ventral valve, from a gutta-percha mould of an impression of the shell; fig. 17, exterior of dorsal ? valve, from a similar mould.

Strophomena Sulivani, Morris & Sharpe, sp. Pl. XXVI. figs. 18 & 19.

Orthis Sulivani, Morris & Sharpe, Quart. Journ. Geol. Soc. vol. ii. pl. x. fig. 1.

S. testâ semi-ovatâ, striatâ; valvâ ventrali subplanâ, dorsali subgibbosâ: omnind striis numerosis radiantibus, bifurcantibus, ad marginem 150, lineisque paucis concentricis ornatâ: areâ cardinali altâ, triangulari, latitudinem valvarum æquante; foramine clauso.

Shell semi-ovate; ventral valve nearly flat, dorsal valve slightly gibbose: surface covered with fine sharp bifurcating rays, increasing at the margin to about 150 in number, and crossed by two or three ill-defined concentric lines: hingeline nearly of the breadth of the shell: hinge-area high and triangular, with the large triangular foramen covered with a deltidium.

Width  $1\frac{5}{8}$  inch; length  $1\frac{1}{8}$  inch.

Found in dark-coloured schist and in reddish argillaceous rock in the Warm Bokkeveld; and also found in the Falkland Islands by Mr. C. Darwin.

Fig. 18, exterior of the ventral valve and hinge-area of the dorsal valve, from a gutta-percha mould of an impression of the shell; fig. 19, exterior of the dorsal valve, from a similar mould.

Chonetes, species undetermined. Pl. XVI. fig. 14.

Interior of the ventral valve, perhaps of the same species as the following. From the Spirifer-rock of the Warm Bokkeveld.

Chonetes, species undetermined. Pl. XVI. figs. 15 & 16.

These figures probably represent the interior and exterior impressions of the dorsal value of one species; but, having no positive proof of this, I have not ventured to name them. They are clearly distinct from *Chonetes sarcinulata*, Schloth., being much more finely striated than that species. Dr. F. Sandberger

quotes C. sarcinulata from the same formations at the Cape of Good Hope, but we have not found it among our specimens.

From the Spirifer-rock of the Warm Bokkeveld.

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Some larger specimens of *Chonetes*? occur in a nodule of reddish rock from the Warm Bokkeveld.

Orbicula Bainii, Sharpe. Pl. XXVI. figs. 20-23.

Orbicula, sp., Quart. Journ. Geol. Soc. vol. ii. pl. x. fig. 5.

O. testâ ovato-circulari, depresso-conicâ, apice excentricâ, concentricè subrugatâ, radiatim subtilissimè striatâ.

Shell nearly circular, depressed-conical, with the apex slightly excentric, both valves covered with fine concentric wrinkles, which are crossed by very fine radiating striæ, scarcely visible to the naked eye.

Longest diameter  $1\frac{1}{4}$  inch; shortest diameter  $1\frac{1}{8}$  inch; height  $\frac{8}{8}$ ths of an inch.

Found in black schist at Gydow Pass (with *Littorina*); in soft light-coloured argillaceous rock (with *Strophomena Bainii*?) at Hottentots Kloof; and in nodules of dark-coloured rock at the Cedarberg (in one instance with *Chonetes*); and found in the Falkland Islands by Mr. C. Darwin.

Fig. 20 a & b, upper value of a small specimen; fig. 20 c, part of the surface of 20a, magnified; fig. 21 a & b, upper value of a larger specimen, which has lost nearly the whole of its shell; fig. 22, lower value; fig. 23a, fragment of the upper value with the shell well preserved.

Solenella antiqua, Sharpe. Pl. XXVII. fig. 1.

S. testâ transversim ovatâ, concentricè rugoso-lineatâ; anticè rotundato-abbreviatâ; posticè subproductâ, rotundatâ, propè dorsum sinuatâ: cardine subarcuato; dentibus anterioribus 10 parvis, posterioribus numerosis minoribus.

Shell transversely ovate; anterior end broad, short, and rounded; posterior end somewhat produced, broad, with a small sinus near the dorsal margin: valves covered with fine concentric wrinkles: hinge-line slightly arched, with about ten small anterior, and more than twenty very small posterior teeth.

Length  $l_{\frac{1}{2}}$  inch; breadth  $2\frac{1}{4}$  inches; thickness 1 inch.

Found at Leo Hoek, in a fine micaceous sandstone. There are five specimens in the collection, four of which have the valves united.

As the ligament of this and the following species was external, it is obviously incorrect to place them in the genus *Nucula*; the small posterior sinus shows their relation to *Solenella*, and proves them to have had a sinus in the pallial line.

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Fig. 1*a*, right valve; fig. 1*b*, hinge of the same specimen.

Solenella rudis, Sharpe. Pl. XXVII. fig. 6.

S. testă transversim rhomboideo-ovată; concentricè lineată et corrugată; anticè rotundatoabbreviată; posticè ad dorsum subproductâ, marginem ventralem versus truncată et sinuată.

Shell transversely rhomboido-ovate; anterior end broad, short, and rounded; posterior end broad, a little produced near the back, and diagonally truncated with a small sinus near the ventral margin: a slight depression extending from the umbo to the middle of the ventral margin: valves with fine concentric lines and a few unequal concentric wrinkles.

Length  $1\frac{1}{4}$  inch; breadth 2 inches.

Found at Hottentots Kloof, in a light-coloured soft micaceous rock. This is the most abundant of the palæozoic lamellibranchiate species in this collection; of the others there are often but one or two specimens, of this there are above twenty. Two-thirds are separate valves, and one-third consists of specimens having the valves united.

# CLEIDOPHORUS, Hall.

Gen. Char. An equivalved, inequilateral, lamellibranchiate bivalve, transversely oblong: hinge nearly straight, with numerous small crenulations, extending on both sides of the umbo: ligament external: each valve furnished internally with a strong plate in front of the beak and behind the anterior adductor.

I have followed the authority of Mr. Salter and Mr. Morris in uniting together the genera *Cleidophorus* of Hall and *Cucullella* of M'Coy, which were stated to differ in the former having no teeth in the hinge, and the latter having the "hinge-line entirely crenulated." This is done on the supposition that Mr. Hall's specimens were not in a condition to show the hinge, a case unfortunately only too common among the fossil bivalves from the palæozoic rocks.

# Cleidophorus Africanus, Salter, MSS. Pl. XXVII. figs. 2 & 4.

C. testâ transversim elongato-ovali, concentricè inæqualiter subcorrugată: laminâ internă magnâ: cardine recto, dentibus minutis, verticalibus, numerosissimis.

Shell transversely elongato-oval, covered with unequal and irregular concentric lines and wrinkles: internal plate large: hinge straight; teeth small, vertical, and very numerous.

The condition of the specimens does not admit of an accurate description of the external form. This is the largest species yet known of the genus.

Length  $1\frac{1}{4}$  inch; breadth  $2\frac{1}{4}$  inches.

Found at Cedarberg by Dr. A. Smith, and by Mr. Bain in the dark-coloured schist of Gydow Pass, Bokkeveld, South Africa.

Cleidophorus abbreviatus, Sharpe. Pl. XXVII. fig. 3.

C. testâ transversim triangulato-ovatâ: laminâ internâ maximâ: cardine arcuato; dentibus minutis.

Shell transversely ovate with prominent beaks; anterior and posterior ends regularly rounded: internal plate very large, and nearly reaching to the margin: hinge-line arched; teeth small. The external surface has not been seen.

Length  $\frac{3}{4}$  of an inch; breadth 1 inch.

Found at Gydow Pass, in hard dark-coloured schist.

Leda inornata, Sharpe. Pl. XXVII. fig. 5.

L. testâ depressâ, transversim lanceolato-ovatâ, valdè inæquilaterali, concentricè striatâ, anticè rotundatâ, posticè productâ, subacuminatâ.

Shell depressed, transversely lanceolato-ovate, very inequilateral; anterior end broad and rounded; posterior end produced: ventral margin regularly rounded: valves covered with fine concentric lines of growth.

Length  $\frac{3}{4}$  of an inch; breadth  $1\frac{1}{2}$  inch.

Found at Hottentots Kloof, in a soft light-coloured micaceous sandstone.

Leptodomus? ovatus, Sharpe. Pl. XXVII. fig. 7.

L.? testâ transversim ovatâ, anticè abbreviatâ, truncatâ, tumidâ, posticè productâ, rotundatâ, concentricè lineatâ : umbonibus magnis anticis.

Shell transversely ovate; anterior end thick and truncated; posterior end produced and gradually thinning down to the rounded posterior margin: two very slight furrows extend from the beak to the posterior end: beaks large, rounded, and close to the anterior end: valves covered with concentric lines of growth.

Length  $1\frac{1}{4}$  inch; breadth  $1\frac{5}{4}$  inch; thickness 1 inch.

Found at Leo Hoek.

The specimen does not show sufficient characters to determine the genus.

The slight furrows on the posterior end are not sufficiently shown in the figure.

Sanguinolites? corrugatus, Sharpe. Pl. XXVII. fig. 8.

S.? testà transversim rhomboideâ, medio depressâ, concentricè corrugatâ : umbonibus prominentibus, anticis : carinâ obtusâ, ab umbone ad angulum ventrali-posteriorem extendente.

Shell transversely rhomboidal, with a depression down the middle of each valve, bounded by a broad, obtuse keel, which reaches from the umbo to the posterior ventral margin : beaks prominent and close to the rounded anterior end : valves covered with coarse concentric wrinkles and finer lines of growth.

Length  $\frac{1}{2}$  inch; breadth 1 inch; thickness  $\frac{1}{2}$  inch.

Found at Leo Hoek, in a nodule of hard dark-coloured siliceous rock.

Having only seen the impression of one pair of valves, a cast of which is figured, I must leave the genus doubtful.

### Modiolopsis? Bainii, Sharpe. Pl. XXVII. fig. 9.

M.? testă subrhomboidali : umbonibus anterioribus : carină depresso-rotundată, ab umbone ad marginem ventrali-posteriorem, valvam transverse dimidiante : extremitate anteriore truncatoabbreviată ; posteriore latâ, declivi.

Shell nearly rhomboidal: beaks close to the anterior end: each valve divided into two nearly equal portions by a rounded ridge which reaches from the beak to the ventral-posterior margin: anterior end very short and truncated; posterior end broad and sloping away from the central ridge.

Length 1 inch; breadth 2 inches; thickness  $\frac{2}{5}$  ths of an inch.

As the generic characters of this shell cannot be seen in the only specimen in the collection, it is placed in the genus *Modiolopsis*, with which its general form corresponds. The cast shows some traces of concentric lines of growth over the whole valve, and of several lines radiating backwards from the beak over the anterior portion.

Found at Leo Hoek.

#### Anodontopsis? rudis, Sharpe. Pl. XXVII. fig. .0.

A.? testâ subquadratâ, anticè umbonem versus subtruncatâ, medio depressâ, concentricè corrugato-lineatâ : umbonibus medianis.

Shell nearly square: beaks central: anterior side slightly truncated near the beak: posterior side nearly straight: a slight depression down the middle of each valve, reaching to the ventral margin: valves wrinkled with irregular concentric lines of growth.

Length  $1\frac{3}{4}$  inch; breadth  $1\frac{3}{4}$  inch; thickness  $\frac{7}{5}$  ths of an inch.

Found at Leo Hoek.

The collection only contains an imperfect specimen of this species, which does not exhibit any characters by which its genus can be correctly ascertained.

Littorina ? Bainii, Sharpe. Plate XXVII. figs. 11 & 12.

L.? testâ heliciformi : anfractibus paucis, rotundatis, transversim rugosis : aperturâ rotundată, supernè angulatâ.

Shell heliciform; whorls few, rounded, and transversely wrinkled; aperture angular above, rounded beneath.

Largest diameter 1 inch.

Found at Gydow Pass, in dark-coloured schists and nodules.

Fig. 11, a cast, somewhat restored; fig. 12, fragment of a cast.

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The specimens are all broken internal casts, too imperfect to allow of a proper description of the species; but, being the only Gasteropod from the formation, they could not with propriety be omitted.

#### Conularia Africana, Sharpe. Pl. XXVII. fig. 13.

C. testâ pyramidali; lateribus æqualibus, transversim radiatis, medio depressis, angulis rotundatis; radiis binis, æqualibus, arcuatis, junioribus medio laterum interruptis, adultis continuis : radiorum interstitiis lævibus?

Shell pyramidal with equal sides, each of which has a depression down its middle; transverse section nearly rectangular, with the corners rounded off and deeply indented: sides ornamented with numerous parallel projecting ribs, which in the internal cast are formed of two sharp ridges enclosing a rounded furrow (see fig. 13 b): the ribs slope upwards from the corners towards the middle of the sides, and in the young shell meet at an angle, cross the mesial depression, and slightly overlap one another; but in older shells they are continuous across the side of the shell in a curve: the interstices between the ribs appear to be smooth?

Found at the Cedarberg, in nodules of dark-coloured rock, weathering ferruginous; in one instance the Conularia is associated with casts of Orthis palmata.

Fig. 13 a, fragment of the internal cast of an old specimen; fig. 13 b, enlarged portion of fig. 13 a; fig. 13 c, section of another specimen, slightly crushed.

Besides the species above described, the collection contains some imperfect specimens of another species of *Conularia*, which is more nearly related to *C*. *quadrisulcata* of the Coal-measures of Coalbrook-dale, figured in the Trans. Geol. Soc. 2nd Series, vol. v. pl. 40. fig. 2; but the specimens are not in condition to admit of a good comparison.

There are also a *Bellerophon* and a *Theca*, which have been accidentally omitted in the plates, and of which woodcuts (figs. 1-4) and descriptions have been added by Mr. Salter.

Bellerophon (Euphemus) quadrilobatus, Salter. Woodcut, figs. 1 & 2.

B. modicus, involutus, umbilico parvo rotundato; anfractibus tumidis 3-lobatis, lobo dorsali multo majore, utrinque rotundato, per medium planato et quasi depresso; apertura lata, lunata, utrimque emarginata.

Involute, with a very small umbilicus, the edges of which are rounded. Whorls thick, broader than deep, with a concentric sulcus on each side, and with a very broad, flattened, and almost two-



Figs. 1 & 2. Bellerophon quadrilobatus.
Fig. 3. Theca subequalis; a portion of the internal cast remaining. (With Tentaculites.)
Fig. 4. Transverse section of Theca subequalis.

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lobed dorsal margin. Keel probably none. Aperture semilunar, indented on each side above by the sulci, and more than twice as broad as deep. Diameter of the shell  $\frac{3}{4}$  of an inch.

This is closely allied to such forms as B. (Euph.) trilobatus, Sow., and B. bisulcatus, Röm., from both of which its broad, flattened, and almost double dorsal lobe distinguishes it. There is no appearance of a band; and we think that this group of smooth and but slightly expanded Bellerophons may be distinguished by the subgeneric name formerly applied by Prof. M'Coy (see Pal. Foss. Cambridge Mus. p. 308).

Locality.—Warm Bokkeveld.

Theca subæqualis, Salter. Woodcut, figs. 3, 4.

T. conica, compressa, nec trigona; facie dorsali rotundată, ventrali lentè convexâ; testâ crassiusculă? sublævi, striis arcuatis obscuris.

Length  $\frac{3}{4}$  inch, width 3 lines. Shell rather thick, quickly tapering, smooth or crossed only by lines of growth; ventral side gently convex, the dorsal more convex and subangular, but with the angles quite rounded off.

It is difficult to distinguish accurately the species of this genus. The present appears distinct from any published. It might have been referred to the *T. lanceolata*, Sowerby and Morris, from New South Wales\*, but that species has a more trigonal internal cast, as particularly mentioned by Sowerby, and distinct regular transverse striæ. Both species appear to have had rather a stouter shell than usual in the genus.

Locality.—Occurs as a ferruginous cast, together with Bellerophon quadrilobatus and Tentaculites crotalinus, in a nodule of dark-grey rock from the Warm Bokkeveld.

Description of Palæozoic Crustacea and Radiata from South Africa. By J. W. SALTBE, Esq., F.G.S.

Homalonotus Herschelii, Murchison, Silurian System, pl. 7 bis, fig. 2; Burmeister, Organ. Trilob. (ed. Ray Soc.) p. 87. Pl. XXIV. figs. 1-7.

H. longus, pedalis, spinosus; capite triangulato, fronte in apiculum curvum producto; thorace armato; caudâ convexissimâ, trigonâ, acutâ, annulis sexdecim, nonnullis spinosis.

Of this fossil, which we previously knew only from fragments, Mr. Bain has collected a fine series, showing the upper and under side of the head, with its

\* Strzelecki's 'New South Wales,' 1845, p. 289.

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# FOSSILS FROM SOUTH AFRICA Palaeozeec)





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