

## **Speleothem-like Structures from the Sobral Formation (Paleocene) of Seymour Island, Antarctica**

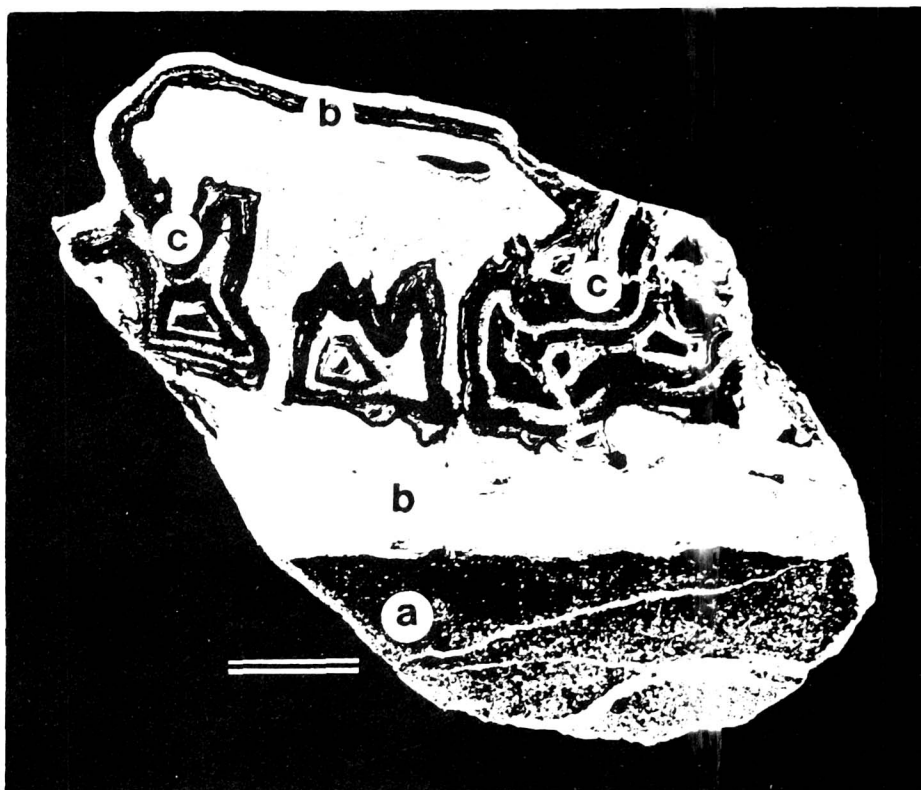
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Carbonate structures similar to speleothems have been recognized in the Paleocene Sobral Formation on Seymour (Marambio) Island, Antarctic Peninsula. These speleothem-like structures form up to 8cm thick and about 10 m long layer in the section on the right side of the east-west trending broad valley (Silent Valley) near



**Fig. 1.** Speleothem-like structure. Sobral Formation (Paleocene), Seymour Island. **a-** calcareous wacky sandstone, **b-** calcitic flowstone, **c-** popcorn caldite. Scale bar is 1 cm long.

Cape Wiman in the northern part of the island.

The studied structures (*see* Fig. 1) are represented by the calcitic flowstone, popcorn calcite, “calcite ice” and stalagmite-like forms. Microscopic observations show intercalations of dark (coconut-meat) and light (composed of palisade sparite) bands. Some of the stalagmite-like forms contain blocky calcite cements within their core areas. Diagenetic minerals as dolomite and replacive chert were also recognized. Significantly decreased carbon isotope values (–22 to –32  $\delta^{13}\text{C}$  PCB) supporting non-marine origin of these carbonates, which may also be connected with subaerial exposure during the deposition. However, an influx of younger meteoric fluids changing the primary isotopic composition of the rock, can not be excluded.

This is the first record of such carbonate structures from Antarctica.