



EARTHSTAR

E X A M I N E R

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Newsletter of the Missouri Mycological Society

Fall Foray

We are planning an overnight fall foray the first weekend in October (6 - 7). It will be at the home of Jack and Marty Toll north of Mountain View near the scenic Jack's Fork River. They have space to sleep quite a few and cooking facilities. It is crucial that we know in advance how many people will attend. Please RSVP to Ken Gilberg (314-458-1458) or Phil Roos (314-636-4596).

Mark your calendar for Oct. 20 & 21, the annual festival at Gilberg Perennial Farms in western St. Louis Co. Several of us participated last year and we got several new members there. If hunting is good, Dr. Parmley will use wild mushrooms in his cooking demonstrations.

This 'n That by Phil Roos

On Nov. 3 & 4 and Nov. 10 & 11 you can help inoculate logs with shiitake in northern Shannon County. Room and board will be provided. Call Dan Hellmuth at 314-531-9935 for a map and further details.

On July 22d, we had a foray at the Forest Service ATV area near Chadwick, southwest of Springfield. Members attending were Dennis Hall, Lynda Richards and Ron Dollarhite. With all the rain, we had hoped to find more boletes but were disappointed. We found large numbers of *Rhodocybe mundula* which tastes very bitter. Other mushrooms identified were *Amanita cokeri*, *A. verna*, *Lactarius piperatus*, *L. indigo*, *L. volemus*, *Scleroderma citrinum*, *Lycogala epidendrum*, *Auricularia auricula*, *Pluteus cervinus*, *Marasmius rotula*, *Marasmiellus albuscorticis*, *Lentaria byssiseda* (also very common), *Meripilus giganteus*, *Galiella rufa*, *Polyporus radicans*. Lynda found the mushroom for which we have named this newsletter, *Geastrum saccatum*.

Afterwards, Ron led me and Lynda to a wood chip pile he frequents. He found a *Lepiota* there. He later called to say it was delicious and without ill effects. According to Arora, it might be *L. tinctoria*. We weren't able to identify it in our other books.

I have been to the wood chip pile in University City. It doesn't look like it stays around long enough to grow much. However, the new solid trash law which forbids putting garden materials into land fills may provide us with new and exciting opportunities.

More on red mushrooms: The current issue of *Mushroom, the Magazine* has a letter from Larry Stickney, noted mushroom gourmet. He criticizes Nancy Smith Weber for her cautions against *Gyromitra* (previous issue of *Mushroom*). He writes that he has eaten the mushrooms and served them to others, without ill effects.

Thrill of the Hunt by Ken Gilberg

A few weeks ago I was saying, "Just once I'd like to spend more time picking than hunting." This summer, my prayers were answered.

It didn't look like it at first Leland Von Behren was on vacation and invited me to come check out one of his hunting grounds over in Illinois. We trudged through damp lowlands and poison ivy underbrush for about an hour and a half in 100 degree heat. We looked rain soaked - the humidity and heat combined so that we were sweating close to meltdown. Out bounty was two fawn mushrooms (*Pluteus cervinus*), not enough to bother with. A hunt like that is a trial of optimism. I'm sure that those woods are just loaded with *something* at some time of year.

The next week, on July 20, Leland and I went to Babler State Park, to the area where we often go on our MMS forays. We spent about an hour there and found nothing of importance. Then we went to my known location for chanterelles and we found them.

It is a great thrill, the thrill of the hunt, when, after stalking for so long, you come across a her standing there, ready to be bagged. You stand there scoping the situation like an Indian looking out over a valley of fat buffalo. You take in the whole scene, the crinkled orange flesh poking through the oak leaves here, there, everywhere. And you don't pick the first mushroom you find but peer all around locating the others for fear they'll run away.

We picked over a hundred chanterelles there. Leland finally got to use his new two-ton camcorder that he'd been lugging around both weeks, waiting to find something worth shooting.

We hired a local moving company to bring the mushrooms back to my house. We cooked them by the book, *A Passions for Mushrooms*, by Antonio Carluccio. We ate our fill and shared tastes with passersby. They were succulently delicious. You don't have to take hallucinogens to get high on mushrooms.

I went out again the next day and, among the dapples of orange sunlight, found more fruitings, about three pounds worth. I shared them with my family. The next day I couldn't help myself. I was getting my fill of *Cantharellus cibarius*, but hunting season is brief. I found another three pounds.

I know a French couple who run a restaurant nearby and are ardent mycophagists. I brought them the mushrooms (for their personal consumption) and they treated me to a gourmet dinner -- wine, smoked salmon, sweetbreads, chocolate mousse.

I had to rest a few days.

The foray of July 29th at Babler came. It was hot and humid again. I thought the four others who showed up had to be a bit crazy. But everyone went home with over a pound of chanterelles. Leland shot some more video and insisted on a body count -- 350 shrooms. What a wonderful foray when we do more picking than hunting!

Species list from July 1, 1990

Cantharellus cibarius, *C. lateritius*, *C. minor*, *Craterellus fallax*, *Clavulina amethystina*, *Agaricus placomyces*, *Lactarius hygrophoroides*, *L. volemus*, *Suillus pictus*, *Strobilomyces floccopus*, *Tylopilus felleus*, *Amanita umbrinolutea*, *A. onusta*, *A. rubescens*, *Russula virescens*, *R. fragrantissima*.

Species list from July 29, 1990

Cantharellus cibarius, *C. lateritius*, *C. cinnabarinus*, *Agaricus placomyces*, *Lactarius hygrophoroides*, *Lycoperdon perlatum*, *Coprinus quadrifidus*, *Amanita umbrinolutea*

Gleanings

The current Arkansas newsletter is full of interesting things.

Prehistoric Mushrooms

The oldest mushroom ever discovered has been found encapsulated in 40 million year-old amber from the mountains of the Dominican

Republic, Scientists reported in a recent issue of the journal *Science*.

The rare find was made by Dr. George Poinar, Jr., and insect pathologist from the University of California at Berkeley. The mushroom almost surely had grown on a tree trunk, and the resin from the tree covered the fungus before it decayed, preserving it through the ages. A tiny mite was also trapped in the same amber tomb.

The specimen was then analyzed by Dr. Rolf Singer, a mycologist at the Field Museum of Natural History in Chicago. He was able to identify the mushroom as to family and concluded that it represented a genus not known before. It was given the new name, *Coprinites dominicana*.

By studying life forms trapped in amber, Dr. Poinar is trying to piece together a comprehensive picture of ancient life in the Caribbean. His previous discoveries included insects, tufts of animal hair, and frogs -- all preserved in amber.

"The mushroom points out how amber can preserve very delicate organisms and gives us hope for discovering a great deal more from that time," Dr. Poinar said.

[Originally gleaned from *Sporadic News*, Asheville (NC) Mushroom Club.]

Ergot, a Fungal Medicine

None of us are going to foray for *Claviceps purpurea*; someone with a migraine headache might get it from a doctor, however. The fungus is interesting to know about, and an article in Vancouver's newsletter inspires the attention here; more of it is quoted below.

First, a little orientation. *C. purpurea* is a parasite of plants and is closely related to the *Cordyceps* species which parasitize insects and some truffles. While it may grow on other grasses, causing trouble for cattle that graze on them, the ergot fungus especially likes rye. The ergot spore infects the ovary of the open rye flower, and grows a sclerotium there that looks like a long dark grain -- called spurred rye. The sclerotium drops to the ground, and in spring it grows ascocarps with perithecia, looking like little bitty pink drumsticks.

The deadly poisonous sclerotia contain a powerful mixture of chemicals, some of them compounds related to LSD. Although midwives had used it to stimulate childbirth contractions, sudden outbreaks of ergot poisoning in the Middle Ages gave rise to superstitions. It was thought to be divine punishment for sinners, and called "Holy Fire." According to Phillips' book, the poisoning can take two forms: "that of a burning sensation in the limbs followed by their becoming gangrenous due to the constriction of blood vessels, or, affecting the mind causing

hallucinations, psychotic behavior and convulsions."

[From *Arkansas Fungi*, which continues:]

From Medieval Scourge to Modern Medicine

... Other species of *Claviceps* occur in North America; *C. paspali* grows in the south (causes "staggers" in cattle) and *C. cinerea*, in Texas. Neither is the same scourge as *C. purpurea*. The sclerotia of *C. purpurea* took a long time to be recognized as a separate entity.

Adam Lonitzer mentioned it in his *Kreuterbuch* in 1582, apparently the first reference. It took more than another hundred years to recognize it as a fungus, and it wasn't until 1853 that L.R. Tulasne demonstrated all the stages were part of the fungal cycle of *Claviceps purpurea*.

Its effects were recognized much earlier. It was responsible for epidemics in the middle ages. Rye was a diet staple; the poorer classes were often left with poor quality, uncleaned grain. In France in 944 C.E. it is estimated some forty thousand died. There were similar epidemics in 1039 and 1085. In humans, there are two types of reactions. In the first, gangrenous ergotism, the circulation of the blood is affected by constricted blood vessels. At first the condition is said to feel like hundreds of ants are running over the body. There is a burning sensation which led to the appellation "St. Anthony's Fire." As the condition worsens, convulsions, gangrene and

death occur. Fingers and toes may drop off, sometimes a whole limb.

The second type, believed to be associated with a Vitamin A deficiency, is convulsive. Spasms, convulsions, delusions and other nervous disorders occurred. In the Middle Ages the dancing epidemics were likely so caused; hundreds of people would be seized with an uncontrollable urge to dance in the streets. The Salem witchcraft trials, some historians suggest, were inspired by cases of ergot poisoning.

Yet there are places in the world where rye is deliberately infected with ergot. In fact it is grown for the purpose and science is employed to insure infection. The farmer has a valuable crop, since ergot is also a powerful and widely used medicine.

It was first used by midwives. It causes strong uterine contractions, speeding childbirth. Ergot also contracts blood vessels, minimizing bleeding when the placenta is expelled and the threat of hemorrhage is great. The same qualities led to its use in abortions.

Ergotamine, first isolated in 1935, is a derivative. It is particularly useful in contracting the blood vessels in the head; thus it is used as an effectual remedy for migraines. Biochemical research on alkaloids of ergot showed that most of the compounds are related to lysergic acid. *C. purpurea* is not grown as a commercial crop on this continent. Pharmaceutical companies import it, particularly from Switzerland.

[From Vancouver Mycological Society *Mycophile*, May 1990.]

