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NOTES ON NEW AND STRANGE BURGESS SHALE FOSSILS (MIDDLE CAMBRIAN OF BRITISH COLUMBIA)

Riassunto — The Authors describe two new animals from the Burgess Shale (Middle Cambrian of British Columbia). The first (*Fasciculus vesanus*) is a possibly colonial animal of obscure taxonomic affinities, while the second (*Platydendron ovale*) is considered to belong to the Polycladida and would therefore be the earliest Flatworm known.

Summary — *Su due nuove specie di fossili del Cambriano Medio della Burgess Shale (Columbia Britannica).* Gli AA. descrivono due nuove specie del Cambriano medio della Burgess Shale (Columbia Britannica). La prima (*Fasciculus vesanus*) rimane di collocazione sistematica assolutamente dubbia. La seconda (*Platydendron ovale*) viene considerata un Platelminta Policlado. Questa sarebbe la prima segnalazione del phylum Platyelminthes nel Cambriano.

The famous Burgess Shale Fauna of the Middle Cambrian is far from being completely studied and in these last years a number of new taxa have been described or redescribed to amend previous descriptions (A. SIMONETTA & L. DELLE CAVE, 1975; H. B. WHITTINGTON, 1971 a 1971 b, 1975; S. CONWAY MORRIS, 1976 a, 1976 b, 1977; ecc.).

However several taxa remain undescribed and some of the described ones are so peculiar in their structure that further discussion of their morphology and affinities is worthwhile.

Thus this paper is concerned with two of such puzzling taxa.

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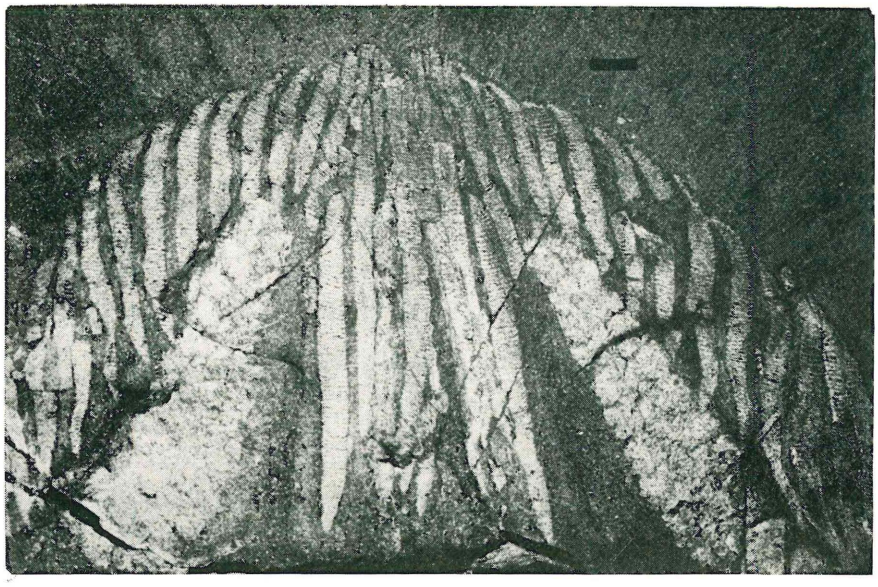

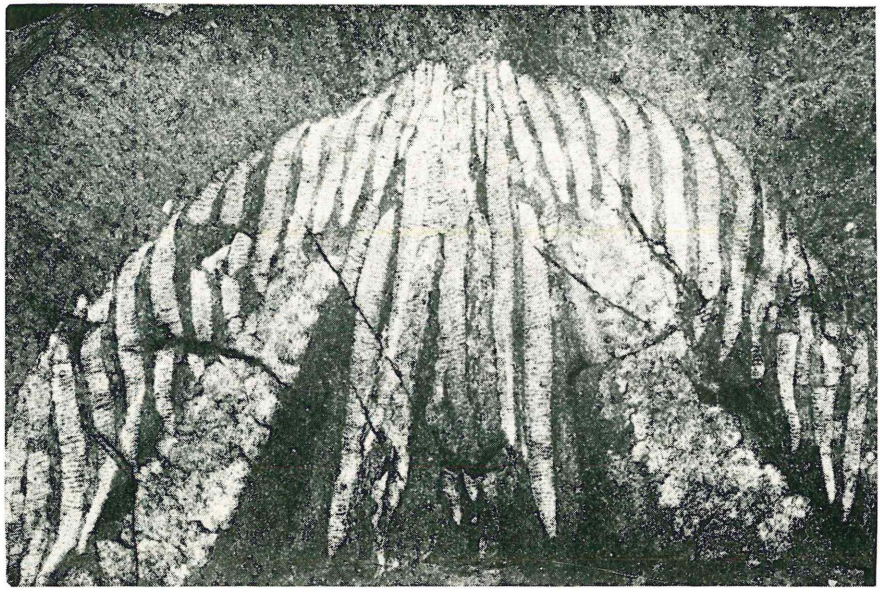

Figs. 1, 2 - *Fasciculus vesanus* n. gen., n. sp., holotype, slab and counter-slab; scale = 10 mm.

Fasciculus vesanus n. gen. n. sp. (1) (Cnidaria?)

This first taxon to be described is represented in the Collections of the U.S. National Museum (Washington) by a single specimen (slab and counter-slab), (Figs .1, 2).

Attention may be drawn to the following features: this complex animal appears to be composed by a number of flexible, annulated, fingerlike structures arranged into two external rows and a central bunch. The lateral rows are attached by their bases each one to a row of approximately bisquit shaped structures piled one against the others. These basal structures may not have been homogenous as on some of them there appear to be some sort of lines or grooves. Although the upper « digita » appear to be attached one to each « basal body », in the lower part of the fossil there seem to be somewhat too many « digita » for the « basal bodies » so that one suspects that they actually formed a double row.

The central bunch of « digita » is apparently unattached and the faint structures which may be seen to fan out at its sides may actually be traces of further « digita » or some sort of less dense tissue.

The whole animal is strongly bilaterally symmetrical. The « digita » themselves may recall the digits of fossil Pinnatulacea (*Rangea, Charnia*), but one is at a loss to understand how the « digita » of the central bunch were attached to the remaining part of the animal. As a whole it is difficult to envisage a three-dimensional reconstruction of this animal.

While the establishment of a new family, genus and species is obviously warranted, the Authors feel that allocation of *Fasciculus vesanus* to any known taxonomic cathegory is impossible, except possibly to suggest some affinities to the Cnidaria.

Platydendron ovale n. gen. n. sp. (Turbellaria, Polycladida)

This second new animal is represented in the U.S. National Museum by a single specimen without counter-slab.

Platydendron ovale is a bilaterally symmetrical animal apparently with a much flattened body of rather tenuous constitution. Within

(1) derivatio nominis = *fasciculus* from « bunch » (mazzolino) and *vesanus* from « insane ».

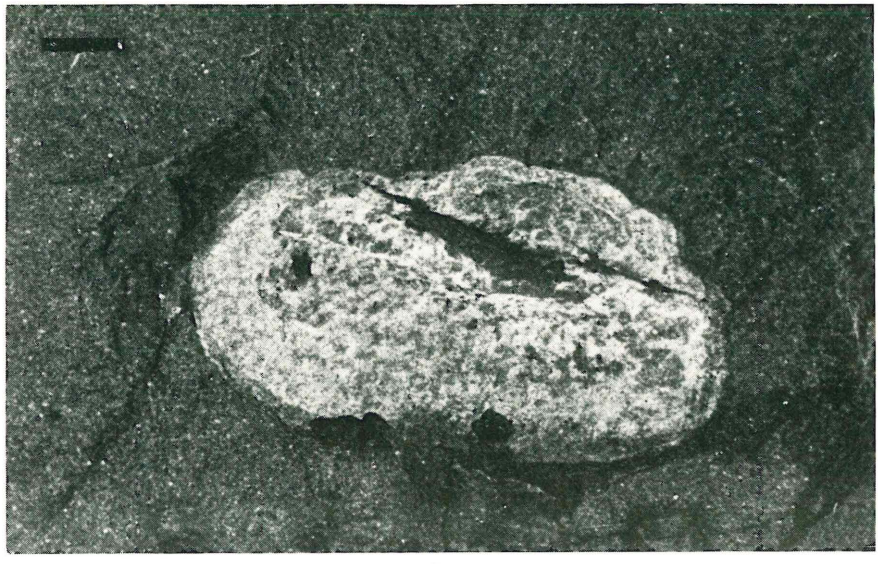

Fig. 3 - *Platydendron ovale* n. gen., n. sp., holotype; scale = 2,5 mm.

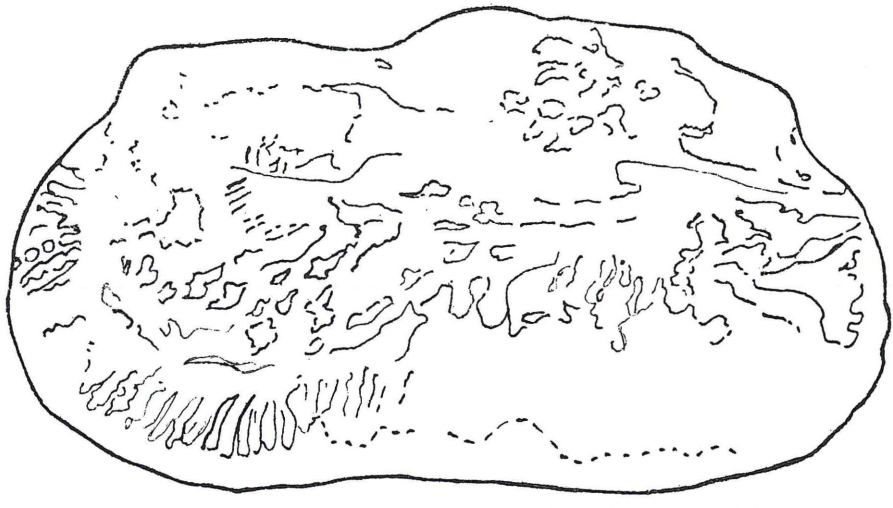

Fig. 4 - *Platydendron ovale,* n. gen., n. sp. Line drawing of holotype.

the oval, elongated margins of the body, a meshwork of reflecting lines may be seen which end towards the margin of the animal with a neatly arranged series of lines almost normal to the body's margin (Fig. 3). By comparison with the other Burgess Shale fossils

studied so far, it appears that these reflecting lines are the filling of the intestine, therefore the animal, in spite of the somewhat more obscure arrangement of the more central structures, comes to resemble so much a Flatworm that we are satisfied that it can actually be classified as a Polyclad Turbellarian, though a more specific classification within the Polycladida is impossible.

Platydendron ovale is interesting as it appears to be the earliest Flatworm recorded.

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