

**Introduction to the Combined
Biodiversity and Taxonomy Symposium Supplement
Biodiversity and Taxonomy for the 21st Century**

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The 150th anniversary of the California Academy of Sciences was celebrated in 2003 by a variety of activities, including a retrospective exhibit on Academy history and three scholarly symposia. This supplement to the Proceedings of the California Academy of Sciences contains the fully edited and peer-reviewed proceedings of two of those symposia, “Biodiversity: Past, Present, and Future” and “The Future of Taxonomy,” which were held in June 2003 in conjunction with the annual meeting of the Pacific Division of the American Association for the Advancement of Science in San Francisco.

Over the years, the enterprise of systematic biology has come to dominate the scientific activities of the Academy. As the foundation discipline of biology, systematic biology embraces the study of the classification and evolutionary relationships of all living things. The focal points of the symposia represented here — biodiversity studies “What is out there?” and taxonomy “What is it called?” — constitute two of the major disciplines within systematic biology and are intellectually co-dependent. Studying the diversity of life on Earth clearly requires a robust and usable system for naming and classifying organisms.

The last decade has witnessed crises in both disciplines, and it is from these crises that the current volume has sprung. On the side of biodiversity studies, the crises have been born of the urgency to study the Earth’s increasingly threatened biota in the face of a shortage of resources and the will to do so. On the side of taxonomy, the field has been beset by intellectual struggles within the discipline — largely over the future utility of the Linnaean hierarchy and system of naming — and attacks from outside of the discipline, focused on the cumbersome nature of the taxonomic enterprise and the difficulty of accessing taxonomic information.

Readers of this volume will discover that the papers herein address these crises head on, with an honest airing of diverse perspectives and potential solutions. Because systematic biologists have been quick to embrace technological breakthroughs in molecular biology, developmental biology, informatics, and computer sciences, a fundamental optimism about the future emerges from the depths of these papers. Systematic biology is an information-rich and information-dependent science, and our abilities to address basic and applied problems in studies of biodiversity and taxonomy increasingly rely on our abilities to organize, marshal, and disseminate information efficiently and authoritatively. The biggest challenge facing students of biodiversity and taxonomy is not intellectual inertia, but the need to build and maintain a critical mass of practitioners. Maintenance of a healthy community of scientists contributing to systematic biology is not just desirable for society, it is essential, especially as we wrestle with fundamental questions of how much biodiversity we need to know about and how much we need to preserve. In this connection, natural history museums such as the California Academy of Sciences will play progressively important roles in igniting the interest of future scientists and citizens, providing training in systematic biology, main-

taining physical collections of our planet's biotic diversity, and promulgating information on this diversity to audiences throughout the world.

ACKNOWLEDGMENTS

The papers in this volume were originally presented in the symposia, "The Future of Taxonomy," and "Biodiversity: Past, Present, and Future," two of three symposia¹ that were organized to mark the 150th anniversary of the California Academy of Sciences in 2003. The three symposia were co-sponsored by the Pacific Division of the American Association for the Advancement of Science (AAAS-PD) and were presented during the annual meeting of the AAAS-PD that was held on the campus of San Francisco State University (SFSU) in June 2004. The symposia were made possible by the financial support of the California Academy of Sciences, and specifically by funds mobilized by the Academy's inspired and dedicated provost, Dr. Terrence Gosliner. Logistical support provided by the executive officer of the AAAS-PD, Dr. Roger Christianson, and his staff, and by the conference staff of SFSU was critical to making these symposia a success. The papers in this volume were reviewed by dozens of colleagues from around the world who took time from their busy schedules to provide thoughtful and constructive comments to authors. To all of these people and organizations, I owe a large debt of gratitude. I am hopeful that these contributions will provide inspiration and information for much-needed research and public outreach in these vital, but mostly ignored, realms of knowledge.

¹ The papers presented at the third symposium, "Museums and Other Institutions of Natural History: Past, Present, and Future," were published in the *Proceedings of the California Academy of Sciences*, ser. 4, volume 55, supplement I on 18 October 2004.