

Preface

Microsporidia are remarkable and fascinating parasites that have been studied for more than 150 years. They are remarkable in their exploitation of various invertebrate and vertebrate animals, ranging from cryptic, benign infections to massive infections that cause extensive damage and often death of the host. They are fascinating in the production of unique spores that are one of the most complex single-celled forms known in the biological world. Details of the researchers involved in the development of the field of microsporidiology can be found in an excellent history of research on microsporidia that was published in 2008 [<http://www.benthamscience.com/open/toparaj/articles/V002/1TOPARAJ.pdf>] (Franzen, 2008). For much of the first 100 years of research, microsporidia were not a primary research focus; rather they were encountered during the course of investigations for other purposes, primarily in arthropods and fish. There are, however, two well-known exceptions: studies by Pasteur and others on *Nosema bombycis* in silkworms and studies by Zander and others on *Nosema apis* in honeybees. There were other groups that made important contributions during this time (e.g., Leger, Duboscq, Hesse, Thelohan, and others in France as well as Stempell, Weissenberg, and others in Germany), but Kudo was perhaps the first researcher to conduct extensive studies on microsporidia. Even though Kudo considered the study of microsporidia to be his "hobby," his fascination with his "little animals" led to the first comprehensive treatise on the microsporidia, *A Biologic and Taxonomic Study of the Microsporidia*, in 1924, which provided a critical review and systematic treatment of all the literature on the microsporidia at the time. It would be more than 50 years before another treatise would be produced—*Biology of Microsporidia* in 1976 and *Systematics of the Microsporidia* in 1977 by Vavra and Sprague. This would remain the "go to" authority on the microsporidia until 1999 when *The Microsporidia and Microsporidiosis* was published, containing chapters on microsporidia in vertebrate and invertebrate hosts and the first comprehensive review of the growing field of molecular biology and phylogeny of the microsporidia. With the field rapidly advancing in many aspects of basic and molecular biology of the microsporidia, it was apparent that a revision and expansion of the previous volume was needed. This effort culminated in the series of 25 chapters contained in this volume compiled by experts, including evolutionary and molecular biologists, veterinarians, entomologists, ichthyologists, and physicians who study microsporidia. This is intended as a resource for students and young researchers with an interest in the study of microsporidia as well as microsporidiologists from different disciplines within the field who would like to expand their knowledge base.

We can only imagine the excitement that Pasteur, Zander, Kudo, and the other pioneers in the study of microsporidia might have felt had they had the opportunity to read this book and learn about our present knowledge of the microsporidia. We believe they would have been pleased.

REFERENCES

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