

# APPALACHIAN MUSHROOMS

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# C O N T E N T S

CAUTIONARY NOTE	vii
PREFACE	ix
ACKNOWLEDGMENTS	xi
INTRODUCTION	xiii
MUSHROOM IDENTIFICATION	xv
HOW TO USE THIS BOOK	
Gilled Mushrooms	xvii
Non-Gilled Fungi	xix
<i>AMANITA</i>	I
<i>RUSSULA</i>	21
MILK MUSHROOMS	35
<i>Lactarius</i> and <i>Lactifluus</i>	
MEDIUM TO LARGE WHITE-SPORED MUSHROOMS WITH A WAXY TEXTURE	63
<i>Hygrophorus</i>	
SMALL WHITE-SPORED MUSHROOMS WITH A WAXY TEXTURE	71
<i>Hygrocybe</i> , <i>Gliophorus</i> , and <i>Humidicutis</i>	
MEDIUM TO LARGE WHITE-SPORED TERRESTRIAL MUSHROOMS	87
<i>Tricholoma</i> and <i>Melanoleuca</i>	
OTHER WHITE-SPORED MUSHROOMS	101
COLORED-SPORED MUSHROOMS	173
BOLETES	245
POLYPORES	303
CHANTERELLES AND ALLIES	355

CLUB-LIKE AND CORAL-LIKE FUNGI	367
SPINE FUNGI	389
PUFFBALLS AND RELATED FUNGI	401
MUSHROOMS WITH CUP-SHAPED OR FLAT FRUITING BODIES	419
JELLY AND RUBBERY FUNGI	435
MORELS AND FALSE MORELS	445
GLOSSARY	453
MUSHROOM ORGANIZATIONS	455
REFERENCES	457
INDEX OF SCIENTIFIC NAMES	459
INDEX OF COMMON NAMES AND GENERAL INDEX	467

## C A U T I O N A R Y   N O T E

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THIS BOOK IS an introduction and identification guide to many of the wild mushrooms found in Appalachian forests and fields. Included in this book is information about edibility. Every effort has been made to provide the most accurate information available relating to the species discussed here. However, many more species occur in these woodlands than can be included in this book. Wild mushrooms may be poisonous, and some poisonous species may resemble edible varieties discussed here. Even if not generally poisonous, other wild mushrooms may cause allergic or other negative reactions in particular individuals. Before eating a wild mushroom, be absolutely certain that it is not poisonous ***and that it has been identified correctly.***

Neither the author nor Ohio University Press makes any warranty as to the safety of consuming wild mushrooms, and they do not accept responsibility for any health problems, consequences, or symptoms arising from the reader's ingestion of them. The reader consumes these mushrooms at his or her own risk. This is also true for individual or allergic reactions to generally accepted edible species. ***The consumer must exercise caution in consuming wild mushrooms.*** The author recommends consulting other reference books, websites, and local mushroom club experts before making a decision to eat a mushroom. Furthermore, many edible wild mushroom species are toxic if eaten raw. Edibility information here refers to thoroughly cooked mushrooms.

WILD MUSHROOMS OCCUR in all Appalachian habitats, including soil, moss, humus, living trees, dead wood, and manure. Some wild mushrooms have specialized habitats that include insects, other fungi, nutshells, and aphid exudates. Wild mushrooms exhibit an amazing diversity, and there are many more species than can be included in a field guide.

Mushrooms described in this book have been found in the Appalachian region that includes parts of northern Georgia, South Carolina, North Carolina, eastern Tennessee, Kentucky, Virginia, West Virginia, western Maryland, eastern Ohio, Pennsylvania, New York, and the New England states. There is considerable overlap in range, but some species common in New England, for example, are rare or absent in Georgia.

Many species are undescribed and lack a scientific or common name. The number of species in the Appalachian region is unknown. Estimates of close to three thousand species of macro fungi have been proposed. This book has included all of the popular edible species as well as many of the most common poisonous varieties. Some less common interesting species are found in this text as well.

The mushrooms in this book can be identified using features visible to the naked eye. DNA studies have revealed that in some cases mushrooms that are morphologically identical are actually not the same species. Many familiar mushrooms have incorrectly carried names belonging to their European look-alikes. This has resulted in some species temporarily being technically nameless and lumped together as complexes or groups. None of these groups contain look-alike species that differ significantly in edibility. In the future, the species within these complexes will be sorted out. There will be many new species of morels and chanterelles, for example, but all will remain as popular edibles regardless of what they are called.

The search for wild mushrooms is a scavenger hunt that enables the hunter to enjoy some of his or her quarry as food. The natural beauty of wild mushrooms soon becomes apparent. Delving a bit deeper, we see that it is important and fascinating to learn their ecological importance as recyclers, symbionts, insect killers, and a food source for many insects and animals. The finding and subsequent identification of a mushroom may lead to the discovery of much more than food in the amazing fungi kingdom.

# I N T R O D U C T I O N

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## Mushrooms and Macro Fungi

ALL OF THE fleshy and woody fungi fruit bodies in the woods and fields are there for one purpose, reproduction. Microscopic spores are produced somewhere on the fruit body. The part of the organism that produces these reproductive structures is mostly unseen in the substrate as it goes about its lifestyle of procuring nutrients in a saprobic, parasitic, or symbiotic manner. These hidden filaments or strands are known collectively as mycelium. When in the soil or humus, the mycelium can cover large areas. Without chlorophyll and unable to produce its own food, the fungal mycelium uses chemicals to break down its food and then absorbs the nutrients through its cell walls. The mycelium in some mushroom species forms a coating on plant roots, where there is a symbiotic relationship called mycorrhiza. In other species the mycelium is parasitic, aggressively attacking a living plant, insect, or other fungus, killing the host and using it for food. Many macro fungi are saprobes, obtaining their nutrients from dead plant material. They are nature's primary recyclers. Many macro fungi can be parasitic at times and saprobic at other times. Some mycorrhizal fungi can also be saprobic at times.

The terms mushroom, toadstool, fleshy fungus, and macro fungi all refer to the reproductive organ of a fungus but could also refer to the organism itself. None of these terms have a scientific meaning. Non-macro fungi include molds, rusts, mildews, and yeasts. These fungi do not produce large fruiting bodies. Defining the fungus kingdom is difficult. Simply stated, a fungus is a stationary organism that reproduces by spores, lacks chlorophyll, and can't produce its own food. It is neither a plant nor an animal. The fungi kingdom is huge and diverse. Mushrooms and macro fungi are a great introduction to the vast world of fungi. In the following pages the reader should learn to identify and eat distinctive edible species as well as to identify and avoid poisonous mushrooms. More important, the book should help the reader discover the ecology and beauty of these colorful and fascinating life forms that are all around us but are all too often overlooked.

Mushroom taxonomy continues to evolve, which has resulted in the occurrence of many synonyms. A scientific name is created by the person who described the species and published the description in a scientific journal. The

name, often abbreviated, follows the species name. Name changes result from new taxonomic information or discovery that the species had previously been published with a different name. Those synonyms selected for use here are the ones the reader is most likely to encounter in recent field guides. The term “Misapplied Name” refers to a name that was commonly used for a mushroom but was discovered to belong to another, similar-looking species.