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## Foreword

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The Ordovician is a remarkable period in Earth history. It began almost 500 million years ago, lasted 46 million years (488.3 +/- 1.7 to 443.7 +/-1.5), and has long been recognized for its intriguing geology. Extensive spreading of epicontinental seas over land, associated with strong episodes of volcanism and a clear global climatic zonation, triggered the second largest biodiversification in Life history. Significantly lower oxygen levels in the ocean/atmosphere system, a greenhouse climatic state, and distinct patterns of oceanic circulation represented the environmental background in which the Cambrian Evolutionary fauna was replaced by the Paleozoic Evolutionary fauna, with more than a three fold increase in diversity. However, marine life then suffered a great mass extinction to close out the period. Ordovician carbonate sequences are widespread and extensively used as raw material for cement production. In addition, Ordovician sequences host many economically significant sedimentary deposits and ores, including oil shales, extensive hydrocarbon reservoirs, gold mineralizations and porphyry coppers. Of special note, much of Jolmolungma Mountain (Mount Everest), the highest mountain in the world, is composed of Ordovician strata.

This thematic issue of *Geologica Acta* “**Ordovician revisited: Reconstructing a unique period in Earth history**”, represents a compilation of contributions by a team of Ordovician specialists that contributed with new data and synthetic views on different biostratigraphical, chronostratigraphical and palaeontological aspects of the Ordovician System.

Contributions are by 17 authors of the international geological community from 8 different countries, addressing issues that are currently being focus of attention in the Ordovician System: paleogeography, paleontology

and biostratigraphy of the western margin of Gondwana, and bringing additional data to the Ordovician forum. After this foreword presentation, an invited introductory paper by Stanley Finney (former Chair of the Subcommittee on Ordovician Stratigraphy) highlights the current situation on global Chronostratigraphy of the Ordovician System. Khun and Barnes present a detailed description of Ordovician conodonts from the Georgina basin of Australia, discussing their biostratigraphic and paleobiogeographic meaning. Following this paper, a challenging view related to the origin of the Argentine Precordillera is presented by Finney, Peralta, Gehrels and Marsaglia, on the basis of new geochronological zircon based data that bring additional elements to discuss the Precordillera para-autochthony / allochthony dilemma. Albanesi and Ortega present a broad overview of the Argentine Tremadocian conodont/graptolite biostratigraphy, referring it within the Gondwanan framework. The next paper by Budil and Buthansová describes and analyzes the moulting process of the nicely preserved Ordovician dalmanitoid and acastoid trilobites of the Prague Basin (Czech Republic). In addition, Darriwilian conodont biostratigraphy of the Las Chacritas Formation from the Central Precordillera of San Juan province (Western Argentina) is reported by Heredia, Beresi and Peralta, providing new information on this intriguing unit. Finally, a detailed description and analysis is done by Maletz, Goldman and Cone, offering a reappraisal and review of the Early to Middle Ordovician faunas of the Trail Creek region of Central Idaho (USA).

The set of papers presented in this thematic issue represents a natural continuation of the first issue of *Geologica Acta* (Vol. 1, N° 1, 2003) that focused on the Cambrian Period and provided the *status quo* of the earliest Phanerozoic system. The present issue “**Ordovician revisited: Reconstructing a unique period**

**in Earth history”** is dedicated to Drs. Mario Hünicken (La Rioja) and Alfredo Cuerda (La Plata), whose pioneer work on the Ordovician of Argentina inspired many geologists to focus on the particular geology of the Ordovician from Argentina.

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