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# Terrestrial Triassic-Jurassic boundary and end-Triassic mass extinction of the Junggar Basin, NW China

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## Abstract

In the southern margin of the Junggar Basin, NW China, there exists a continuous and completely exposed terrestrial Upper Triassic - Lower Jurassic succession in the Haojiagou Section, in which the terrestrial Triassic - Jurassic boundary (TJB) and the end-Triassic mass extinction event (ETE) are clearly recorded. The TJB is placed just above the coexistence bed of the last occurrence (LO) of the sporomorph of *Lunatisporites rhaeticus* and the first occurrence (FO) of the palynomorph of *Retitriletes austroclavatidites* and *Callialasporites dampieriandantent*. It is a little above the FO of *Cerebropollenites thiergartii*, of which the FO is a little below the marine TJB of Austria and England. Furthermore, the coexistence bed above is near the FO of the macro-plant fossil *Todites princeps* and *Clathropteris elegans*. The TJB of the Junggar Basin is, therefore, possibly a link for studying the correlation of the TJB between the Southern- and Northern Hemisphere, and even the correlation of the TJB between the non-marine and marine. According to the FO and LO of fossils in the Haojiagou section, the worst ETE happened by the end-Rhaetian, but it started since late Rhaetian. The recognition of the lake-ice-rafted debris from the Late Triassic and early Jurassic deposits, implies that the sudden drop in the temperature or the "volcanic winter" in the Rhaetian is the critical factor causing the ETE in the Junggar Basin.

**Keywords:** Terrestrial Triassic, Jurassic boundary, end, Triassic mass extinction, Junggar Basin

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