

Feral Fungi?

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Pleurotus cornucopiae var. *citrinopileatus*

Photo by Mike Krebill can be found on the PSMC website *SmugMug album*
<http://iowamushroom.smugmug.com/Foray-2010/Eden-Valley/>

We were once again treated to a fascinating and unusual mushroom find at our foray on August 21, at Eden Valley Park in western Clinton County, Iowa. We stepped into the woods and immediately began harvesting abundant oyster mushrooms. A bright yellow clump of fungi on a log was also immediately spotted from 30 yards away. From a distance, I thought maybe we were seeing a variety of sulfur mushrooms, but the group that went to investigate quickly shouted “They have gills!” Indeed they had the broad white decurrent gills of oyster mushrooms, but they didn't smell quite like *ostreatus*. They had a lighter, more fruity smell. Plus that yellow color was distinctive. Glen was the first one to mention “designer oyster mushrooms” and wonder if commercial spores escaped to the wild.

It turns out that Glen may have been right. Dean and I both took samples, with his being large enough for more testing, tasting and preservation. I quickly found images and descriptions on the web that matched our find visually to *P. citrinopileatus*. Plus I found the following information from the website Wild About Mushrooms: Oysters <http://www.mssf.org/cookbook/oyster.html>

A spectrum of colored *Pleurotus* has appeared in the marketplace. Gray, blue, yellow, pink, and white caps will please the eye as well as the palate. Members of our society call it the “designer mushroom.” --- The most recently introduced cultivated *Pleurotus* is outstanding: it has delicate daffodil-yellow flowerlike caps with pure white stems, and grows in large clumps.

Dean agreed with me noting that there is discussion that *P. citrinopileatus* is now considered by some to be a variety of *cornucopia*. He noted a study “A revision of the Taxonomic Status of *Pleurotus cornucopia*” by Ikuo Ohira. Following are Dean's comments comparing information from Ohira's article with his own findings:

These were found in clumps on downed hardwood. The spores of our specimens are white inamyloid smooth cylindrical 7-8 X 3 microns (I only measured a few mature-looking examples). Ohira says the spores of cultivated *Pleurotus citrinopileatus* are 6-9 X 2-3.5 microns and those of *Pleurotus cornucopiae* are 7-11 X 3-5 microns. The basidia were 4-spored; clamp connections were noted, and - knowing what I was hoping to see - I convinced myself that some cheilocystidia (sterile cells on the edge of

the gill) had a filiform (finger-like) extension.

Ohira (1990) synonymizes *Pleurotus citrinopileatus* with *Pleurotus cornucopiae*. His summary description agrees with what we found (yellow funnel-shaped pileus with branching stipe). However, he reports it as being known only from eastern Asia, far eastern USSR, northern China, and Japan. Ohira found the golden yellow *P. citrinopileatus* **interfertile** with the pale brown *P. cornucopiae* and therefore he reduced *citrinopileatus* to a variety of *cornucopiae*. Check the webpage <http://rms1.agsearch.agropedia.affrc.go.jp/contents/JASI/pdf/society/47-0967.pdf> for more information.

Don Huffman drew our attention to the intersterility studies that have been carried out on *Pleurotus*. See, for example, the "Biological Species in *Pleurotus*" website maintained by Dr. Ronald Petersen at <http://www.bio.utk.edu/mycology/Pleurotus/default.htm> for a full discussion. As with the genus *Armillaria* (Honey Mushrooms), if isolates of specimens are not interfertile then they are considered different biological species. Thus we have intersterility groups of *Pleurotus* designated ISG I through ISG XVI and still counting. To be 100% positive of a mushroom's identity these studies must, of course, be carried out. But, despite our investigative limitations, I am confident that we have correctly identified a rogue *Pleurotus*.

Several sources on the internet list this mushroom as *Pleurotus cornucopiae* var. *citrinopileatus*. In light of Dean's information, we'll use that name also. Dean also experimented a little with the edibility of these mushrooms. He states, "This morning I ate two small caps about 1 inch across of the yellow oyster mushroom found at Eden Valley. Delicious and I feel fine. I dried the remaining specimens."

I had only a few caps to compare with lots of other oyster mushrooms. I found their aroma pleasantly distinctive but their flavor more similar to *P. ostreatus*. It seems like a wonderful thing – beautiful delicious yellow exotic oysters being found in the wild. Probably in this case it is just fine. I imagine designer oyster mushrooms in the wild will remain a rare treat, but that may not always be the case with introduced fungi. Our natural honey mushrooms (*Armillaria mellea*) are lovely and tasty but they can decimate a centuries old oak stand. Imagine a parasitic fungus like that being transported to a place where oaks have no natural resistance. This points to the value of mushroom clubs and group forays in helping to document and create an awareness of our changing environment. The colorful, delicious treats are only a bonus, though they may be feral fungi.