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Devonian Paleoenvironments of Ohio



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With Foreword by Prof. David Harper (Chairman of the
International Subcommittee on Ordovician Stratigraphy
and President of International Palaeontological
Association)

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Parts of this monograph has been published in journal PALAIOS:

Bose, R., Schneider, C., Polly, P. D., and Yacobucci, M., 2010. Ecological interactions between *Rhipidomella* (Orthides, Brachiopoda) and its endoskeletobionts and predators from the Middle Devonian Dundee Formation of Ohio, United states. *Palaios* 25:196–208.

This book is dedicated to Emeritus Prof. Richard D. Hoare (Department of Geology, Bowling Green State University, Ohio) who was awarded the William W. Mather Medal in 2002 by the Ohio Department of Natural Resources for his significant contributions in Ohio geology. I also want to dedicate this to my former supervisor, Prof. Margaret M. Yacobucci (Department of Geology, Bowling Green State University, Ohio) who was a constant source of inspiration in my graduate career

Foreword

It is now over 50 years since publication of Derek Ager's classic paper on the epifauna of a Devonian spiriferid yet there have been relatively few comprehensive studies on the biological and environmental aspects of these critical ecological indicators. Rituparna Bose has targeted in some detail the rich brachiopod fauna of the carbonate rocks of the Middle Devonian Dundee Formation of Ohio including taxa of the key orders of Strophomenida, Orthida, Rhynchonellida, Atrypida and Spiriferida. Some 300 specimens have been carefully examined and many, beautifully illustrated. Remarkably, epibiont activity has been almost exclusively restricted to the punctuate orthide *Rhipidomella* in contrast to the distribution of such activity across a wide range of brachiopod taxa in the overlying siliciclastic facies of the Silica Formation. The taphonomy of the brachiopod shells is examined and a wide range of structures ranging from boreholes to encrustations are identified, described, and illustrated. Clearly, there are strong environmental and taphonomic controls on the scale and variation of epifaunal development in such benthic communities and Ager's studies too alerted us to the functional significance of the mode and position of borings and encrusters. This work is a rich source of data, significantly expanding our understanding of the ecological interactions between commensal taxa and their brachiopod hosts and substrates. The data and analyses presented here provide much encouragement for further research on this key area of brachiopod paleoecology.

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