BOOK REVIEWS


The importance of the Fungi as a crucial component in ecosystem function, health, and maintenance has become better appreciated over the past decade or so. In order to better understand the role of fungi in the global community, it has been necessary to conduct basic surveys and inventories of species composition and abundance. Because the Fungi and fungus-like organisms traditionally studied by mycologists (e.g., water molds, slime molds) contain an amazing variety of life histories, ecology, and morphology, no single method of documentation is satisfactory for the entire kingdom. Thus, the editors brought together an international group of 88 mycologists to contribute state-of-the-art protocols for sampling methodologies and data analyses for fungi.

After some introductory treatments that provide an overview of fungi, preservation of specimens and cultures, data management, diversity patterns, and molecular biology, the main part of the book covers the actual recommended protocols for sampling particular groups of fungi and their allies. These chapters are organized by technique and functional ecological units such as freshwater habitats, insect associated fungi, terrestrial macrofungi, coprophilous fungi, yeasts, lichens, endophytes, saprobes from soil, marine habitats, etc. Thus, subsets of the Ascomycetes, for example, are treated in several chapters since there are distinct protocols for collecting and identifying those taxonomic subsets based on criteria such as habitat, life history, or substrate preference. Otherwise, treatment by taxonomic group would have led to a major duplication of information.

For the most part, the protocol chapters are fairly uniform across the board in that there are subsections devoted to taxonomy, diversity, distribution, collection, isolation, cultivation, documentation, manipulation, and preservation techniques. In some cases, identification keys are provided (e.g., parasites of nematodes and rotifers). Superb color photographs as well as half-tone photographs and/or line art are found in most treatments. At the end of the book there are four appendices describing moist chambers for fungal development; formulae for culture media, antibiotics, fixatives, mounting media, stains; a list of public and private herbaria housing fungal collections, fungus related websites; and a list of vendors for supplies and materials. This is followed by an illustrated glossary. All of the literature sources cited in the text is placed next, followed by an index.

This book represents a monumental piece of work, not only in the compilation of many pieces of disparate information into a coherent whole, but also in the incredibly high quality of that information. This volume is timely given that discovery and naming of fungal biodiversity is of paramount global importance. Surely, the fundamental procedures laid out in this book will be of benefit to mycology and to mycologists and will be a stimulus to expand the boundaries of documenting fungal diversity. The contributors and editors are to be congratulated for bringing together an exceptional piece of work. This book will no doubt become a standard reference.

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This book is the 32nd volume in a series focusing on individual genera of medicinal importance. A more appropriate title for this book, however, might be “Taxol and other taxoids,” as the focus is clearly on the cancer drug Taxol and the complicated world of taxoid chemistry. Taxol is the superstar of the natural products world. First isolated from Taxus brevifolia, it is an important and effective treatment for ovarian and breast cancer. With an unusual diterpene carbon skeleton and 11 chiral centers, Taxol has a unique mode of action, in that it promotes microtubule assembly and suppresses depolymerization. For these reasons, taxoids have become the central focus of a tremendous amount of research in cancer therapy.

There is little taxonomic or ecological information on Taxus to be found in this informative book. Taxus brevifolia is a slow-growing tree that was collected as part of a random screen, and this book reflects a bias towards the chemistry of the genus. Edited by natural products chemists at the University of North Carolina, just a few miles from the laboratory where Taxol was originally isolated and described, this book is primarily written for medicinal chemists and pharmacognosists working in the area of taxoid chemistry and cancer therapy. In 12 chapters, it reviews an amazing amount of research that has been conducted on taxoids over the last 20 to 30 years, while demonstrating that the field of taxoid research is still vibrant and full of po-