Introduction and Acknowledgments

Working on this book, we've intentionally avoided defining what constitutes a "cool" mushroom. We think *all* mushrooms are cool, to be honest, but the mushrooms included in this book are, let's say, *especially* cool. We have tried to include a broad spectrum of cool North American mushrooms, from common mushrooms that are widely distributed and frequently found to rare mushrooms that are not found in field guides, from beautiful mushrooms to ugly (and even disgusting) ones. We've also tried to include mushrooms from across the continent, including some species with limited geographic distribution. All of the mushrooms in the book represent mushrooms we have collected or studied in the dried state—and we have avoided including mushrooms treated in our previous books.

There is almost no information included in this book about the edibility or toxicity of the mushrooms. If you are interested in eating wild mushrooms, we recommend *100 Edible Mushrooms* (Kuo 2007) and *Mushrooms Demystified* (Arora 1986). But our goal in the present book is to admire and enjoy mushrooms without necessarily having to eat them; digestion is rather a limited way to appreciate Nature!

We would like to thank the photographers whose contributions made this book possible: Gary Ansell, George Barron, Laurence Boomer, Whitney Cranshaw, Darvin DeShazer, Ryan Dorkoski, Debbie Drechsler, Gary Emberger, Howard Evans, Bart Everson, Johannes Harnisch, Jason Hollinger, Ron Kerner, Magdalena Kosciuszko, Gary Lincoff, Taylor Lockwood, Rich Mably, Ron Meyers, Daniel Molter, Yvonne Nieves, Tabbie Norton, Ron Pastorino, Chris Ribet, Tom Robbins, Lynne Robinson, Carol Schmudde, Christian Schwarz, Noah Siegel, Hugh Smith, the South Tyrol Museum of Archaeology, Daryl Thompson, and Nathan Wilson.

Carol Schmudde, Darvin DeShazer, and Walt Sturgeon provided valuable help with the manuscript.

We also would like to thank Vera Evenson, Elenor Methven, John David Moore, Cheryl Noll, Rod Tulloss, and Bob Zordani.

Above: Photo by Tom Robbins. *Lower left:* Acanthohyphidia; photo by Michael Kuo. *Lower right:* White oak bark affected by *Aleurodiscus oakesii;* photo by Michael Kuo.

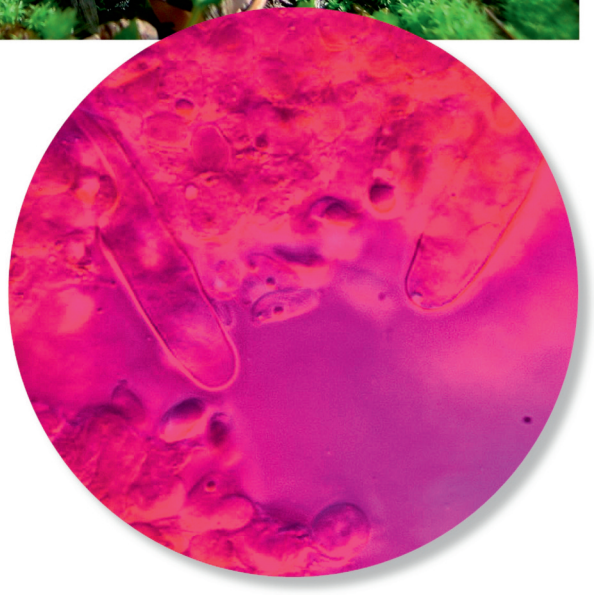
1 *Aleurodiscus oakesii* (Berkeley & Curtis) Patouillard

MICHAEL:

If your vision is as bad as mine, it's easier to see *Aleurodiscus oakesii,* which measures only a few millimeters across, from 20 feet away; it creates smooth patches in the bark of hardwood trees—especially the bark of oaks. Up close and personal, *Aleurodiscus oakesii* is actually harder to see and requires removing one's glasses (for me, anyway) and pressing one's forehead against the tree to inspect the patches of smooth bark. The tiny, saucer-shaped mushrooms are pale brown and often appear near the borders of the smooth patches. They are so tiny that there is almost nothing to describe—unless you use a microscope to see the many fascinating and beautiful microscopic features. *Aleurodiscus oakesii* sticks to the outer bark of the trees it infests, does not invade the wood, and does not seriously threaten the health of its hosts.

Description

Saprobic on the outer bark of hardwoods—especially oaks, elms, and hop hornbeam; growing gregariously; appearing year-round when weather is warm; widely distributed in eastern North America. Fruiting body only a few millimeters across; saucer-shaped or irregular; broadly but centrally attached to the bark; leathery; upper surface pale brown and fairly smooth; undersurface whitish and minutely fuzzy; the margin often folded slightly upward to expose the undersurface; without a stem. Spores 18–21 × 12–13 µm; ellipsoid or egg-shaped; roughened at maturity; amyloid. Cystidia as acanthohyphidia, developing spines.



Above: Photo by Michael Kuo. *Below:* Cystidia; photo by Andy Methven.

2 *Alloclavaria purpurea* (Fries) Dentinger & McLaughlin

ANDY:

Alloclavaria purpurea is distinguished from other club and coral fungi by the simple, unbranched, dark purple to lavender clubs. While it was originally described as a member of the genus *Clavaria,* recent DNA work by Dentinger and McLaughlin (2006) places it in a group with gilled mushrooms, including *Omphalina* and *Rickenella.* It is presumed to be saprobic and is separated from the remainder of *Clavaria* by the thin-walled cystidia that project from spore-bearing surfaces.

Description

Saprobic on wet soil among mosses, often near conifers; growing in dense clusters; summer and fall; northern and montane North America. Fruiting bodies simple, cylindric, 3–12 cm tall, 2–5 mm wide, smooth, dark purple when young and fresh, fading to pale lavender or even brownish in age. Flesh brittle. Odor and taste negligible. Spore print white. Spores 5–9 × 3–5 µm, ellipsoid, smooth. Cystidia 50–120 × 5–10 µm, cylindric to clavate.

100 Cool Mushrooms
Michael Kup and Andy Methven
https://www.press.umich.edu/327700/100_cool_mushrooms
University of Michigan Press, 2010

Photos by Michael Kuo.

3 *Amanita jacksonii* Pomerleau

MICHAEL:

Older North American field guides call this gorgeous mushroom "*Amanita caesarea,*" a well-known European species that, according to legend, was a favorite meal for Roman emperors. But the North American versions of this mushroom are numerous and confusing, and their taxonomy has not yet been completely established. The principal (mushroom) players in this drama are fairly easily recognized by their yellow gills, the large, white sacks around the stem bases, and their bright orange or orange-red caps, which have lined margins. Heading up the cast in eastern North America is *Amanita jacksonii*—an impressive actor, appearing in woodland theaters from the province of Quebec to the state of Hidalgo and recognized by its brilliant colors, the slender yellow stem with reddish to orange fibers, the fact that the cap begins to fade to yellow from the margin inward, and microscopic features.

Description

Mycorrhizal with oaks and pines; summer and fall; widely distributed east of the Great Plains from Quebec to Hidalgo. Cap 8–12 cm wide; oval at first, becoming convex, typically with a central bump; sticky; brilliant red or orange, fading to yellow on the margin; typically without warts or patches; the margin lined for about 40–50% of the cap's radius. Gills free from the stem or slightly attached to it; yellow to orange-yellow; crowded; not bruising. Stem 9–14 cm long; 1–1.5 cm thick; slightly tapering to apex; yellow; with orange to reddish fibers, often in zones; not bruising; with a yellow to orange, skirt-like ring; with a large (4–7 cm high and 4 mm thick), white sack around the base. Flesh whitish to pale yellow; not staining on exposure. Spore print white. Spores 7–10 µm long; broadly ellipsoid; smooth; inamyloid.