## SIR WILLIAM DAWSON ON

2. Pupa Bigsbii, Dawson.

ease

in g Abo

whe

intr

whi

cha prol

blac

Ab

veg

shaj veg

side

the Tov

still how

low

pha

and

bon

it, a

vetu

ped

hit

ma

ani

fell

sea

De

ent

4 i

its

of

is a

on

sti

18

lai

be

cos

oť

[Am. Jl. of Science, vol. XX., 1880, p. 410; Revision of Pal. Land Snails, Am. Jl. Sci., 1860, p. 410.] Coal Formation, S. Joggins, N. Scotia, eol. J. W. D.

3. Pupa pervetus, Matthew.

[Trans. Royal Society of Canada, 1893.]

Devonian, Little R. Group, St. John, N. B., col. G. F. Matthew.

4. Strophia (Strophella) grandæva, Dawson.

[American Jl. of Science, vol. XX., p. 413; Salient Points in the Science of the Earth, p. 288.] Devonian, L. River Group, St. John, N. B., col. G. F. Matthew.

## 5. Zonites (Conulus) priscus, Carpenter.

[Quarterly Journal of Geological Society of London, Nov., 1867; Acadian Geology, 2d edition, 1868, p. 385.] Coal Formation, S. Joggins, Nova Seotia, col. J. W. D.

## NOTE ON ERECT TREES RECENTLY DISCOVERED.

These remarkable repositories of animal remains, occurring in the section of coal-formation rocks so beautifully exposed at the South Joggins in Nova Scotia, were discovered by Sir Charles Lyell and the writer in 1851, and were first described in a joint paper published in the Journal of the Geological Society of London in 1853.<sup>1</sup> Subsequently they have been more fully noticed in "Acadian Geology," in the "Air-breathers of the Coal Period,"<sup>2</sup> and in a paper published in the Transactions of the Royal Society of London<sup>3</sup> in 1882. Shorter notices will be found in my "Salient Points in the Science of the Earth" and in the Transactions of this Society for 1891.

The singular combination of accidents necessary to seeure the preservation of remains of land animals in the interior of erect trees was, of course, of very rare occurrence, and in point of fact until the year 1893 these conditions were known to occur in only one set of beds : under the thick-bedded sandstone in Division 4, Section XV., Coal-group 15, of my section of the South Joggins in "Acadian Geology."

In the spring of 1893, however, Mr. P. W. McNanghton, of the Joggins Coal Mine, who had been so kind as to watch the exposures of trees in the cliff at my request, found two productive trees in beds considerably below that which had afforded the previous discoveries. According to Mr. McNaughton's observations, the lowest of these trees is in Division 4, Section XII., Coal-group 26, of my section, or 414 feet lower in the series than the original hed, and about 1,617 feet distant from it along the shore. The intervening beds, besides sandstones, shales and underclays, include fifteen small seams of coal, and five beds of bituminous limestone and calcureo-bituminous shale, so that they must represent a considerable lapse of time. This tree, from the imperfect marking preserved on its surface, was evidently a ribbed Sigillaria. It was rooted in a shaly underclay, with coaly streaks and stigmaria roots. It was 1 foot 11 inches in diameter near the base. Below this, as is often the

<sup>2</sup> Montreal, 1863.

84

<sup>&</sup>lt;sup>1</sup> Vol. 1X., p. 58.

<sup>&</sup>lt;sup>8</sup> Volume of 1882, p. 621 et seq.