

AGARICIDAL TENDENCIES:

SETTLING THE DEBATE OVER CUTTING VS. PICKING, AND THE SUSTAINABILITY OF WILD MUSHROOM COLLECTING

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“Maurice Rotheroe, who has died aged 71, was a mycologist; a former journalist and self-taught naturalist, he played a vital role in the conservation of British fungi.” So began the eulogy of the famed (and outspoken) British amateur mycologist in the November 25, 2005, edition of the British *The Telegraph* newspaper. From 1996 to 2001 Rotheroe served as conservation officer with the British Mycological Society. He was a famous proponent for wild mushroom collecting (“for the pot”) and argued against those who claimed, without scientific evidence, that it was an unsustainable practice that was depleting natural resources. “The debate over collecting wild mushrooms for the pot,” he wrote in the journal *British Wildlife*, “appears to have been hijacked by those who use anecdote and emotive language and ignore the scientific evidence. The odd person who goes along and collects these things is going to be hounded out as a vandal and a criminal. It’s ridiculous.”

The argument persists today. To be sure, the Internet is full of opinions, hypotheses, and myths. Two of the most asked questions I hear are: Is wild mushroom harvesting sustainable? ...and, should I be pulling or cutting mushrooms?

I suppose that I should take some solace in the fact that these questions are being asked at all; clearly the notion of sustainability is beginning to catch on. I’ll try to shed light on the subject, citing what little research data there are in this area. Much of this report herein has been published previously in FUNGI (Bunyard, 2010) but because most people still seem to be in the dark, it’s probably not too much to ask to revisit the topic. Indeed, as I write this, the FUNGI Facebook page is buzzing with a discussion over whether it is better to harvest mushrooms by cutting them with a knife, or to simply pull them from their substrate (soil, rotting wood, or what have you). The consensus seems to feel that cutting is the way

to go. This is probably the consensus across North America. And I suppose it does *seem* like a more benign way to harvest, since you are not disturbing the soil or any other visible part of the ecosystem. Trouble is that, with much of the living world, what seems logical to hominids may not hold water. *Cutting is better than pulling?* Turns out that it doesn’t much matter.

Research has shown that, as with nearly all other wildlife, the most serious threat to mushrooms and other fungi comes from habitat loss (Harding, 2008). Harding goes on to say that “fungi, along with many plants and animals, have suffered from the loss of ancient woodlands and a reduction in the [acreage] of unimproved, grazed grassland. For those fungi that are restricted to one plant species, fungal frequency is directly linked to host numbers.”

In North America the longest running study (it’s still on-going) to determine the long term effects of heavy mushroom harvesting has been conducted by the Oregon Mycological Society (OMS) (Norvell, 1995). Since its inception in 1986, the *Cantharellus* Project has surveyed 10 plots of chanterelle mushrooms growing in the Mount Hood National Forest in Oregon (reviewed in Pilz et al., 2003). As part of the study, every mushroom is harvested, its position within the plot is recorded, and all specimens are dried, vouchered, and kept for future research. The *Cantharellus* Project collects other data as well, including statistics on plots that are harvested by cutting all mushrooms with a knife and plots harvested solely by pulling the mushrooms from the soil.

Turns out that in the cut plots, yields have decreased (but only very slightly) over time. And, more surprising to the group, in plots harvested

by simply pulling out the mushrooms, yields have actually gone up during the 25 years of this study.

Huh? Let me repeat. According to the only long-term scientific study in North America, **collecting every single mushroom** of a given species from a specific area showed little or no effect on production over time; whether harvesting by cutting with a knife or pulling them from the soil seemed to make little difference as well. I was told, personally, by the researchers involved that cutting with a knife may do more harm than good because it leaves a severed stump of the mushroom which can become a site of infection by pathogens of mushrooms, like bacteria and other fungi.

Likewise, the longest running (at more than 30 years) and most comprehensive study in the world on the subject of intensive mushroom harvesting in Swiss forests (often referred to as “the Swiss Study”) has shown no difference in annual yields of mushroom plots harvested by either pulling or cutting (Egli et al., 2006). The Swiss Study examined well over 500 species—harvesting every single one, for more than 30 years—and determined that even the most intensive collecting of wild mushrooms had little impact on harvests (biomass) over time (Egli et al., 2006).

So, according to the best, most complete, and most long-running experiments we have on the impact of harvesting mushrooms, in North America and Europe, we can say that long-term heavy harvesting does not seem to reduce the yield (or biomass) of mushrooms from year to year. Mushroom collecting *is* sustainable.

Even so, some (even scientists) continue to call into question the sustainability of mushroom picking. A few years ago the question of whether *any* mushroom picking is sustainable was raised by my friend and mycologist



Nik Money in the pages of an academic mycological journal (Money, 2005). In his brand new book *Mushroom* (2011) Nik keeps up the pressure. He anthropomorphizes the poor mushrooms' final moments, crying out as their throats are slit by a mushroom knife. Okay, I added the part about crying out. But he does rebuke those who collect mushrooms from the wild, leveling his harshest castigations at the mycological societies who organize forays with the sole intent of collecting, examining, marveling at ... and ultimately throwing into the trash every single mushroom hoovered up from the forest floor. A fair criticism, I suppose. But I feel the entire exercise benefits the fungal world in the long run as it is us mycophiles who are, in turn, educating the masses to the importance of the little seen and underappreciated fungi. Fungi we know are essential for the health and sustainability of the planet.

WHAT YOU CAN DO:

Collect responsibly and educate others how to do the same. Make an effort to impact the natural environment as little as possible; strive to pack out someone else's trash (especially if it's an unsuccessful day and you have extra

space in your basket). Take and share photos! For purposes of ID back at the foray table, take only a few specimens of different maturity for a good ID, but avoid the urge to wipe out the entire population. If collecting for the pot, take no more than you can sensibly use or share and leave behind the very small, and underdeveloped (that goes for morels too!). Your visible proper etiquette and polite correction of others, when necessary, can make a difference.

References Cited

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"Oh no! ... Stumps!" It's happened to all of us at one time or another during morel season. You wait and wait an entire year for morel season to return. Finally the day has come! You drive for what seems like hours; parking in a low visibility spot and a mile from your actual destination. Surely, you have been seen by no one. You approach your favorite can't-fail-super-secret patch, only to find that this time someone else has beaten you to it! Stumps. All you see before you are stumps. Don't fret and by all means resist the urge to hire a hitman (it's not worth the jail time). You can rest easy knowing that: a) *your* morels will return next spring—and next time, you'll be out there one week earlier, and b) as a reader of FUNGI you know about all the other delicious wild mushrooms that the morellistas miss out on during the remaining eleven months of the year!

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cutting vs. picking