

## Differential preservation of the Upper Cretaceous ammonoid *Anagaudryceras limatum* with corrugated shell in central Hokkaido, Japan

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*Acta Palaeontologica Polonica* 52 (1), 2007: 77-84

The taphonomy of the Upper Cretaceous ammonite *Anagaudryceras limatum* differs from associated ammonites in the same horizon. This differential taphonomy is reconstructed based on fragmentation patterns and structural property of the corrugated shells of their body chamber parts. The characteristic preservation of isolated body chamber parts with corrugations is commonly observed in *A. limatum* from the upper Turonian of the Oyubari area, central Hokkaido, Japan. This preservation probably results from the differential internal structural properties of the hollow body chamber and septated phragmocone as well as the peculiar corrugation on body chamber of the present species: (1) fracturing along the corrugations against bending force is easier than flat material, because of the concentration of force on the tops or bottoms of corrugations, and (2) high durability against compressive forces. The separated body chamber parts were resistant to being squashed and broke into pieces due to the durability of corrugations against compressive force. The statistic test on the fossil assemblage suggests that selective destruction did not affect the fidelity of species composition and relative abundance of the studied fossil assemblage. Molluscan death assemblages in marine systems consistently show strong fidelity to relative abundances in the live community, suggesting that there was an *Anagaudryceras*-dominant ammonoid community during the late Turonian in the Oyubari area.

**Key words:** Ammonoidea, *Anagaudryceras*, corrugation, paleoecology, taphonomy, Cretaceous, Hokkaido.

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