

**Topics in Geobiology 39**

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## **The Trace-Fossil Record of Major Evolutionary Events**

**Volume 1: Precambrian and Paleozoic**

This volume addresses major evolutionary changes that took place during the Ediacaran and the Paleozoic. These include discussions on the nature of Ediacaran ecosystems, as well as the ichnologic signature of evolutionary radiations, such as the Cambrian explosion and the Great Ordovician biodiversification event, the invasion of the land, and the end-Permian mass extinction.

This volume set provides innovative reviews of the major evolutionary events in the history of life from an ichnologic perspective. Because the long temporal range of trace fossils has been commonly emphasized, biogenic structures have been traditionally overlooked in macroevolution. However, comparisons of ichnofaunas through geologic time do reveal the changing ecology of organism-substrate interactions. The use of trace fossils in evolutionary paleoecology represents a new trend that is opening a window for our understanding of major evolutionary radiations and mass extinctions. Trace fossils provide crucial evidence for the recognition of spatial and temporal patterns and processes associated with paleoecologic breakthroughs.

Environment

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<b>1</b>	<b>The Conceptual and Methodological Tools of Ichnology .....</b>	<b>1</b>
	Nicholas J. Minter, Luis A. Buatois, and M. Gabriela Mángano	
<b>2</b>	<b>Ediacaran Ecosystems and the Dawn of Animals .....</b>	<b>27</b>
	Luis A. Buatois and M. Gabriela Mángano	
<b>3</b>	<b>The Cambrian Explosion .....</b>	<b>73</b>
	M. Gabriela Mángano and Luis A. Buatois	
<b>4</b>	<b>The Great Ordovician Biodiversification Event.....</b>	<b>127</b>
	M. Gabriela Mángano, Luis A. Buatois, Mark Wilson, and Mary Droser	
<b>5</b>	<b>The Prelude to Continental Invasion .....</b>	<b>157</b>
	Nicholas J. Minter, Luis A. Buatois, M. Gabriela Mángano, Robert B. MacNaughton, Neil S. Davies, and Martin R. Gibling	
<b>6</b>	<b>The Establishment of Continental Ecosystems .....</b>	<b>205</b>
	Nicholas J. Minter, Luis A. Buatois, M. Gabriela Mángano, Neil S. Davies, Martin R. Gibling, and Conrad Labandeira	
<b>7</b>	<b>The End-Permian Mass Extinction .....</b>	<b>325</b>
	Richard Hofmann	

<b>Index.....</b>	<b>351</b>
-------------------	------------