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Early Permian Footprints and Facies

edited by

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New Mexico Museum of Natural History and Science

and

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CONTENTS

Dedication	ii
Robledo Mountains:	
History of the discovery of fossil footprints in southern New Mexico, USA	<i>J.P. MacDonald</i> 1
Geology of early Permian tracksites, Robledo Mountains, south-central New Mexico	<i>S.G. Lucas, O.J. Anderson, A.B. Heckert and A.P. Hunt</i> 13
The limestone facies of the Abo-Hueco transitional zone in the Robledo Mountains, southern New Mexico	<i>K. Krainer and S.G. Lucas</i> 33
The Shalem Colony section of the Abo and upper Hueco members of the Hueco Formation of the Robledo Mountains, Doña Ana County, New Mexico: Stratigraphy and new conodont-based age determinations	<i>H.W. Kozur and D.V. LeMone</i> 39
Some microfossils from the Robledo Mountains Member of the Hueco Formation, Doña Ana County, New Mexico	<i>K.K. Kietzke and S.G. Lucas</i> 57
Marine fauna of the Early Permian (Wolfcampian) Robledo Mountains Member, Hueco Formation, southern Robledo Mountains, New Mexico	<i>B.S. Kues</i> 63
Gymnospermous woods from the Lower Permian Hueco Formation of south-central New Mexico	<i>W.D. Tidwell and G.F. Munzing</i> 91
A new arthropod trackway and associated invertebrate ichnofauna from the Lower Permian Hueco Formation of the Robledo Mountains, southern New Mexico	<i>S.J. Braddy</i> 101
New terrestrial arthropod trackways from the Abo Member (Sterlitamakian, late Sakmarian, late Wolfcampian) of the Shalem Colony section, Robledo Mountains, New Mexico	<i>H.W. Kozur and D.V. LeMone</i> 107
Vertebrate trackways from the Robledo Mountains Member of the Hueco Formation, south-central New Mexico	<i>M.F. Schult</i> 115
Comparisons between the Las Cruces ichnofauna and other Permian ichnofaunas, including inferred trackmakers	<i>M.F. Schult</i> 127
Wolfcampian (Early Permian) vertebrate tracks from Arizona and New Mexico	<i>H. Haubold, A.P. Hunt, S.G. Lucas and M.G. Lockley</i> 135
Early Permian (late Wolfcampian) tetrapod tracks from the Robledo Mountains, south-central New Mexico	<i>A.P. Hunt, S.G. Lucas, H. Haubold and M.G. Lockley</i> 167
Other areas:	
Fluvial and estuarine depositional environments of the Abo Formation (Early Permian), Caballo Mountains, south-central New Mexico	<i>G.H. Mack, T.F. Lawton and C.R. Sherry</i> 181
Paleozoic vertebrate tracksites in eastern North America	<i>W.D. Cotton, A.P. Hunt and J.E. Cotton</i> 189
Paleozoic tracksites of the western United States	<i>A.P. Hunt, S.G. Lucas and M.G. Lockley</i> 213
The ichnotaxonomy of the invertebrate trackways of the Coconino Sandstone (Lower Permian), northern Arizona	<i>S.J. Braddy</i> 219
Fossil footprints in the DeChelly Sandstone of Arizona: With paleoecological observations on the ichnology of dune facies	<i>M.G. Lockley, A.P. Hunt, H. Haubold and S.G. Lucas</i> 225
Lacertoid footprints from Permian dune sandstones, Cornberg and DeChelly Sandstones	<i>H. Haubold, M.G. Lockley, A.P. Hunt and S.G. Lucas</i> 235
Pelycosaur predation in the Permian: Evidence from <i>Laoporus</i> trackways from the Coconino Sandstone with a description of a new species of <i>Permichnium</i>	<i>J.M. Kramer, B.R. Erickson, M.G. Lockley, A.P. Hunt and S.J. Braddy</i> 245
Tetrapod tracks from the Lower Permian DeChelly Sandstone of Arizona: Systematic description	<i>M. Morales and H. Haubold</i> 251
Early Permian vertebrate tracks from the Abo Formation, Socorro County, central New Mexico: A preliminary report	<i>A.P. Hunt, S.G. Lucas, W. Cotton, J. Cotton and M.G. Lockley</i> 263
Vertebrate paleontology of the Robledo Mountains Member of the Hueco Formation, Doña Ana Mountains, New Mexico	<i>S.G. Lucas, A.P. Hunt, A.B. Heckert and H. Haubold</i> 269
Preliminary report on paleontology of the Abo Formation, McLeod Hills, Sierra County, New Mexico	<i>S.G. Lucas, A.P. Hunt and A.B. Heckert</i> 279
Stratigraphy and paleontology of the Lower Permian Earp Formation, Big Hatchet Mountains, Hidalgo County, New Mexico	<i>S.G. Lucas and A.P. Hunt</i> 287
Tetrapod ichnofacies in Early Permian red beds of the American Southwest	<i>A.P. Hunt, M.G. Lockley, S.G. Lucas, H. Haubold and S.J. Braddy</i> 295

DEDICATION

Fossil tracks of Permian age occur across much of New Mexico, and many geologists and paleontologists have noted them in print. Indeed, one of the first published records of a fossil from New Mexico may be of Permian tracks. In a brief notice published in the *Neues Jahrbuch für Mineralogie, Geognosie, Geologie und Petrefakten-Kunde* for 1840 (p. 485), Degenhardt reports "grosse Fuss-Tritte von Vögeln" in red sandstone at an altitude of 500 feet at "Oiva, Provinz Socorro, Mexico." Possibly, this refers to Joyita or Quivira near Socorro, New Mexico. More explicit published references to Permian tracks from New Mexico appeared more than a century later, beginning with an abstract published by Branson and Branson in 1946 (*Geological Society of America Bulletin*, vol. 57, p. 1181).

Despite a longstanding and wide knowledge that New Mexico's Lower Permian red beds contained tracks, little scientific work was undertaken on them. The published literature makes it clear that most who encountered these tracks regarded them as little more than paleontological curiosities. However, this began to change in 1987, when Las Cruces resident Jerry Paul MacDonald discovered a phenomenal Early Permian tracksite in the Robledo Mountains near Las Cruces. From this site, as well as others in the Robledo Mountains, and from the nearby Doña Ana Mountains and McLeod Hills, MacDonald amassed the largest collection of Early Permian footprints in the world. In terms of diversity, abundance, and quality of preservation, the specimens MacDonald recovered are unparalleled. Now housed at the New Mexico Museum of Natural History and Science in Albuquerque, MacDonald's collection has become the basis of a rewrite of the scientific understanding of Early Permian terrestrial ichnology. This book publishes the first wave of this rewrite.

Most of the research reported here is based wholly, or in part, on the collections Jerry MacDonald made in the Robledo Mountains. Therefore, it is logical, and a pleasure, to dedicate this volume to Jerry. He, more than anybody else, made this book possible.

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