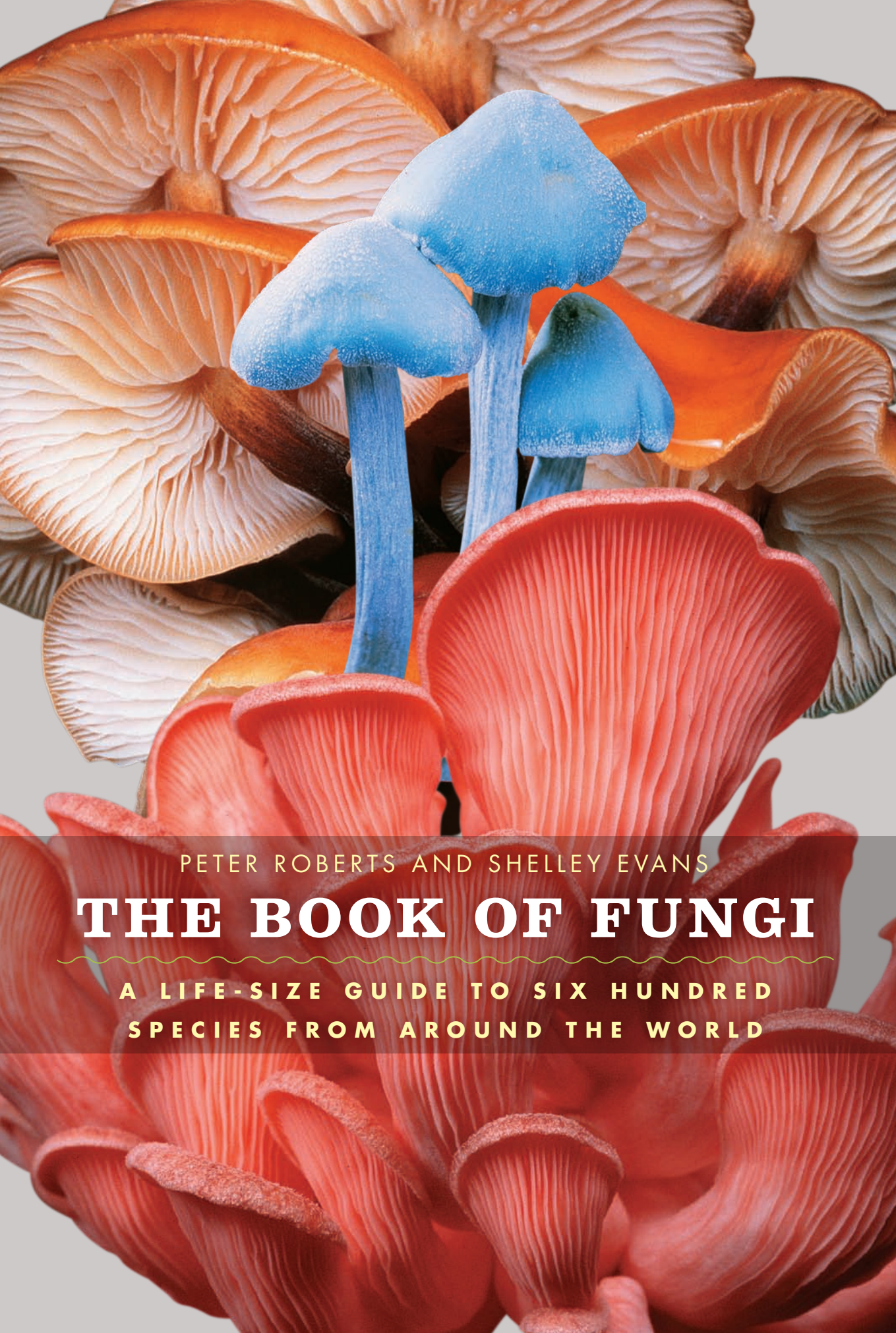


PETER ROBERTS AND SHELLEY EVANS

THE BOOK OF FUNGI

A LIFE-SIZE GUIDE TO SIX HUNDRED SPECIES FROM AROUND THE WORLD

CONTENTS

FAMILY	Amanitaceae
DISTRIBUTION	Europe, western Asia
HABITAT	In woodland
ASSOCIATION	Ectomycorrhizal, with conifers and broadleaf trees, particularly birch
GROWTH FORM	On ground, singly or in small troops
ABUNDANCE	Occasional
SPORE COLOR	White
EDIBILITY	Edible (when cooked)

HEIGHT
Up to 9 in
(225 mm)

CAP DIAMETER
Up to 4 in
(100 mm)

AMANITA CROCEA

ORANGE GRISETTE

(QUÉLET) SINGER

Amanita crocea is one of the most attractive of the grisettes, a group of *Amanita* species that lack a ring on the stem. Until recently it was thought to occur in North and Central America as well as Europe, but it seems that the American *Amanita crocea* is a closely related (but as yet unnamed) look-alike species. The Orange Grisette is said to be edible and is known to be eaten in Russia and eastern Europe, but this group of agarics is slightly suspect and can cause digestive problems—even when well-cooked.

Actual size

SIMILAR SPECIES

Similar species from North and Central America have yet to be formally named. Other ringless *Amanita* species are similarly shaped, but differently colored. The European Tawny Grisette (*A. fulva*) has a warm brown cap. The orange-capped Caesar's Amanita (*A. caesarea*) has a pendulous ring.

The Orange Grisette has caps that are conical to convex at first (see photo right), becoming umbonate. The surface is smooth, pale orange, with a striate margin. The gills are white. The ringless stem is whitish but covered in a fine, pale orange, zigzag pattern. The large, sack-like volva at the base is externally white and pale orange inside.

FAMILY	Strophariaceae
DISTRIBUTION	North America, Europe, Africa, northern Asia, Australia, New Zealand
HABITAT	In woodland
ASSOCIATION	With broadleaf trees, rarely conifers
GROWTH FORM	On stumps and dead trunks, in large clusters
ABUNDANCE	Common
SPORE COLOR	Brown
EDIBILITY	Edible

HEIGHT
Up to 4 in
(100 mm)

CAP DIAMETER
Up to 3 in
(75 mm)

KUEHNEROMYCES MUTABILIS

SHEATHED WOODTUFT

(SCHAEFFER) SINGER & A. H. SMITH

The Sheathed Woodtuft is a common species, typically growing in large clusters on stumps and dead trunks. It looks a little like a miniature *Pholiota* species and, indeed, has sometimes been called *Pholiota mutabilis*. The fruitbodies are edible and in recent years have been commercially cultivated in China, from where they are now exported worldwide. They are not recommended for collecting in the wild, however, since the Sheathed Woodtuft is notoriously difficult to distinguish from the seriously poisonous Funeral Bell, which is equally common and also grows in tufts on wood.

Actual size

SIMILAR SPECIES

The very similar Funeral Bell (*Galerina marginata*) is a dangerously poisonous species; it is smooth to fibrous (rather than scaly) below the ring and has a mealy smell. *Kuehneromyces lignicola* is also smooth below the ring, but is not known to be poisonous. The rarely recorded *K. leucolepidotus* has whitish scales on the stem.

The Sheathed Woodtuft forms densely clustered fruitbodies with convex to weakly umbonate caps. The cap surface is smooth, slightly slimy when damp, dark yellow-brown to tan, becoming ocher from the center when drying. Gills are pale cap-colored to rusty brown. The stem is smooth and cream above the distinct ring, scaly below the ring, and dark reddish brown toward the base.

FAMILY	Fomitopsidaceae
DISTRIBUTION	Europe, Asia
HABITAT	In woodland, parkland, and wood pasture
ASSOCIATION	On very old oak trees
GROWTH FORM	On exposed heartwood of living trees and fallen wood
ABUNDANCE	Very rare
SPORE COLOR	White
EDIBILITY	Not edible

THICKNESS
Up to 2 in
(50 mm)

CAP DIAMETER
Up to 8 in
(200 mm)

PIPTOPORUS QUERCINUS

OAK POLYPORE

(SCHRADER) P. KARSTEN

The Oak Polypore only fruits on old oaks more than 250 years old, where it causes a brown, cubical, heartwood rot, hollowing out the trunks. It is regarded as endangered in Japan, Germany, Norway, and Poland. In Britain it is protected by law and has its European stronghold in ancient deer parks such as Windsor Great Park. Considerable conservation effort has been made not only to search for new sites but also to investigate its ecological requirements. DNA primers have now been developed that could allow its detection in oak without the need for the presence of fruitbodies.

SIMILAR SPECIES

Immature *Ganoderma resinaceum* has a very similar texture and yellowish color. It has tough brown flesh, however, and a lens shows that the yellow is part of a resinous cuticle on the cap surface. The Chicken of the Woods (*Laetiporus sulphureus*), especially when old and faded, can be mistaken for *Piptoporus quercinus*, and the two are then best distinguished microscopically.

The Oak Polypore produces annual fruitbodies that are white, soft, and juicy when young, the cap gradually darkening to rusty brown with concentric brown and gold zones, bruising reddish purple, and becoming dry and tough. Its surface is initially velvety, becoming smooth and skinlike. The flesh is whitish, flushed with magenta and yellow. The small pores are also whitish, becoming yellow-brown.

Actual size

FAMILY	Hericiaceae
DISTRIBUTION	North America, Europe, northern Asia
HABITAT	In broadleaf woodland
ASSOCIATION	Especially with older beech, maple, and oak
GROWTH FORM	On cut or fallen logs or high up in standing trees
ABUNDANCE	Occasional
SPORE COLOR	White
EDIBILITY	Edible, but too rare to collect from the wild

HEIGHT
Up to 8 in
(200 mm)

DIAMETER
Up to 12 in
(300 mm)

HERICIUM ERINACEUS

LION'S MANE

(BULLIARD) PERSOON

Actual size

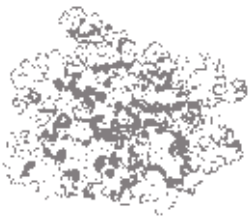
The Lion's Mane—or Bearded Tooth—is an important commercially grown gourmet species with a sweet flavor like lobster. It is especially popular in Asia where it is marketed as Monkey Head and grown on a variety of substrates, including cotton waste and sugar cane culms packed in huge polypropylene bags. It is under scrutiny for a range of medicinal properties from cancer inhibition to enhancing the immune system, is taken in pill form for gastric ulcers, and is even available as a canned tonic drink. In Europe it is rare in the wild, on Red Lists in 23 countries and proposed for international protection under the Bern Convention.

SIMILAR SPECIES

Other *Hericium* species are soft-fleshed with a spiny appearance, but all are branched, rather than forming a single ball-like cluster, and none has such remarkably long spines. Another large spiny bracket fungus growing on broadleaf trees is *Climacodon septentrionalis* but this has a tough fibrous texture, shelflike layers with short spines, and flesh that is clearly zoned when cut.

The Lion's Mane forms a spectacular whitish cushion of tiered clusters of pendant spines or teeth, which can be as long as 3 in (80 mm), and look very like a beard or mane. The fruitbody is soft and white when young, sometimes with flesh-colored tints, becoming yellowish, then dirty brown when bruised or with age. It is normally broadly attached to the tree, with at most only a rudimentary stem.

FAMILY	Lobariaceae
DISTRIBUTION	North America, Europe, Africa, Asia
HABITAT	On broadleaf trees, more rarely rocks
ASSOCIATION	Lichenized, with algae and cyanobacteria
GROWTH FORM	In patches
ABUNDANCE	Occasional
SPORE COLOR	White
EDIBILITY	Not edible



THICKNESS
Up to ¼ in
(5 mm)

DIAMETER
Up to 10 in
(250 mm)

LOBARIA PULMONARIA

LUNGWORT

(LINNAEUS) HOFFMANN

Lobaria pulmonaria is unusual in simultaneously forming an association with an alga and a cyanobacterium, the latter capable of fixing nitrogen and thus increasing the lichen's supply of nutrients. It needs clean, damp air for this to work, however, and the Lungwort only grows in wetter, pollution-free climates. It is often considered an indicator species of old woodland and forest. The shape and veining of the lobes was once thought to resemble lungs, a sure sign for medieval herbalists that it was divinely created to cure lung diseases, though this has not been supported by modern research.

The Lungwort forms large, foliose thalli with flattened, notched, leafy lobes. The upper surface is bright green and shiny when wet, gray-green when dry, and is wrinkled or ridged and netlike. The undersurface is pale tan. Fruitbodies are infrequent, but disc-shaped and orange-brown.

SIMILAR SPECIES

Other *Lobaria* species are similar, but often grayer, even when wet. In western North America, *Lobaria oregana* is a very similar, greenish species found mainly on conifers. The more widespread *L. virens* is also green, but typically has a smooth upper surface.

Actual size

PETER ROBERTS AND SHELLEY EVANS

THE BOOK OF FUNGI

A LIFE-SIZE GUIDE TO SIX HUNDRED SPECIES FROM AROUND THE WORLD

Colorful, mysterious, and often fantastically shaped, fungi have been a source of wonder and fascination since the earliest hunter-gatherers first foraged for them. Today there are few, if any, places on Earth where fungi have not found themselves a home. And these highly specialized organisms are an indispensable part of the great chain of life. They not only partner in symbiotic relationships with over ninety percent of the world's trees and flowering plant species, they also recycle and create humus, the fertile soil from which such flora receive their nutrition. Some fungi are parasites or saprotrophs; many are poisonous and, yes, hallucinogenic; others possess life-enhancing properties that can be tapped for pharmaceutical products; while a delicious few are prized by epicureans and gourmands worldwide.

In this lavishly illustrated volume, six hundred fungi from around the globe get their full due. Each species here is reproduced at its actual size, in full color, and is accompanied by a scientific explanation of its distribution, habitat, association, abundance, growth form, spore color, and edibility. Location maps give at-a-glance indications of each species' known global distribution, and specially commissioned engravings show different fruitbody forms and provide the vital statistics of height and diameter. With information on the characteristics, distinguishing features, and occasionally bizarre habits of these fungi, readers will find in this book the common and the conspicuous, the unfamiliar and the odd. There is a fungal predator, for instance, that hunts its prey with lassos, and several that set traps, including one that entices sows by releasing the pheromones of a wild boar.

Mushrooms, morels, puffballs, toadstools, truffles, chanterelles—fungi from habitats spanning the poles and the tropics, from the highest mountains to our own backyards—are all on display in this definitive work.

Peter Roberts was for fourteen years a senior mycologist at the Royal Botanic Gardens, Kew. He has undertaken field trips throughout the British Isles and Europe, as well as North, Central, and South America, the Caribbean, and Africa, and has published extensively on temperate and tropical fungi. He is the coauthor of *New Naturalist: Fungi* and is on the editorial boards of the journals *Field Mycology*, *Mycological Progress*, *Czech Mycology*, and *Persoonia*. **Shelley Evans** was conservation officer for the British Mycological Society for ten years and is on the executive committee of the European Council for the Conservation of Fungi and the IUCN world specialist group for fungi. She is coauthor of *Pocket Nature: Fungi* and is on the editorial board of the journal *Field Mycology*. She is an experienced field mycologist, having undertaken field trips throughout the British Isles and Europe, as well as North America.

7 X 10 1/2
656 pages • 2000 color plates

ISBN-13: 978-0-226-72117-0

Publication date: April 2010

Cloth $55.00

For a review copy or other publicity inquiries, please contact: Mark Heineke, Promotions Director, The University of Chicago Press, 1427 E. 60th Street, Chicago, IL 60637.

Telephone: 773-702-3714;
Fax: 773-702-9756;
E-mail: mheineke@press.uchicago.edu

To place orders in the United States or Canada, please contact your local University of Chicago sales representative or contact The University of Chicago Press by phone at 1-800-621-2736, or by fax at 1-800-621-8476.