LONG ISLAND MYCOLOGICAL CLUB

L.I. SPOREPRINT

VOLUME 10, NUMBER 2, Summer, 2002

(The following article was obtained from the Great Morel Internet site at: www.bright.net/~wildwood)

The Six Week Training Regimen

By Dan Wood

Below is the suggested pre-expedition mental and physical training regimen:

6 weeks *b/4* start

- talk all the shroom'n trash you can think up
- program your mind not to remember the pain (damn freak'n hills)
- start your physical training by

thinking about being in shape

5 weeks

- begin practicing the art of bending over-tie your shoes 3-4 times a day
- lip-sync the words "Got some over here"
- recondition your mind on the old

continued on page 5

FINDINGS AFIELD

by Joel Horman

Other than Morels and a few more spring specialties, May is not a month that boasts of copious mushroom flourishing, so on this particular day in late May, I was searching, not on the ground, but high in the tree tops for migrating birds. And found instead one of the most bizarre fungi I have ever come across; fungus being the correct term, as it not an agaric, but rather a rust, which means it belongs in the class *Uredinales* in the *Basidiomycota,* along with almost 7,000 other species. It was reminiscent of an escapee from a science fiction flick, with a globular brown central body to which were attached numerous orange tentacular appendages. I recognized it as Juniper rust, or *Gymnosporangium juniperi-virginianae,* of which I had read, but never seen. The first one I saw was out of reach, so I searched lower down for more, and collected one for closer examination; its photo (life size) can be seen below. This is a fungus that must be specifically searched for, and late May is the best time to do so.

Gymnosporangium juniperi-virginianae

It has a complex and interesting parasitic life cycle, consisting of two stages involving two different hosts, the eastern red cedar (*Juniperus virginianus*) and apple trees (*Malus spp.*). It is one of the heteroecious rusts, which have the most complex life cycle of all fungi. The life stage expressed on the juniper is known as a teleomorph, and the tentacles are telial horns, which are composed of hundreds of two-celled teliospores, containing two haploid nuclei from different parents. Each teliospore germinates in the spore horn to form a basidium. Basidiospores are then shed into the air and must land on an apple tree to complete the life cycle. On the apple tree the basidiospores germinate to form spermatia, or sex cells. These spermatia fuse and form a mycelium, which infects the leaf, eventually forming aecia, which in turn produce aeciospores, which are wind borne to infect the Juniper host again. (For a more detailed explanation, see

(Continued on page 6)

PRESIDENT'S MESSAGE

Dear Colleagues;

Please be informed that due to personal considerations, my 9 year term as president of the Long Island Mycological Club, which began on December 11, 1993, must come to an end as of this writing.

According to the by-laws, the president can appoint a member to fill a vacant position. No provision was made for filling a vacancy left by a resigning president. This should be addressed. Therefore, it would be incumbent upon the Board of Directors to appoint an interim president until elections for offices are held. The by-laws require that this occur during the (last) meeting in 2002. The newly elected president is required to co-sign the bank account that contains the LIMC treasury.

"Personal considerations" does not preclude that I will terminate my LIMC membership. Contrary to that, I intend to forage for mushrooms with my associates on Club outings, and will offer mushroom ID opinions and comments, as in the past, to any members who request same.

Cordially,
Dom Laudato

EDITOR'S NOTE

We are all appreciative of Dom's many years of faithful service, and believe that future office holders should look to his example and maintain the high level of dedication that we have come to expect. At this point, the board has not had an opportunity to meet and address the issue, but elections are not far off, being scheduled for Mushroom Day at the Planting Fields Arboretum on October 20, 2002. This is the time of our annual General Meeting as well, at which time you can make your voice heard with any topics or suggestions of your own. Please plan to attend.

By this time, most of us with computer access are aware that the LI Mycological Club now has its own website, which can be accessed at limyco.org, thanks to our webmaster Dale Robins. Our Foray Schedule and Directions are available online, as is our membership list, both password protected. Our hope for the future is to have links from our LI Species list to photo images of particular species. There is a possibility that the LI Sporeprint will be available online as well.

On an optimistic note, rainfall for the last 2 months has risen to the normal range and we have recently found *Russulas, Lactarius, Leccinum aurantiacum* and *Laetiporus.*

Material for the Autumn, 2002 edition
should reach the editor by August 30th
(Submissions should preferably be typed or submitted in
Rich Text Format on PC floppy disk or by e-mail)

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Quorn Warning

by David Rose, Pres., COMA
(reprinted from Spring,2002 "Spores Illustrated")

Remember the experiments designed by cognitive psychologists to make familiar food strange by dyeing it bright colors? My favorite was the green mashed potatoes. Psychologists concluded that people would not eat mashed potatoes dyed green because ... well, it looked pretty gross! Now, in the 2lst century an entrepreneurial phalanx of bioengineers, cognitive mycologists, and advanced marketing gurus have created — Quorn! *Quorn?* Pronounce it *kworn*. Marlow Foods Ltd. of Great Britain has launched its mycoprotein product Quorn in the U.S. market after years of successful sales in Europe. Described as a meat alternative that is "mushroom in origin" the Quorn line of products is manufactured and sold in the form of burgers, chicken-like nuggets, and prepared entrees like fettuccine Alfredo. Sound like *Laetiporus sulphureus?* Guess again.

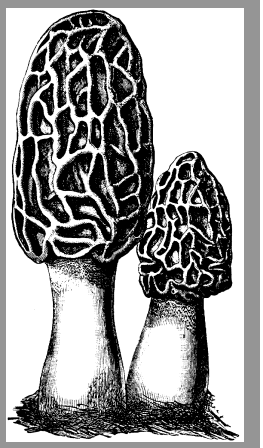
That Marlow Foods touts Quorn as a nutritious, high-protein meat substitute that is "mushroom in origin" piqued my curiosity. *What mushroom?* I wondered. A minute's web-search led me to the dire answer — *Fusarium venenatum*. Well, this is cause for reflection, for we know that the genus *Fusarium* includes species that produce dangerous mycotoxins (fumonisins) and it's certainly not an *agaric* so it's incorrect to call it a mushroom. That's alarming enough, but any mycologist who knows *spreta* from *pantherina* will tell you that *"venenatum"* means poisonous. Literally. Does Quorn suddenly seem less appealing? What *were* they thinking?

As for the name, synthetic *Quorn* is named for Quorn village in Leicestershire, England. As for the fungus, Developingfoods.com tells us "mycoprotein is derived from the RNA-reduced cells of *Fusarium venenatum* (PTA 2684) (Yoder & Christianson, 1998), a mushroom like plant originally discovered growing in a field in Buckinghamshire in the U.K. In the production process, *F. venenatum* is grown axenically in a continuous fermentation system using food-grade carbohydrate substrates and the mycelium is heat processed to reduce RNA content to safe levels." The USDA has given Quorn its "Generally Recognized As Safe" designation, but critics maintain that Quorn is deceptively packaged, has not been tested for allergenicity, and is loaded with saturated fats. Perhaps they'll turn to a low-fat breakfast product — call it *Quorn Flakes.*

As for the taxonomy of *Fusarium venenatum* I have no conclusive answer. Marlow Foods confirmed my query that Quorn derives from a strain of *F. venenatum*. Yoder and Christianson's abstract from *Fungal Genetics and Biology* (1998; 23(1):68-80) on the taxonomic status of the Quorn fungus supports identification as *F. venenatum* Nirenberg, but this begs the question why Nirenberg used *"venenatum."* If you can answer this, please write to *Spores Illustrated*. In the meantime, a little web research on *Fusarium* will provide a great education on everything from *Fusarium oxysporum* used herbicidally against coca crops in Columbia (see Mycoherbicide.net) to fumonisins implicated in cases of spina bifida in Brownsville, Texas. Mycology has given us a much stronger appreciation of the phylogenetic proximity of fungi and humans, leading vegetarians among us to suggest that mycophagy is tantamount to cannibalism. In that case, welcome to the future — Soylent Green has arrived.

FACTOID

Meriwether Lewis, co-leader of the Lewis and Clark expedition, expressed his opinion of *Morchella elata,* the Black Morel, in the following manner, according to Stephen Ambrose's best-seller, "*Undaunted Courage*": "roasted and eat without salt and pepper or grease in this way I had for the first time the true taste of the morell which is truly an insippid tasteless food."



Of course, without adequate preparation, many foods might be described in the same way. Or might it be that the iconic aura which surrounds this elusive ascomycete leads us to overrate it? Repeat his experience by trying it plain next time and decide for yourself.

Identifying the white *Lactarius*

By Joel Horman

There are four species of white colored *Lactarius* in our area (that I know of), all very similar in appearance and difficult to differentiate in the field, although a microscopic measurement of the spores will easily reveal the culprit's identity. Field guides show little agreement regarding their edibility, although some of these species seem to be eaten in Europe, but even there Bon (Mushrooms & Toadstools of Britain and NW Europe) describes them as "worthless" or "not of high quality". Bessette (Mushrooms of NE N.America) considers all but *L. vellereus* to be edible. Most agree that *L. piperatus v. glaucesans,* which has green drying latex, is suspect or poisonous. As far as I know, none of us has been courageous or foolhardy enough to experiment with the edibility of any of this quartet.

Nevertheless, it would be nice to identify them in the field, and to that end, I have drawn up the following table, which should make identification just a little easier. Information was drawn from several authors, as well as my own somewhat limited experience, but as this is a tentative effort, feedback from others, either positive or negative, would be welcome.

Lactarius deceptivus

	TASTE				
	LATEX	**CONTEXT**	**GILLS**	**STIPE**	**PILEUS**
Lactarius deceptivus (sp. 9-13 x 7-9)	Very Acrid	Very Acrid	Close to Subdistant Staining Brown	Short, staining brown.	Inrolled, cottony when young
L. piperatus (sp. 5-7 x 5-5.5)	Very Acrid	Very Acrid	Densely Crowded, Forked Staining Yellow	Cylindric, firm	Not inrolled Stained dull tan
L. vellereus (sp.7.5-10x6.5.-8.5)	Bitter/Mild	Very Acrid	Subdistant to distant Staining brown	Tapered toward base	Inrolled when young
L. subvellereus (sp. 7.5-9x5.5-7)	Acrid	Acrid	Close, Often Forked Staining tawny to red/br	Short; w/pinkish buff tones	Staying inrolled

Mycelia

from Steven Henry Madoff's

While We're Here

(Reprinted from Jan-Mar 02 "Mycelium", Newsletter of Mycological Society of Toronto)

Now they come,
rising from damp whorled cones of cedar, cypress,
from dank soil, needled earth, ant kingdom,
corbelled underworld of roots. Jack o' lantern,
chanterelles, or here, thick boletes and velvet blue spreads waste,
or the terrifying amanita, spumed and lethal.
Did they seem so mild?
They induced visions, death when swallowed.
Others smelled of apricot, with a look claimed
by flesh in the gray after light of autumn.
When you held them, their veined weight, waxy and slick,
was swollen, puffed like scaly, impossible eggs,
their slime soft as mud.
Spores explode
from splash cups or devil's urns,
and some migrate differently, the molds, doughwhite or crusted.
They drink until a bursting wall breeds the tubes
called hyphae that flow with proteins, water, carbohydrates,
oils, and bear their motile, sensing astrolabe for fungi,
the gametes,
which are sex cells that orient each hypha
toward its moon or sun, so they knit the threads
that fuse a mushroom's fruiting body. Some shed
abortive veils like doctors' gauze and rise in taffeta,
dead drunk at the ball, their flesh as pale as blood additive.

FAR AFIELD: A FORAY IN FRANCE

Would you like to participate in a mushroom hunt in the heart of France, while exploring bucolic fields and woods, and partaking of classic French cuisine? If so, the opportunity to do so arises this Autumn, when such a trip will be led by Claudine Michaud, of the NY Mycological Society, and our own Foray Chief, Jacques Brochard.

The first leg of the trip, led by Claudine, begins on the weekend of October 5th, when participants will join the Societe Mycologique du Limousin at their annual "La Fete de Champignons" in Lavavex Les Mines, a small village in La Creuse county. Accommodations will be at Monique et Marc, a bed and breakfast (chambre d'hôte) in Manor Sainte Marie, which will supply lodgings and all meals from Friday through Sunday at an approximate cost of $225. If desired, more upscale (but reasonable) accommodations are available at a nearby hotel that is a XVII century castle. The fete itself consists of mushroom forays Saturday morning and afternoon, with a banquet in the evening incorporating the gathered edibles; both "cepes" (*Boletus edulis)* and "girolles" (*Cantherellus cibarius)* are known to be abundant. Sunday will be devoted to identification of the previous days finds, and a celebration in the village.

The Limousin area is about 350 kilometers from Paris and transportation there can be accomplished by train(6 hours) or rental car. A high speed train takes only 2 hours at a cost of about 250 francs. Those detraining there will be picked up by Monique and Marc.

Jacques will be the leader of the following week's activities, and has reserved a van (for seven) and driver; an additional van can be se-

TRAINING REGIMEN *(Continued from page 1)*

places where you found shrooms b/4
- practice climbing over your neighbor's fence

4 weeks
- Prepare your equipment
- walk around the block once to get the heart beat going
- increase the shoe tying to 5-6 times a day

3 weeks
- begin nightly dreaming stage (usually associated with shroom'n)
- walk to the grocery and buy butter, crackers and brown bags
- let your dog out and watch him/her run and imagine keeping that pace for about 8 hours

2 weeks
- increase walk around the block to 3 times around block
- begin practicing out-loud "Got some over here!!"
- have your better half hide sponges in the yard and you

go find them

1 week

-rest up after following the stringent regimen above, sit back and wait for those babies to start popping up

around your feet!

Bulls-eye: Lyme disease Update

A new study in the Annals of Internal Medicine suggests that the "tell-tale sign" of Lyme Disease, a bull's eye rash, a red circle with a pale center, may not be the only form this rash can take. Any sort of local rash, whether circular or oval, that grows in size, sometimes unaccompanied by other signs, but also associated with mild fever, headache or flu-like symptoms, should be checked out. The study was based on data accumulated by trials for Lymerix, the Lyme disease vaccine that has now been withdrawn from the market, ostensibly for poor sales possibly a result of the 350 legal suits alleging serious reactions. But the trials discovered 118 cases unusually early and provided this study with cogent data. Apparently, many physicians are ignoring any but the classic bull's-eye rash in diagnosing the disease.

Mushroomers should be particularly vigilant on Long Island, which is a known area of high disease incidence. While dense fields of long grasses harbor the greatest concentration of ticks, they can also occur in woodland duff. Precautions should include treating clothes with a permethrin spray (Permanex), tucking trousers into socks, and insect spray (DEET) on exposed skin. High boots (Wellington-type) provide the best defense as ticks are unable to obtain a purchase on the smooth rubber. At foray's end, clothes and body should be scrupulously examined for deer ticks, (*Ixodes scapularis)* whose larvae are not much larger than the period at the end of this sentence.

Ixodes scapularis (larva)

A Foray is no Guarantee

Just a thought: A foray is no guarantee.
A wild mushroom "field trip, hunt, foray, walk, tour" or whatever one calls it, is not:
A guarantee, by the leader or host, that mushrooms will be found!
It is also not:
An effort to gather an abundance of any species, beyond one's personal needs.
It should be:
Considered a visit to an environment which is expected to produce mushrooms in the proper season, which provides an opportunity to observe them in their natural habitat, and to leam to identify them by actual "hands-on" methods, with help form other members of the group, and references to appropriate keys and books.
It should also be:
An enjoyable social event and a time of good fellowship with people who share a common interest in a specific feature of the outdoors.

(*Thanks to Ralph Hayford, Olympia, WA. for passing this on. From the web site of the Colorado Mycological Society*.

WELCOME NEW MEMBERS!

The Long Island Mycological Club is pleased to welcome the following new members:

Doris Fleischer
Sue and Sherry Gaeta
Debbie Torinese

FINDINGS AFIELD *(Continued from page 1)*

Tom Volk's website- www.botany.wisc.edu/toms_fungi- and scroll down to "Fungus of the Month" and then to May, 1999).

Considerable damage is caused by this fungus to commercial apple orchards, and by its congeners to various cereal crops such as barley and wheat. Sometimes the life cycle can be broken by eliminating the secondary host, such as barberry in the case of the wheat rust. More often, it is an ongoing struggle to develop new fungicides in a race against the genetic resistance of the infestation. Just such a Lilliputian drama may lurk behind your morning bowl of breakfast cereal.

Gleanings

■**FOR EVERYTHING THERE IS A SEASON:** We are all aware that the tremendous amount of spores released by the fungal fruiting bodies of Autumn do not have an immediate effect, and that many factors must coincide before released spores germinate. For the first time, it has been demonstrated that time itself can be a deciding factor. A study by M.C. Aime and O.K. Miller Jr. in the Canadian Journal of Botany showed a dormancy period of between 18 and 36 weeks for species of *Crepidotus,* which was uninfluenced by the manipulation of environmental factors. The majority of spores from fall-fruiting collections germinated during early spring, regardless of whether they were cultured immediately after harvesting or stored for one month or more.

■ **ANTI-FUNGAL CAN BE ANTI-HUMAN:** The commonly used agricultural anti-fungal compound Triphenyltin, or TPT, previously shown to produce tumors in rats, also can have deleterious effects on the human immune system. Killer T cells - a type of immune cell that destroys cancerous and other abnormal cells - were exposed to TPT and their potency against isolated human leukemia cells measured. After one hour of exposure, the killer T cells lost most of their destructive powers and more importantly, did not regain them after they were placed back in a solution without TPT. This finding also illustrates that the relationship between fungi and animals is closer than that between fungi and plants.

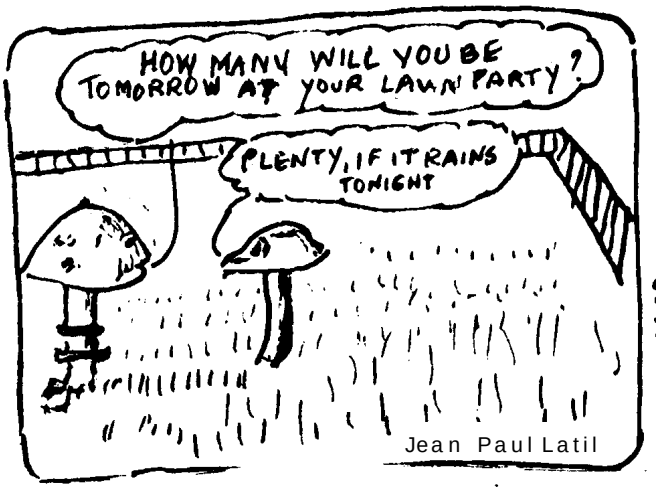
■ **FUNGAL FALLOUT MOP-UP:** Following the Chernobyl nuclear accident, inhabitants of the widespread fallout area were warned to avoid picking and eating wild mushrooms, because of their propensity to accumulate radioactive elements. Now, French scientists report that the mechanism of contamination involves a pigment known as norbadione A, which captures elements such as Caesium-137, and occurs in, among others, The Bay Bolete (*Boletus badius),* which soaks up as metals such as lead and mercury as well. This could lead to new ways of cleaning up contaminated soils to prevent pollutants from getting into the food chain, and is but the latest example of the use of fungi in bioremediation.

■ **TRUFFLES OF THE DESERT:** *Terfezia* and *Tirminia,* truffle-like species of hypogeous (underground) fruiting bodies only distantly related to true truffles (*Tuber)* are found in arid regions and were much appreciated by Ancient Greeks and Romans, who imported them from Carthage and Libya It is also speculated that they were the "Manna of the Israelites". Referred to by ancients like Theophrastus and Pliny by such terms as hydnum or misy, they are known locally as terfas and kames. They are white to yellowish brown truffles, rather soft and fleshy, and can grow to quite a large size, on average around 3–10 cm across, and may weigh from 60–150 gm, with an occasional specimen of 1000 gm (2 $^{1/2}$ lbs) .

■ **JOHNNY FUNGALSEED:** According to recent studies, the Southern red-backed mole of the Appalachians seems to subsist primarily on fungi, as determined by analysis of its fecal pellets. Spores of four genera were found: *Coprinus*, *Elaphomyces, Melanogaster and Hymenogaster* representing both hypogeous and epigeous species. This creature is probably an important disperser of fungal spores via its feces.

■ **DON'T KEEP US IN THE DARK:** A series of experiments by scientists at Kyoto University that exposed developing *Hebeloma radicosum* to varying conditions of light and dark established that this species was non-phototropic and negatively gravitotropic. That is, its direction of growth was uninfluenced by light and proceeded in the direction opposite to the pull of gravity. However, although pseudorhizas (rooting bases) formed in darkness, the fruiting body did not mature until exposed to light. These characteristics may be related to the growth habits of the fungus colonizing deep in the ground, and developing mature fruit-bodies above ground.

(Compiled by editor from various sources)



IN THIS ISSUE

"In all things of nature there is something of the marvelous."

Aristotle

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