Notes – *Notiser*

Archaeocyatha from the Caledonian rocks of Sørøy, North Norway – a doubtful record

FRANÇOISE DEBRENNE

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Study of material previously assigned to the Archaeocyatha from Sørøy shows amygdaloidal bodies consisting of a series of concentric layers of quartz and an outer rim of carbonate. These structures are not the remains of archaeocyathans, and the previously proposed Lower-Middle Cambrian age for the host rocks cannot be upheld.

F. Debrenne, ER 154 CNRS, Institut de paléontologie, 8 Rue Buffon, 75005 Paris, France.

Whilst studying collections of Upper Cambrian archaeocyathans from Antarctica collected by Dr. G. F. Webers in 1966, the author and Dr. A. Y. Rozanov (Debrenne, Rozanov & Webers 1984) have checked previous records in which the group has been mentioned. Amongst these was the report by Holland & Sturt (1970) of archaeocyathans thought to be of Lower-Middle Cambrian age from the Caledonide metamorphic rocks of Sørøy, North Norway. We and other authors have always had our doubts as to the correct identification of this material, and thus, together with M. Fedonkin (Moscow) and A. Gandin (Siena), I loaned study types and additional specimens. This material was said to be preserved in "impure limestones" (Sturt & Ramsay 1965, Holland & Sturt 1970), though it does not react to acid. Holland & Sturt (1970) described the preservation as having involved silicification within a metamorphic matrix, the resultant structural outline being a dense white ring (Holland & Sturt 1970, fig. 7, 8; herein Fig. 1A), which might represent not only the intervallum but also part of the outer and inner walls of the original skeleton.

The study of polished sections and new transverse thin sections shows no such structure, nor are radial partitions visible. In longitudinal section, the features are cup-shaped and appear more like sphaeroidal or amygdaloidal bodies consisting of a series of concentric layers of quartz with a rim of carbonate. The latter is probably primary dolomite because it is so fine-grained and does not react to acid. In some cases, the fusion of adjacent bodies leads to a "colonial form".

In the opinion of Dr. Rozanov and myself, these structures are not from the Archaeocyatha, while Dr. Fedonkin dismisses them as being traces of soft bodied organisms. However, filamentous-like structures and dark organic material (Fig. 1 B, C) lead Dr. Gandin to suggest that the structures might owe their origin to a form of microscopic organism. Whatever their origin, these structures are definitely not remains of archaeocyathans, nor are they indicative of a Lower-Middle Cambrian age for a large part of the Sørøy succession.

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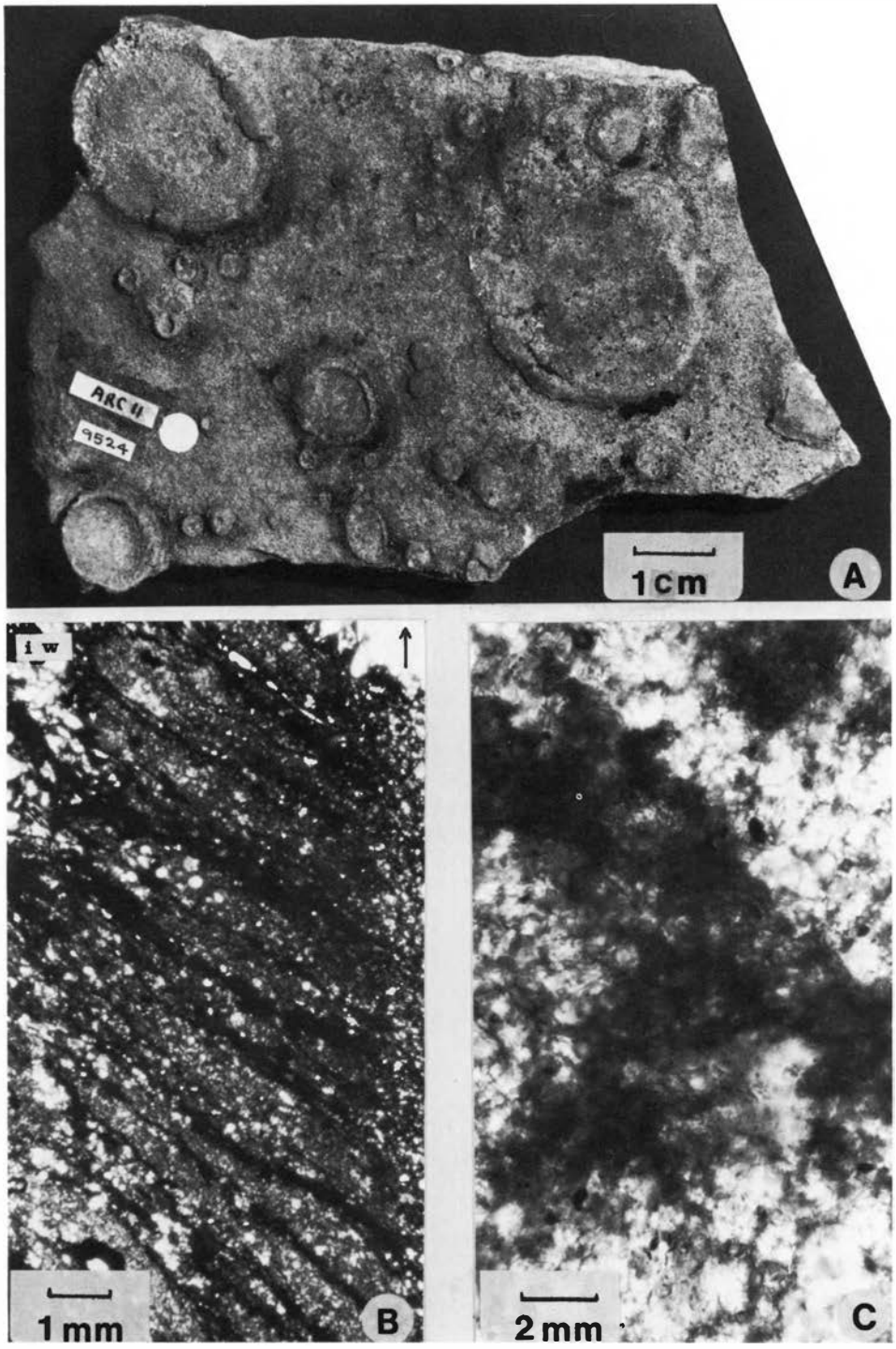

Fig. 1. A, TCD no. 9524. Hand specimen showing amygdaloidal bodies on surface. The outer rim corresponds to the "intervallum" of Holland & Sturt (1970). × 1.5. B, TCD no. 13270 aL. Longitudinal section of one body. The dark lines are inside the inner wall (IW) and dip obliquely into the central area. ×10. C, TCD 13270aL. Details of lines seen in B. Lines thought to be possible traces of organic matter. × 60.