

Development and calcification of the ammonitella shell

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Aconeceras trautscholdi ammonitellae mass occurring in the Aptian of Symbirsk, central Russia represent consecutive calcification stages of the primary organic shell wall. Already after the formation of the organic shell with proseptum, the first whorl and umbilical walls of the initial chamber were calcified, then the remaining part of the initial chamber, and finally the nacreous primary constriction was formed and the proseptum was calcified. The original mineral participating in calcification was aragonite, which formed primary prismatic layers. The ammonite embryonic shell was thus formed similarly to the archaeogastropod larval shell. This explains the microstructural distinction of the ammonitella and proseptum walls with respect to the rest of the ammonite shell.

Key words: ammonites, ontogeny, biomineralization, Cretaceous, Jurassic.

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