LONG ISLAND MYCOLOGICAL CLUB

http://limyco.org

L.I. SPOREPRINT

Access our website for the color version.

VOLUME 17, NUMBER 2, SUMMER, 2010

NEW DEC REGULATIONS- MUSHROOM PICKING NOW PERMITTED

For many years, mushroomers have been stymied by the NYS Department of Environmental Conservation's strict interpretation of the section of the Land Management Law, Part 190.8 (g), which read: *No person shall deface, remove, destroy or otherwise injure in any manner whatsoever any tree, flower, shrub, fern, moss or other plant, rock, soil, fossil or mineral or found or growing on State land, [excepting] or under permit from the Commissioner of Environmental Conservation,* etc, etc. In the Long Island region, those persons who applied for a permit to access DEC controlled state lands for the purpose of e.g., hiking, received a pamphlet with the above admonition and with "mushrooms" added, making it clear that although fungi were not on the official list of prohibited forms, the DEC would consider them as such. As indeed they did, several accounts of citations for mushroom gathering being issued in the pine barrens (at $50 a clip) reaching our ears. This took place in both Edgewood Preserve and in the Rocky Pt Natural Resources area.

For a time, this effectively curtailed our collecting activities, although we knew full well that several

(Continued on page 7)

MUSHROOM IDENTIFICATION APPS FOR THE iPOD

Mushroomers have long yearned for a portable, preferably pocket-sized, reference for field use. Some have carried species keys and other self-made pictorial aids in this quest; others hoped for the development of a handheld DNA analyzer, a so-called bar code DNA reader, which at this point has yet to be developed, but which would be price prohibitive for most of us. As of this year, several amazingly economical programs for the iPhone and iPod have come into existence in rapid succession, permitting field mycologists to carry in their pocket a few ounce instrument with literally thousands of fungal portraits and descriptions, as well as simple keys and search functions. The remainder of this article is devoted to describing each of these programs in some detail for those iPod owners who might consider purchasing them. Two of them, "Fungi" and "Wild Mushrooms of North America & Europe" are identically priced at $1.99 (not a misprint) while the third "ID Mushroom Browser" is considerably more expensive at $14.99. My comments will emphasize details of the first two,

which I purchased and installed; because of its price and inadequate species database, I did not sample and do not recommend the latter.

"Fungi" describes itself as a mushroom identification application "which allows you to search among nearly 500 mushroom species using a dynamic description system based on hymenium type, stipe characters, spore print color and/or ecological type." It is based

(Continued on page 6)

PRESIDENT'S MESSAGE

Welcome to summer all you MDPs (Mushroom Deprived Persons.) I am an MDP, too. It seems that it was so long ago when we last found some edible mushrooms in the wild. A few of our recent forays have been cancelled due to dry conditions and I hope this trend does not continue.

There is some hope though. While there has not been the needed rainfalls that are necessary for fungus to flourish, there are some specimens appearing in really damp, thickly mossy areas. We found some beautiful *Hygrophorus marginatus* along the headwaters of Carman's River in Yaphank. I think they were all the more lovely because there was nothing else popping up. Unfortunately, such bottom lands are rare on Long Island.

Today while walking my neighborhood, *Russalas* were showing on a lot of the watered lawns as were some *Psathyrella condoleanna*. Our own chemical free lawn produced its annual crop of *Inocybe radiate.* Perhaps the rain gods will be good and really let us have it soon.

Ticks are around as are pesky insects. The worst for some of us are the chiggers. To illustrate the effectiveness on permethrin spray, I returned from an outing with chigger bites on only one foot, the result of forgetting to spray that sock! Please make sure you treat your clothes or use an insect spray before venturing out.. These creatures are out for blood!

Hope to see you along the trails in the near future.

EDITOR'S NOTE

Almost exactly one year ago, this column decried the widespread official policy of forbidding and sanctioning mushroom picking, despite its benign nature and exemplary "locavore" philosophy. While I expressed the hope that increased environmental awareness would eventually change that policy, it appeared that any modification of the rules was nothing more than wishful thinking.

Well, the unexpected has come to pass, which should not come as a surprise to mushroomers, for whom no year can be thought of as typical. We bring you the good news that the NYS Dept of Environmental Conservation has opened their acreage statewide to the gathering of wild mushrooms, berries, nuts and other edibles. (See the article on the front page for further details.) On L.I. DEC land amounts to over 7,000 acres.

This should not be taken as license for wholesale decimation of the fungal landscape. It is up to us to continue to be good stewards of the fungal resource; not to pick more than we can use, not to pick an entire fruiting; refrain from picking unopened or immature caps; and not to despoil the appearance of the environs.

MATERIAL FOR THE AUTUMN, 2010 EDITION SHOULD REACH THE EDITOR BY AUGUST 30TH

(Submissions may be forwarded by email in any format or typed.)

LONG ISLAND MYCOLOGICAL CLUB

President:Peggy Horman
Treasurer & Membership Secretary: Peggy Horman
(631) 744-4965 e-mail: owls2@optonline.net
Recording Secretary: Cathy Cresko
Foray Chairman: Jacques Brochard
Species Recorder: Bruce Eberle
Webmaster: Dale Robins
Science Adviser: Benjamin Wolfe, PhD cand.

Sporeprint Editor: Joel Horman
11Ramblewood Rd., Ridge, NY 11961
Tel: (631) 744-4965
e-mail: jlhorman@optonline.net
Editorial Ass't: Peggy Horman
Board Members: Bob Cresko,
Tony Mish, Roger Eklund
Leonard Schecter.

Mushrooms Making More Eco-friendly news!

(By Britt Bunyard– reprinted from Fungi magazine, Spring, 2010, by permission.

Barry and David Censi are long time members of LIMC, as was their late father, Sardo, a benefactor of our club whose company fabricated the display trays we use for our annual Mushroom Day at Planting Fields. It is fitting that their company is taking the lead in this important environmental innovation, particularly when we consider that the first commercial mushroom cultivation in the USA took place in 1881 in what was then Dosoris, L.I., now Glen Cove.)

In February, Paul Stamets received the President's Award from the Society for Ecological Restoration: Northwest Chapter, in recognition of his contributions to Ecological Restoration. Stamets, founder of Fungi Perfecti (www.fungi.com) and author of six books, including *Mycelium Running: How Mushrooms Can Help Save the World,* has pioneered the field of mushrooms as a tool for restoration, championing their importance to soil fertility and bioremediation. He has discovered and described four new species of mushrooms, and invented many techniques in the field of edible and medicinal mushroom cultivation. His work is highly significant to the field of conservation of the ancestral strains of mushrooms endemic to the Pacific Northwest.

Recently, Stamets announced his latest development: The Life Box.™ Stamets formed the Life Box Company, LLC for consumers (www.lifeboxcompany.com), and teamed with David and Barry Censi to create Planted Planet Productions, a wholesale business for companies. Their combined expertise could help save the planet. The Life Box reinvents the cardboard box . Within the corrugations are hundreds of tree seeds and thousands of mycorrhizal fungi spores*. Once a customer receives the package's contents, the "shovel-ready" box is torn up, planted, and tree seedlings emerge. After the baby trees emerge, you can transplant them wherever you like (even to other land if you don't have the space). So the Life Box can be made to virtually any dimension of a regular box. It does not increase the cost of shipping, and the tree mix has been approved by the Department of Agriculture for planting in every state in the continental United States (not Hawaii), and Canada. (Of the ten species of trees each Life Box hosts including birches, alders, pines, hemlocks, cedars and others approximately 25% will survive in 90% of the continental United States.)

The Life Box is manufactured in the U.S. using recycled cardboard and soy-based inks. For

those concerned about the health of the planet, Life Box empowers people with a solution that comes via UPS, FedEx, the U.S. Postal Service or other carriers. According to Stamets, a mere 1—2% share of the cardboard box market in the US could cover up to 25,000 acres of land per week with cardboard. After Year Two the baby trees are planted about 30 feet apart. Of the hundreds of tree seeds in each box, if only one survives for 30 years, approximately one ton of carbon is sequestered. Therefore, the potential for coverage with trees coming from Life Boxes expands from 25,000 acres to 25,000,000 acres per week. No matter how you do the math, the implications are massively positive.

Once the trees are planted in the ground, you can go to www.lifeboxcompany.com and enter your GPS coordinates. As satellite imaging improves, you and Future generations will be able to see the emerging trees and track carbon credits or offsets. Additional information about Life Box by email to info@lifeboxcompany. com or david. c@planted-planet.com.

**(As far as I can ascertain, the mycorrhizal fungi are mostly endophytes and Rhizopogon sp. (hypogeous) so a harvest of edible fungi is not to be expected. Editor.)*

MANAGING MUSHROOMING RISKS IN THE USA

Last year, LIMC participated in a risk management survey carried out by Andrus Voitk and Sue Sullivan for Fungi magazine, where it was subsequently published in the Fall 2009 issue; it may be accessed and read in its entirety at http://www.fungimag.com/risk-mgmt.htm. Of the 60 odd clubs queried only half responded, which ranged in size from 15 to 600 members. Among the risks addressed were poisoning, bodily injuries from falls, insects, plants (e.g., poison ivy), getting lost, etc. Not all clubs deal specifically with all these issues in the sense of having procedures in place to control or minimize them, or to transfer the risk (i.e., by insurance.) Responses to the questionnaire were collected, and calculations of statistical significance made. Below is a summary of the findings.

The average club was established in 1982 and has 135 members, with an executive board of 7, and charges an annual membership fee of $16. The number of foray participants average 26 (range 5 to 55). 45% of clubs are incorporated and 21% (6 of 30 clubs) carry insurance. 62% of clubs keep voucher specimens of their collections. While more than 80% of all clubs give advice about conditions and dangers, teach identification of edible and poisonous mushrooms, and use microscopes to aid identification*, there is no agreement about risk management practices. Like most clubs, LIMC permits members to contribute to wild mushroom meal preparation, at least at our annual picnic. We are in the middle when it comes to allowing non-members to participate in forays, since most clubs do so, and we limit the number of invited guests members can bring. In the authors opinion, the usual membership fee is so small that making it part of foray registration does not seem unreasonable.

While certain risks cannot be avoided, for example, going into wild areas to collect mushrooms, the authors suggest ways that others can be minimized. For example, the risk of mushroom tasting can be reduced by having a clear policy of who can contribute them; who can identify them; which species are acceptable, etc. The duties and responsibilities of foray leaders should be made explicit, and they should not be placed in situations beyond their capability. All untoward incidents should be reported, either formally or informally. Wherever necessary, maps and orienteering equipment (compass, GPS units) should be available, and cell phones available for emergency use. Two-way radios and whistles for all participants may also be useful in remote areas, which admittedly are few on L.I., although the Pine Barrens are an exception. When concentrating on finding fungi, it is not difficult to get lost, and preventive measures (such as a requirement that the group stay together) and a response protocol should be in place. Above all, full disclosure of all the possible risks should be made to participants, so that they may make a fully informed decision as to whether to participate. Lastly, a waiver should be signed in advance of the event, one that uses plain language, provides pertinent information, and advises the participant of risk. I believe our club fulfills most of these requirements, but would like to hear from those members who think that there is room for improvement in specific areas.

A follow-up survey is planned in about 2 years which hopes to develop a meaningful risk management index, and LIMC will participate.

*(Compare this with a 2008 survey of mushroom club members conducted by Prof. R. Bixler of Clemson Univ. which reported that 20% of members owned microscopes.)

The premier guide to Boletes in North America, first published in 2000 at a price of $90 has now been made available by Syracuse University Press as a paperback for $45. Even better, it can be preordered at Amazon for $29, shipping included, and is scheduled to be available later this month.

Often, scheduled publication dates are postponed, but at this price, it should be worth the wait.

Gleanings

■ SUILLUS THE HARD WAY: A new species of Suillus was discovered in 2002 fruiting in the northern Channel Islands of California, which has been named *Suillus quiescens,* and which closely resembles *Suillus brevipes* macroscopically. Although it is not often encountered as a fruiting body, recent soil assays which utilized DNA sequencing found it to occur not only in coastal California, but throughout the eastern Sierra Nevada, coastal Oregon and the southern Cascades. It may also be overlooked due to its close resemblance to *S. brevipes* from which it can be distinguished by its lighter cap color and glandular stipe spots. DNA analysis verifies it as a new species not closely related to *S. brevipes. (Suillus quiescens, a new sp. commonly found in the Spore Bank in CA & OR.,TDBruns et al.,Mycologia, 102(2), 2010, pp.438-446)*

■ **GO TO THE ANT….AND BE WISE:** It has been 10 years since the discovery that fungus farming ants have a bacteria repository on their bodies that secrete an antibiotic to combat the parasitic fungi that attack their crop. Now one of the antifungal has been isolated; christened Dentigerumycin, it slows the growth of drug-resistant *Candida albicans,* which causes yeast infections in humans. Further research is planned on the mechanism by which the ant's fungal partner digests the leaf cellulose, with the aim of producing biofuels more efficiently. *(Fungus farmers show way to new drugs, Nature,. London: Apr 2,2009.Vol. 458, Iss. 7238; pg. 558)*

■ A COLORFUL FUNGAL GIFT: Inasmuch as animals cannot produce carotenids, the compounds which are responsible for e.g., the pink color of flamingos, they are ultimately dependent upon a plant source in their food supply. Not so with the pea aphid, *Acyrthosiphon pisum,* which carries in its genome the genes responsible for their coloration, which can switch from red to green in a generation depending upon environmental influences. Amazingly, DNA analysis has revealed that the aphid carotenoid genes are most closely related to fungal genes from genera such as *Mucor* and *Ustilago,* reflective of a past episode of direct gene transfer from a fungus to an aphid. *(Lateral Transfer of Genes from Fungi Underlies Carotenoid Production in Aphids, Science, 328 (5978), 624-627)*

■ A NEW GENUS (MULTIFURCA) AND AN OLD NAME (LACTIFLUUS): To accommodate a group of rare species with characteristics intermediate between *Russula* and *Lactarius,* the genus *Multifurca* has been proposed, which will include (the former) *Lactarius furcatus* as well as several *Russula* species*: R.aurantiophylla, R. zonaria, R. ochricompacta;* and a newly described species, *Multifurca roxburghiae* from India. This will not burden most of us with the task of learning new names. Not directly, that is. But a related proposal by Bart Buyck et al (Taxon, Feb 2010) to conserve the name *Lactrius* by selecting *Lactarius torminosus* as the type specimen means that the group (clade) that contains *Lactarius piperatus* reverts to the old name *Lactifluus.* Henceforth, we must therefore refer to *Lactifluus vellereus, Lactifluus volemus, Lactifluus corrugis*, and *Lactifluus gerardii. (Walking the thin line between Russula and Lactarius: the dilemma of Russula subsect. Ochricompactae, B. Buyck et al, Fungal Diversity, publ online, Jan 31, 2008)*

■ WOOL GATHERING: Hidden macrocharacters dividing species do not often originate with practical usage, but they did in this case, where wool dyers in Sweden found that what was purportedly one species, *Sarcodon imbricatus,* produced superior dyes when found in conjunction with *Pinus sylvestris (*Scotch Pine) rather than *Picea abies (*Norway Spruce). Sure enough, a closer look by researchers found two different species, *Sarcodon imbricatus* being associated with Norway Spruce and *Sarcodon squamosus* with Pine, a distinction verified by both DNA and macroscopic characters; microscopically identical. *S. squamosus* is described as differing in the field by a long-enduring incurved cap edge, darker (blackish-brown) and smaller scales which are not pointed in the center, a shorter stipe attenuated at the base, and slightly decurrent shorter spines. In the author's opinion, *S. imbricatus* is "probably absent in in countries where spruce does not occur naturally". Which seems to leave open the question of which species actually occurs in North America. We look forward to hearing more on this topic from motivated researchers. *(Sarcodon imbricatus and S. squamosus – two confused species, H. Johannesson et al, Mycol. Res. 103 (11): 1447–1452 (1999)*

(Compiled by editor from above cited sources)

Mushroom I.D. Apps *(Cont'd from page 1)*

upon Wikipedia entries, and users with wifi or 3G access can access the complete Wikipedia page of a designated species. However, the downloaded application itself has sufficient descriptive functionality on its own when no network is available. Above is a snapshot of the iPod screen showing an illustrative example of what may be expected at the conclusion of a search or merely by browsing species. The search function is limited in that text body cannot be searched for a particular characteristic, e.g., taste or odor, but that is true of all these programs. Inasmuch as the taxonomical information is based upon the latest Wikipedia entries, it is up to date and incorporates the latest revisions; for example, *Coprinellus* and *Coprinopsis* is used to refer to taxa that continue to be labeled *Coprinus* in the Roger Phillips "Wild Mushrooms" app, which is based upon his existing guides of 1981 and 1991, and the taxonomy that was

then accepted. A minor annoyance with this program is that each initialization requires one to check a box agreeing to a waiver of liability. Another is a lack of the usual iPod functionality permitting a photo to be enlarged with a flick of the fingers. The database is a hodge-podge of species of various geographic origin, including Australia and Japan. A "References" tab is a valuable feature (not available in Phillips) which lists documentation for each species which the user can follow up.

When the Roger Phillips app was recently made available, I was floored. Not only is his entire "Mushrooms & Other Fungi of N.A." incorporated into this app, along with all its photographs and text descriptions, but also the entire volume of his "Mushrooms & Other Fungi of Great Britain & Europe" as well! Moreover, additional photos from his website are included as well, for a total of "some 2,400 photographs of over 1,550 Wild Mushrooms and other fungi." Those of us who remember the out of print first edition of the North American volume being offered for sale on ebay for over $100 can only marvel. Happily, full screen functionality is incorporated, so that both text and photos can be enlarged by a finger flick. Despite my praises, the program is not without fault, particularly in its search functions. Like "Fungi" a visual key is provided which enables one to search by clicking on one of three choices: white or light spore print color; dark spore print color; or non-gilled fungi. Each choice will bring up a page of illustrations of various families or genera (Boletes, Clavarias, Collybia, Psathyrella, etc.) but without always specifying the exact color of the spore. Choosing one of these will bring up the entire available array of a genus, for example, 134 species of Boleteaceae, which one must skim through one by one without being able to enlist any further criteria. (By contrast, the Fungi's smaller database provides only 43 species.) Although a dichotomous key would have been most helpful, the programmer was no doubt limited to available material, and the Phillips books have no species keys.

Another search function is called "Easy Key" and permits a search by the attributes of Location (NA or Europe), Edibility, Fungus Color, Size, Cap Type, Stem Type, Flesh (texture and latex), Spore Color, and Habitat. While this seems promising, and on occasion works well, more often than not it does not perform as it should, mixing in undesired attributes. Hopefully, future upgrades will improve this fault, and the developer provides a web site address for submitting suggestions.

Comparing the two main contenders, the Phillips app is clearly the winner. Nevertheless, the Wikipedia based "Fungi" has its strong points, its current taxonomy being foremost. And while the information furnished is uneven, being sparse in some species and extravagantly detailed in others, it can be very useful in the latter case, particularly when discussing the difference between similar species. In this area, it can be considered complementary to Phillips. And considering the very economical price,

(Continued on page 7)

NEW DEC REG'S

(Continued from page 1)

long term research studies had demonstrated the complete lack of detrimental effects from repeated mushroom harvests. In other words, the common sense conclusion that picking mushrooms did as little harm to subsequent harvests as did picking fruit from a tree was scientifically demonstrated. Several years ago, we were able to recommence collecting when with the help of Dr. Timothy Green of the Foundation for Ecological Research in the Northeast, we were issued a DEC permit in order to collect for several research projects and for the NYS Museum.

DEC has now come to its senses. After eliciting input from various organizations (FERN among them) and individuals, the above quoted regulation has been revised to read as follows: *No person shall deface, remove, destroy or otherwise injure in any manner whatsoever any tree, flower, shrub, fern, fungi or other plant organisms, moss or other plant, rock, soil, fossil or mineral or object of archaeological or paleontological interest found or growing on State land, [excepting] except for personal consumption or under permit from the Commissioner of Environmental Conservation,* etc. THESE CHANGES NOW PERMIT ONE TO GATHER EDIBLE PLANTS AND MUSHROOMS FOR PERSONAL CONSUMPTION. The irony is that collection for any other purpose, e.g., nature study or education is not recognized as legitimate and would probably be considered under their bureaucratic categories as a research project, requiring a "Temporary Revocable Permit". So now we must consume first and study second!

Another troubling aspect is the lingering desire of those in authority to maintain their powers, even in the face of changes in the law. Although in this context it is trivial, compared for example to changes regarding desegregation, the underlying motivation is similar. When I inquired regarding the new regulations, the DEC's Principal Forester, Robert Messenger, agreed that while personal collection was permitted, "the amount which you are permitted to gather is not specified" and "if you pick what you can consume in one sitting, most Forest Rangers will see that as being in compliance with the regulations. Picking enough to take home and can or freeze is likely to be viewed as violating the regulations." I believe that Mr. Messenger is sending the wrong message, and I for one am willing to test this in court. "Personal consumption" is a vague term, and could certainly be legitimately interpreted to mean one's future consumption, or family's consumption. Legally, unless one is carting out truckloads, it would be difficult to prove that one was harvesting for commercial as opposed to personal usage. The foray rules of LIMC emphasize conservation mindedness and requests that harvesting be limited to mature caps and that overharvesting be avoided.

It is instructive to note that our National Forests permit non-commercial gathering in amounts ranging from one to three gallons per person, with greater amounts requiring a commercial permit, available at $20 for a 10 day minimum, and $50 annually. Our neighbor, Pennsylvania, permits the gathering of "edible fruits, nuts, berries and fungi, in reasonable amounts…" England allows collection of up to 3.3 lbs of mushrooms for personal consumption.

Despite what are minor reservations, this is a very welcome and long overdue change in the law. As publicization has been minimal the news may not have reached every conservation officer in the field. Perhaps it would be best to have a copy of the revised regulations on hand; they may be downloaded from the DEC website at http://www.dec.ny.gov/regs/4081.html#12996 Additionally, make sure that your DEC access permit is not expired, and that it is prominently displayed on your vehicle as well as carried on your person.

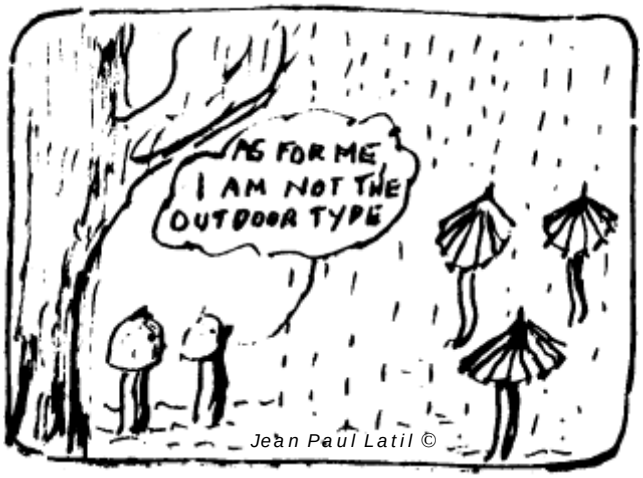
Mushroom I.D. Apps

(Continued from page 6)

there is no reason not to have both these programs. If purchasing "Fungi" for the iPod take care not to download "Fungi Kingdom" which is designed for the IPad and is higher priced.

Lastly, several European guides are available, "Pilzführer" in German, and "iChampi" (French, with English version available) which also claims to allow one to share one's spots with others– not a desire prominent in most collectors minds! "iFunch" is available in English and Italian for $.99, and claims a 254 species database of "photos taken by fans throughout the world" and a "fast identification system based on morphological and color features". Inasmuch as the first version caused crashes, I was reluctant to download it.

An app to avoid is one titled" Common Choice Wild Edible Mushrooms", which (priced at $6.99) received only poor ratings from users on the Apple iTunes website, who considered it a waste of money. Another app "Morel Mushroom Hunting Secrets" by the same developer, Chris Matherly, was also considered inferior and disappointing by the majority of users.



IN THIS ISSUE

"To see what is in front of one's nose needs a constant struggle."

George Orwell

LONG ISLAND MYCOLOGICAL CLUB
11 RAMBLEWOOD RD.
RIDGE, NY 11961