Introduction

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This collection of articles is devoted to some modern trends in the study of brachiopods that have not been reviewed in the *Treatise on Invertebrate Paleontology* published in the United States (1999–2007). The data on the composition and distribution of Cambrian brachiopods of the order Acrotretida and all Recent brachiopods are summarized; the development of diversity of articulated brachiopods during great mass extinctions in the class history and their ecological and evolutionary consequences are analyzed; the shell structure of Mesozoic brachiopods is described. In addition, the modern method for the study of microornamentation and shell interior of fossil and living brachiopods with the aid of x-ray microtomography is described and the prospects of this method are discussed. As the supraordinal classifica-

tion of brachiopods remains ambiguous, different authors use different names for high-rank taxa. This problem was considered in detail by G.A. Afanasjeva in a special paper on the supraordinal classification of brachiopods (Paleontological Journal. 2008. V. 42. No. 8).

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