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Double alignments of ammonoid aptychi from the Lower Cretaceous of Southeast France: Result of a post−mortem transport or bromalites?

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A new preservation of aptychi is described from the Valanginian limestone−marl alternations of the Vergol section (Drôme), located in the Vocontian Basin (SE France). Aptychi are arranged into two parallel rows which are generally 50 mm in length and separated by 4 mm. The alignments are very often made by entire aptychi (around 10 mm in length), oriented following their harmonic margin. Aptychi show the outside of valve to the viewer: they are convex−up. This fossilization of aptychi is successively interpreted as the result of post−mortem transport by bottom currents (taphonomic−resedimentation process) or the residues (bromalites: fossilized regurgitation, gastric and intestinal contents, excrement) from the digestive tract of an ammonoid−eater (biological processes). Both the parallel rows of aptychi are more likely interpreted as a coprolite (fossil faeces) and they could be considered as both halves (hemi−cylindrical in shape) of the same cylindrical coprolite which would have been separated in two parts (following the long axis) just after the animal defecated. Considering this hypothesis, a discussion is proposed on the hypothetical ammonoid−eater responsible for them.

Key words: Ammonoidea, taphonomy, aptychus, coprolite, predation, Valanginian, Cretaceous, France

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