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Carbon and oxygen isotope stratigraphy of the Ediacaran Bilara Group, Marwar Supergroup, India: Evidence for high amplitude carbon isotopic negative excursions

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### Abstract

Results of robust high-resolution carbon and oxygen stable isotope studies conducted on the Ediacaran Bilara carbonate sequence of the Marwar Supergroup, Rajasthan, India are presented. The  $\delta^{13}\text{C}\text{-carb}$  and  $\delta^{18}\text{O}\text{-carb}$  in the Bilara Group vary from -9.0 to 4.1‰ and from -10.7 to 8.3‰ respectively. Overall, 457 analyzed samples have  $\delta^{18}\text{O}\text{-carb}$  significantly above -10‰, below which carbonates are considered diagenetically altered. The results are compared with well-dated established high amplitude negative carbon isotope excursions sites in other parts of the world recorded from the Ediacaran successions. The Bilara  $\delta^{13}\text{C}\text{-carb}$  pattern is closely similar to that of the Yangtze Gorges platform, South China, where the Ediacaran  $\delta^{13}\text{C}\text{-carb}$  variation profile revealed four negatives (EN1, EN2, EN3, EN4) and three positive excursions (EP1, EP2, EP3). Similarities of  $\delta^{13}\text{C}\text{-carb}$  pattern demonstrate that carbonate succession of the Bilara Group is likely time equivalent to Yangtze Gorges succession.

**Keywords:** Ediacaran, Stable isotopes, Bilara Group, Marwar Supergroup, India, Shuram Excursion.

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## 1. Introduction

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