## Mushrooms of West Virginia and the Central Appalachians

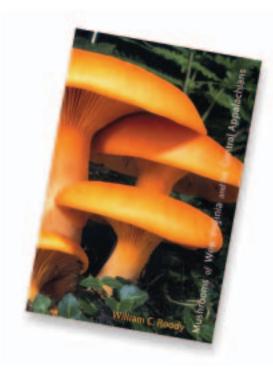
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The University Press of Kentucky, Order Department, PO Box 11578, Lexington, KY 40576–1578; 800.839.6855; URL: http://www.kentuckypress.com; 2003, hardcover US\$ 60 (ISBN 0-8131-2262-7), paperback US\$ 35 (ISBN 0-8131-9039-8), 536 p.

he Appalachian Mountains of the eastern US encompass one of the most biologically diverse regions of the country because of numerous ecological niches and abundant rainfall. These conditions make the area ideal for the growth of fungi, and especially mushrooms, which are the subject of this book.

In paperback, this attractive volume measures 22 cm high x 14 cm wide x 3 cm thick (8.5 in x 5.5 in x 1.25 in), making it suitable for field use. Coated paper is used throughout to provide maximum resolution and durability for photos and text. The book begins with a disclaimer that it is not intended for use in collecting edible mushrooms. This is followed by a dedication, contents, preface, acknowledgments, introduction, how to use this book, pictured guide, the text, glossary, references, and an index. The introduction includes short discussions of what mushrooms are, their classification and naming, eating wild mushrooms, poisonous mushrooms, how to collect mushrooms, and spore prints, along with 4 small photos. There is a full-page photo at the beginning of each section.

The heart of the book, of course, consists of descriptions of 402 individual fungi that are illustrated by 408 photographs. Each page has a 7.5-cm-high x 11.4-cm-wide (3-in x 4.5-in) photo at the top, followed by details of the fungus in paragraph form in 2 columns. Paragraph headings in bold face include Latin name, synonym(s), common name, order, family, width of cap, cap, gills, stalk, spore print, spores, occurrence, and edibility. Beneath these entries is a single paragraph, Comments, listing similar species not illustrated and other information. The etymology for the species name is given for all but one of the fungi. Usually the information for



a single fungus is confined to a single page, but for some, the comments occur on a second page. Some entries not needed are omitted, for example, a fungus lacking a stalk does not have that entry. The descriptions are complete and professional and not overly technical, and the author citations conform to the latest guidelines so they can be followed with confidence. Photographs are uniformly excellent and show characteristic features of each species illustrated.

In the pictured guide, the fungi are separated into 11 sections, each with a color-coded tab showing their location in the book. Large groups are further divided into subsections. Section 1 includes the true (gilled) mushrooms and covers 222 species; these are divided into 10 subsections. Section 2 contains the fleshy pore fungi (boletes; 55 species) and the stalked pore fungi (20 species); section 3, bracket fungi (18 species); section 4, tooth fungi (12 species); section 5, club fungi (11 species); section 6, coral mushrooms and look-alikes (14 species); section 7, puffballs and earthstars (12 species); section 8, jelly fungi (4 species); section 9, cup fungi and bird's nest fungi (17 species); section 10, morels, false morels, and saddle mushrooms (9 species); and section 11, mycoparasites (8 species).

As with any identification guide, users will need to become familiar with the characteristics used as the basis for sections and subsections. Such features as habit, morphology, substrate, spore color, and reaction when bruised are all used. Some gilled fungi are separated into "small," "medium," and "large" species, each placed in a different subsection. Thus, if one is looking for all species in a particular genus, all 3 subsections need to be consulted. Two sections are devoted to the large genus *Lactarius* (milk mushrooms) and the related genus *Rus*-

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*sula.* Experienced collectors will already be familiar with these characteristics, but newcomers may find them confusing at first. Fortunately, the technical terms used in the descriptions are clearly explained in the glossary, except for "cystidium," which was omitted. The one inconsistency noted in the descriptions is the amyloid reaction of hyaline (colorless) spores; sometimes this is mentioned, other times it is not. This characteristic is especially important in identification of cup fungi and other ascomycetes.

Those seriously interested in identifying mushrooms not only need access to a good microscope but also must develop the ability to distinguish subtleties of taste (whey-like, acrid, bitter almond, metallic, farinaceous), color (dull grayish red, pinkish cinnamon, greenish brown, butterscotch yellow, creamy tan, smoky brown), and odor (burned rubber, raw potatoes, old ham, anise, spoiled cabbage), as these are all characteristics included in the descriptions of various species. Equally important is to develop the habit of making good field notes on such characteristics as habitat, color, any bruising reaction, and location while the specimens are fresh, as characteristics may change when they are dried. Bits of mushrooms taken into the mouth to determine taste should never be swallowed.

Given the size and technical aspects of this book, it contains remarkably few errors; one that recurs is the use of "of" instead of "or" in the descriptions. In the glossary the term "conidium" is misspelled, and in one author citation the recommended initials were omitted.

Anyone, experienced or amateur, who is interested in collecting mushrooms and related fungi in the eastern US should purchase this book. Even those who already have mushroom books should buy it, as it includes many species of fungi not usually found in other similar books. And at US\$ 35 for the paperback version, it is truly a bargain.

For those who wish to collect wild mushrooms to eat, the word is CAUTION. Inexperienced collectors should definitely collect only unmistakable, easy-to-identify mushrooms, such as chanterelles, morels, the indigo lactarius, and the cauliflower mushroom. Other species should be collected only by those familiar with the technicalities and subtleties of mushroom identification. Even professional mycologists who do not specialize in mushrooms can have difficulty confidently identifying many of the mushrooms. As the saying goes, bad taxonomy can kill.

## - Richard T Hanlin, University of Georgia

Dr Hanlin is Professor Emeritus in the Department of Plant Pathology and Curator of Fungi in the Museum of Natural History. Retired after 41 y of research and teaching mycology, he continues to work part-time. Dr Hanlin specializes in identification of plant pathogenic ascomycetes and enjoys collecting and photographing fungi. We are growers of plants native to the Great Basin, Rocky Mountains, and the Colorado plateau.

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