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Review Of "Plant Exploration For Longwood Gardens" By T. Aniśko

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Review

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Chapter 13), was specifically designed for the screening of large collections of mutagenized *Arabidopsis* lines.

With six designated parts dedicated to protocols for growing, genetic analysis, genetic transformation, transcriptomics, proteomics, and metabolomics in *Arabidopsis* plants, this book should sit prominently on the desk of every plant molecular biologist who uses *Arabidopsis* as a model plant in their research.

TZVI TZFIRA, *Molecular, Cellular & Developmental Biology, University of Michigan, Ann Arbor, Michigan*

PLANT EXPLORATION FOR LONGWOOD GARDENS.

By Tomasz Aniško; Foreword by Christopher Brickell. Portland (Oregon): Timber Press. \$69.95. 334 p; ill.; index. ISBN: 0-88192-738-4. 2006.

The diversity of plants found in botanical gardens is taken for granted by most visitors. Plants are labeled with their common and Latin names, as well as a third piece of often overlooked information, where the plant originated. The stories of how many of the unusual plants found at Longwood Gardens in Pennsylvania ended up in what was Pierre du Pont's private estate are described in this interesting new book. Based on interviews and records of over 50 plant collecting expeditions, this volume details the journeys (some of which went more smoothly than others) and experiences of the collectors.

The book is organized geographically. Each section begins with a map of the region and describes the collecting trips that occurred in that region. The discussions are hybrids of travelogues and botanical descriptions. The volume also touches on the history of these regions and the political considerations that provide the context for the botanical collection trips. The book is nicely illustrated with pictures of the expeditions and the explorers, as well as some of the plants collected.

Many of the plants described are not just on display at Longwood, but have made their way into nurseries and gardens around the world as horticultural varieties. In addition to enriching Longwood's plant collection, many of the expeditions were also motivated by practical considerations—such as collecting plant samples for cancer screening programs (a conifer collecting trip to New Caledonia) or breeding disease resistance into susceptible plants (Dutch Elm disease resistant elms from the Himalayas). If you pay attention to where plants originated, then you will enjoy this book, which provides the narratives of how these plants made their way into horticultural collections.

NICK KAPLINSKY, *Biology, Swarthmore College, Swarthmore, Pennsylvania*

HANDBOOK OF TOXIC PLANTS IN NORTH AMERICA.

By George E Burrows and Ronald J Tyrl. Ames (Iowa): Blackwell Publishing Professional. \$89.99 (paper). xi + 307 p; ill.; index. ISBN: 0-8138-0711-5. 2006.

In this handbook, toxic plants are identified and the effect of their poisons on the body and its physiological systems are described. It is designed to serve veterinarians, livestock owners, and students.

MYCORRHIZAS: A MOLECULAR ANALYSIS.

By K R Krishna. Enfield (New Hampshire): Science Publishers. \$85.00. xi + 316 p; ill.; index. ISBN: 1-57808-362-1. 2005.

During the last decade, the development of affordable molecular techniques has generated an explosion of data and advancements in all biological fields related to plant symbiosis. This book takes a cursory glance over some of the developments that have occurred in that domain.

Chapters 1 and 2 (on the evolution and phylogeny of mycorrhizas and on physiology and cell biology) contain imposing, descriptive sections on taxonomy, morphology, and methodology, but not much discussion of molecular analysis. The erroneous use of recent arbuscular mycorrhiza (AM) fungi classification (practiced since 2001) and the absence of major contributions (e.g., Agerer) to the field of ectomycorrhiza (ECM) indicate a flagrant lack of editing. Cell biological and physiological aspects are stated only through the life-cycle steps and carbon and nitrogen metabolisms. No real original elements of discussion are provided.

Chapters 3 and 4 deal with genetic and nutrient exchanges. Phosphorous uptake is largely exploited for plant and fungi genetic variations, with an exhaustive survey of symbiosis regulatory genes. Nutrient exchange sections deal almost essentially with phosphorous metabolism and transporters. Ericaceous mycorrhiza (including ectendo and ericoid types) are barely discussed. Both chapters appear, however, to be well structured. Chapter 5, on plant symbiosis versus pathogenesis, does not provide a real comparative analysis of plant-fungi interactions as may have been expected. However, it does present a good survey of chitinous and auxin elicitors, as well as plant defence strategies.

The next chapter, on ecology, reiterates several insights already covered by recently published works. However, treatments made on population genetics, diversity, and agricultural practices are particularly informative and well done. Chapter 7 (transformation and genetic engineering) deals more with detailed descriptions of available methodologies than with ethical and scientific matters.

In terms of style, several long descriptions of research results, based on a unique reference, as well