

Contents

Impacts into Marine and Icy Environments <i>Henning Dypvik, Mark J. Burchell and Philippe Claeys</i>	1
Marine impacts and ejecta	
Biotic Responses to the Mjølnir Meteorite Impact, Barents Sea: Evidence from a Core Drilled within the Crater <i>Gerd Merethe A. Bremer, Morten Smelror, Jenö Nagy and Jorunn O. Vigran</i>	21
Near-field Erosional Features at the Mjølnir Impact Crater: the Role of Marine Sedimentary Target <i>Filippos Tsikalas and Jan Inge Faleide</i>	39
Global Effects of the Chicxulub Impact on Terrestrial Vegetation - Review of the Palynological Record from New Zealand Cretaceous/Tertiary Boundary <i>Vivi Vajda, J. Ian Raine, Christopher J. Hollis and C. Percy Strong</i>	57
The Neugrund Marine Impact Structure (Gulf of Finland, Estonia) <i>Sten Suuroja and Kalle Suuroja</i>	75
Structure-filling Sediments of the Wetumpka Marine-target Impact Structure (Alabama, USA) <i>David T. King, Jr., Thornton L. Neathery and Lucille W. Petruny</i>	97
Krk-breccia, Possible Impact-Crater Fill, Island of Krk in Eastern Adriatic Sea (Croatia) <i>Tihomir Marjanac, Ana Marija Tomša and Ljerka Marjanac</i>	115
Did the Puchezh-Katunki Impact Trigger an Extinction? <i>József Pálfy</i>	135
Geochemistry of a Langhian Pelagic Marly Limestone Sequence of the Cònero Riviera, Ancona (Italy) and the Search for a Ries Impact Signature: A Progress Report <i>Dieter Mader, Christian Koeberl and Alessandro Montanari</i>	149

VIII Contents

Icy impacts and icy impactors

- Titan: A New World Covered in Submarine Craters?
Ralph D. Lorenz 185

Estimating Crater Size for Hypervelocity Impacts on Small Icy Bodies (e.g.
Comet Nucleus)

- Mark J. Burchell, Ellen Johnson and Ivan Grey* 197

Survivability of Bacteria in Hypervelocity Impacts on Ice

- J.R. Mann, M.J. Burchell, P. Brandão, A.W. Bunch and I.D.S. Grey* 211

Impact Cratering of Icy and Rocky Targets in Planetary Sciences and in the Laboratory

- Jacek Leliwa-Kopystynski and Mark J. Burchell* 223

Methods

Paleomagnetism and $^{40}\text{Ar}/^{39}\text{Ar}$ Age Determinations of Impactites from the Ilyinets Structure, Ukraine

- Lauri J. Pesonen, Dieter Mader, Eugene P. Gurov, Christian Koeberl, Kari A. Kinnunen, Fabio Donadini and Robert Handler* 251

Cathodoluminescence, Electron Microscopy, and Raman Spectroscopy of Experimentally Shock Metamorphosed Zircon Crystals and Naturally Shocked Zircon from the Ries Impact Crater

- Arnold Gucsik, Christian Koeberl, Franz Brandstätter, Eugen Libowitzky and Wolf Uwe Reimold* 281

A Brief Introduction to Hydrocode Modeling of Impact Cratering

- Elisabetta Pierazzo and Gareth Collins* 323