

# Meetings with Remarkable Mushrooms

*Forays with Fungi across Hemispheres*

Alison Pouliot

The University of Chicago Press  
CHICAGO AND LONDON

The University of Chicago Press, Chicago 60637

The University of Chicago Press, Ltd., London

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Published 2023

Printed in the United States of America

32 31 30 29 28 27 26 25 24 23      1 2 3 4 5

ISBN-13: 978-0-226-82963-0 (cloth)

ISBN-13: 978-0-226-82964-7 (e-book)

DOI: <https://doi.org/10.7208/chicago/9780226829647.001.0001>

First published in Australia by NewSouth, an imprint of UNSW Press Ltd.

Library of Congress Cataloging-in-Publication Data

Names: Pouliot, Alison, author.

Title: Meetings with remarkable mushrooms : forays with fungi across hemispheres / Alison Pouliot.

Description: Chicago : The University of Chicago Press, 2023. | Includes bibliographical references and index.

Identifiers: LCCN 2022059969 | ISBN 9780226829630 (cloth) | ISBN 9780226829647 (ebook)

Subjects: LCSH: Mushrooms. | Fungi.

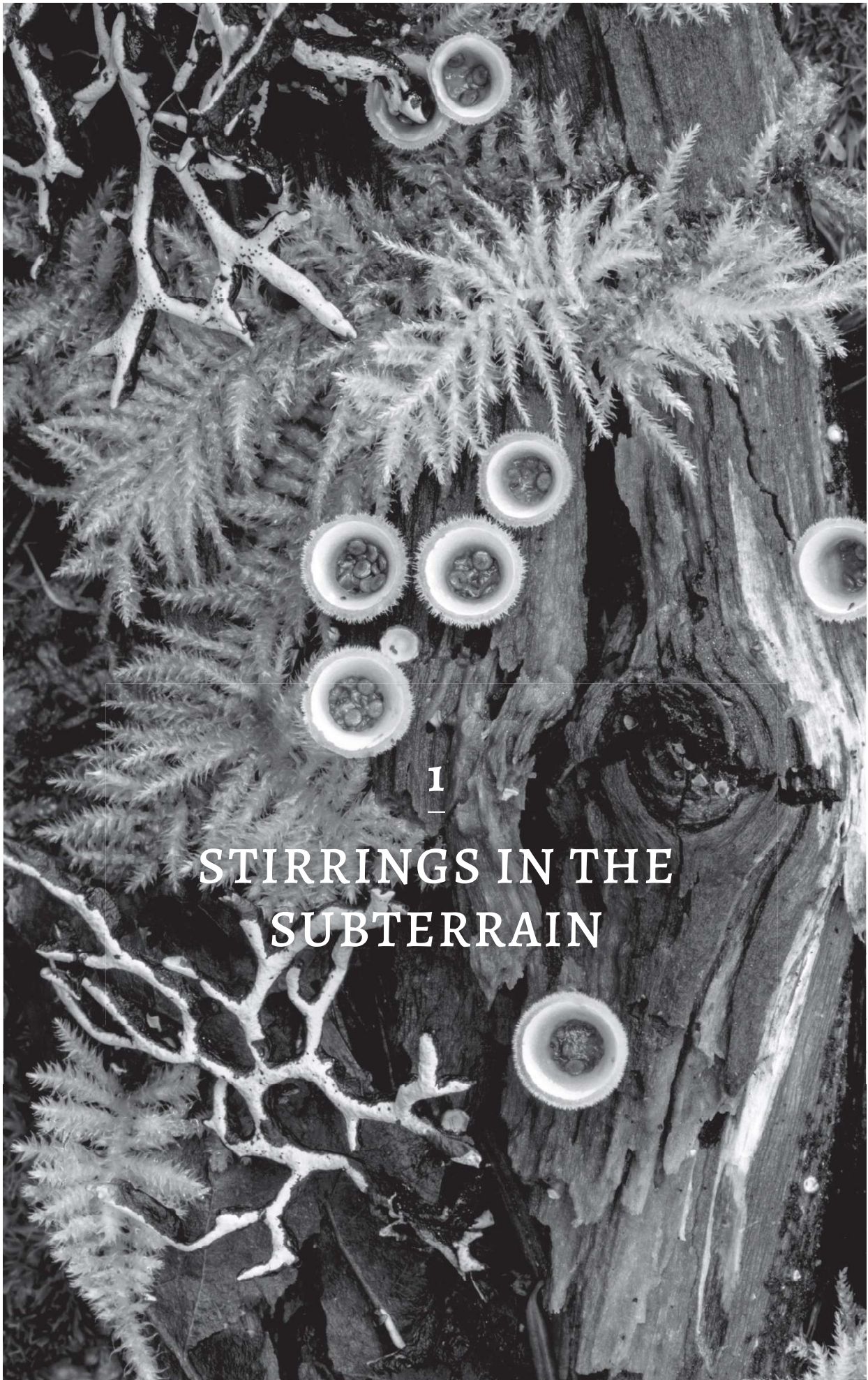
Classification: LCC QK617 .P668 2023 | DDC 579.6—dc23/eng/20230130

LC record available at <https://lcn.loc.gov/2022059969>

©This paper meets the requirements of ANSI/NISO Z39.48-1992 (Permanence of Paper).

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# STIRRINGS IN THE SUBTERRAIN

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It was raining in Whitby. That was hardly unusual, and I should have been pleased. Everyone knows rain brings mushrooms. Westerly winds swept over the North York Moors, delivering showers in squalls and spurts along England's Yorkshire coast. I was there for an international congress on fungal conservation and the dampness boded well for fruitful field trips. But I was trying to hitch a ride to the congress dinner and was already late, and the rain ran cold down the back of my neck.

A vehicle appeared, slowed almost to a standstill then sped off, spraying me with water. The road returned to darkness. Gulls mewed in the distance as another vehicle approached, blinding me with its headlights, but it slowed and stopped. I ran toward it. It was only when the tailgate flipped down and the back window flipped up that I saw it was a hearse.

"Well get in then!" barked a voice in a North Yorkshire accent. I probably should have hesitated, but I didn't. I leapt in and cracked my knee on something hard. It was a coffin. A coffin in a hearse shouldn't seem odd. But the three goths sitting bolt upright inside it drinking champagne did. They eyed me suspiciously as one passed me a glass. He filled it to the brim and champagne overflowed down my sleeve. "So where'd you be goin' this fine evenin'?" he asked. My knee throbbed and I could feel my hair stuck to the sides of my face as I shook out my sleeve. "To a congress dinner on the quay," I replied, then added, "a congress on fungi!" He squinted and pursed his blackened lips. No one spoke. The windscreen wipers flapped louder.

You'd have thought that with our common interest in the subterranean, I'd landed with kin, but the other two goths

glanced sideways, and one raised an eyebrow. It seemed the fungus congress and the Whitby Goth Weekend had been programmed simultaneously and we each thought the other the more strange. But after a prolonged silence, the questions about fungi came thick and fast until the driver cranked up the stereo and The Sisters of Mercy saved me from further interrogation.

As we turned onto the quay, I caught sight of the ruined Whitby Abbey perched high on the headland overlooking the North Sea. Pedestrians dashed across the wet road. “Here! Stop here, please!” I yelled to the driver and he pulled into the curb. I handed back my glass and wished the goths well. They nodded in unison as I climbed out of the hearse. Back in the rain, I paused for a moment to gather myself, then headed toward the lights of the restaurant, certain that my foray into fungal realms would be every bit as thrilling as the ride.

The International Society for Fungal Conservation Congress drew a motley band of conservationists, fungus enthusiasts, and mycologists—scientists who study fungi—from the forest and the laboratory to David Minter’s hometown of Whitby. David is a mycologist and the mastermind of the society. A natural-born showman, he’s good at holding court, convincing anyone who might not yet be convinced that fungi should be at the heart of biodiversity conservation, not the periphery.

David has been fighting for fungi and their recognition for a long time. Fungi seldom feature in conservation because they seldom feature in our ideas about what that thing out the window—nature, biodiversity, the environment, whatever you want to call it—actually is. But by only considering above-ground ecologies of plants and animals, what if we were

failing to protect the diversity of fungi below ground? What if this oversight meant a slow, unseen unraveling of the very foundation that enables all aboveground life to flourish? Even the scientists who study organisms other than fungi and the conservationists who rally for them are usually largely unaware of the need to conserve fungi. However, given most of those organisms are intertwined with fungi in some way, including fungi in conservation makes good sense.

The society is the first in the world to explicitly and exclusively focus on protecting fungi. The congress delegates were there to tease out why fungi have been overlooked and what's needed to bring them into public awareness and onto conservation agendas. I thought about the goths and how their subculture, like mycology, is often seen as fringe, offbeat, even dubious. Yet they too were challenged by the idea of a congress on fungi. What is it about fungi that presents such a challenge to people?

Kingdom Fungi is one of conundrums. For some people, fungi are unnerving. Perplexing. Enigmatic. Being ephemeral, they rouse suspicions and suggest associations with the supernatural. But mostly, fungi are overlooked, forgotten. Fungi may have finally found their own kingdom back in 1969, but many people still struggle to explain what a fungus is or what it does. And fungi continue to unsettle the ways we think about the natural world. They do things we don't understand. They're unruly. They may enter periods of dormancy or respond to environmental cues of which we're unaware.

Yet fungi captivate. With their seemingly inexplicable presence, their curious forms and potent apothecaries, they've stirred imaginations across the centuries, challenging us to

open our minds and expand our thinking. Fungi disrupt our frameworks for ordering and understanding nature. They unravel old assumptions about how forests function. With their extraordinary beauty and strangeness, but also their utility, fungi are luring new fans.



Just over a decade later and half a world away, I stood in the main street of the south-east Australian town of Euroa. A semitrailer was parked across the traffic circle, blocking Binney Street to cars. Something was brewing. The curious lives of fungi Down Under were infiltrating the minds and imaginations of an ever-growing band of mycophiles—people who are enamored with fungi—and an upsurge of interest had hit an all-time high. I sensed we were approaching peak fungus.

Led by artist Penny Algar, a group of local conservationists and fungus enthusiasts climbed onto the tray of the semi to launch the third biennial Strathbogie Festival of Fungi. I skirted the gathering crowd of people and saw a flash of purple light as the old redbrick post office exploded in a gyre of fungus spores. The spores drifted onto the wide-eyed faces of children below and slowly floated down Binney Street. Glimmering like distant stars, the digital spores of light beamed from a projector, powered by a man pedaling a bicycle. I stood mesmerized as shopfronts and walls, trees and passing dogs all lit up in a captivating visual feast of illuminated fungi.

The festival had lured locals and visitors from the warmth of their lounge rooms into the bitter winter night.



Clad in beanies and woolen scarves, they stared transfixed as the unfolding fungal lightshow flashed and flickered around them. Mushrooms loomed from shop windows. A child scrabbled on the ground trying to grasp the elusive fungal threads beneath her feet. Along the creek, an old river red gum transformed into a shifting canvas of psychedelic fungi.

Why were all these people so excited? It's a pretty sure bet that if you project some moving images onto old buildings in an empty street, people will notice. But there's a growing public penchant for fungi that suggests we are in something of a fungal awakening. An emerging league of mycophiles is delving into the many dimensions of Kingdom Fungi. Some are tapping into fungi to help restore stressed ecologies. Some grow mushrooms on their kitchen tables, resisting the monopolies of industrialized agriculture. Others head to the forest to forage for fungi or seek deeper connections with nature. Writers and artists weave fungi into their work. Bioengineers and myco-entrepreneurs explore possibilities for fungal alternatives to building materials and plastics. Fungi steadily edge their way from the margins to the mainstream. The digital spores of Strathbogie's festival illuminated a usually hidden realm of life. As people came to meet with mushrooms, the misgivings of mycophobia—the fear of fungi—that grip the English-speaking world faded into the night.

Growing interest in fungi plays out elsewhere in the world, too. And often in strange ways. The previous year, in the northern hemisphere, I'd pulled into the car park of the North Seattle College and watched transfixed as a giant morel mushroom—or rather, a human being disguised as one—attempted to extract itself from the cabin of a pickup

truck. Fungi were popularized in the United States in the 1960s through psilocybin mushrooms or magic mushrooms, but public interest in fungi has grown more eccentric than the psychedelic. With much maneuvering and grunting, the morel finally unshackled itself, sprouted two feet and hit the ground with a groan. Adjusting its handbag, it then waddled down the path ahead of me. A dog scuttled sideways, tail between its legs as a toddler released a long howling wail. Undeterred, the morel wobbled precariously onward.

It seemed the morel and I were both there for the same reason, which was to attend the Puget Sound Mycological Society Annual Wild Mushroom Show. I was evidently underdressed. The show attracts people from a range of fungal fetishes to learn of the latest mycological revelations, poke and prod at displayed fungi, and perhaps ponder the human bent for dressing as mushrooms. Mycophiles converge from across the country. Those sufficiently skilled at distinguishing delectable fungi from those that are deadly savor the Annual Survivors' Banquet. Beyond the Mushroom Show, the society supports amateur and professional mycology in America's Pacific Northwest with an active program of research and education.

At times, the burgeoning interest in fungi pops up in surprising places. The WOMADelaide festival, which brings together musicians, dancers, and artists, introduced a forum called "The Planet Talks" to discuss and debate science and nature themes. At the 2019 festival, I met with mycologist Brian Pickles and bioengineer Gavin McIntyre, along with panel host Robyn Williams, in Adelaide's Botanic Park to talk fungi. Robyn has hosted *The Science Show* on ABC Radio since 1975, making it one of the longest running science programs

in the world. After the gig I asked him what he thought was inspiring the “fungal turn.” Robyn spoke of growing public knowledge of soil, the connections between fungi and plants, and how “many of us have now seen the thrilling complexity under all those trees we once thought were lone statues.”

This shift in thinking from lone statues to thrilling complexity reflects the public recognition of fungi as more than mushrooms. The groundswell of interest is part of a bigger ecological turn, sparked perhaps by concern about climate change, the demise of species, and the need to avert our precarious trajectory. It is part of a research revolution that is shifting the way we think not only about fungi and the natural world, but the ways in which knowledge develops. Like mushrooms themselves, the welling of interest swells steadily from the ground.

From high-tech labs, abandoned garages, and everything in between, innovations and applications of myco-technology are emerging at a rapid rate. Many hold promise for developing fungal alternatives for remediating damaged environments. The great challenge is to scale them up to a useful or meaningful level. However, we are unlikely to find solutions to the environmental issues created by humans in a technological fungal fix. That requires a change in thinking.

Remediating our relationship with the natural world could be a first step toward using fungi to remediate environments. Fungi won't save the world, but they could they offer insights into more sensitive ways of being in the world.

