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Ammonoid biodiversity changes across the Cenomanian-Turonian boundary in the Yezo Group, Hokkaido, Japan

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Ammonoid biodiversity changes from shallow to offshore environments across the Cenomanian–Turonian (C–T) boundary are reconstructed in the Yezo Group, Hokkaido, Japan. This group was probably deposited at approximately 35–45° N along a westward subduction margin in the northeastern Asian continent. Temporal changes in species richness in the Yezo Group, which show persistently high values during the middle Cenomanian and then decline stepwise from near the middle–late Cenomanian boundary, resemble those in Europe, but not those in Tunisia and the Western Interior. These differences suggest that the Cenomanian–Turonian "mass extinction" was not a global event for ammonoids but was restricted to mid–palaeolatitudinal regions (Europe and Japan). Sea level and climate changes probably influenced ammonoid faunas in the Yezo Group as well as those in Europe. However, it is unlikely that a single, simple cause led to the C–T boundary "mass extinction" because various abiotic changes in the Cenomanian–Turonian transition have been detected, and biotic and abiotic change are interrelated.

Key words: Ammonoids, mass extinction, Cenomanian-Turonian (C-T) boundary, Cretaceous, Hokkaido.

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