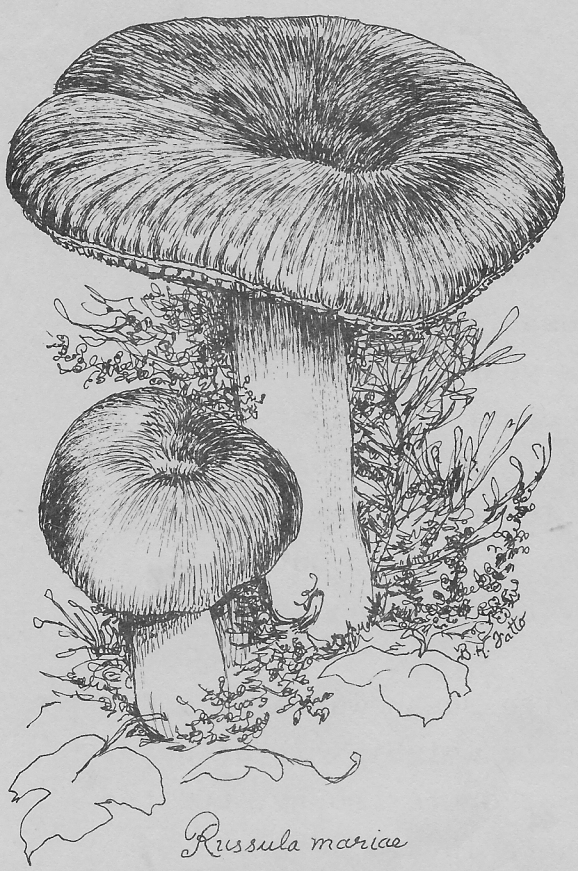

NJMA NEWS

New Jersey Mycological Assn.

JUL-AUG 1988 Vol.18 No.4

OFFICERS: Bob Hosh, President
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DUES: Family: $15.00 per year, individual $10.00. Mail check, payable to NJMA, to Grete Turchick,

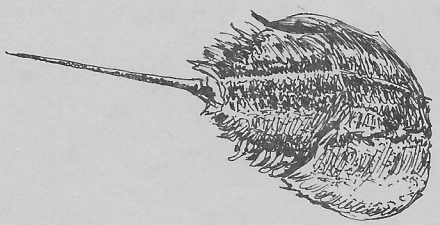
NEWSLETTER DEADLINES: Feb.10, April 10, June 10, Aug.10, Oct.10, Dec 10

CALENDAR OF EVENTS

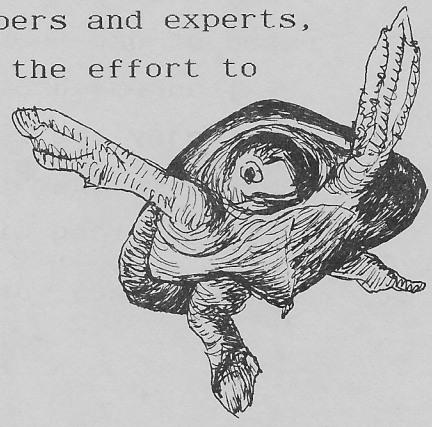
JULY 17	Shark River Foray
JULY 30	NJMA Culinary Group- Southern Bar B-Q see inside.
JULY 31	Meadow Woods Foray
Aug.4-7	N.E.Myc.Foray, Rhode Island - last chance to sign up!
AUG. 14	Stevens State Park Foray
AUG. 28	Holmdel Park Foray
SEPT. 11	Echo Hill Foray

ALL FORAYS BEGIN AT 10.00am, SEE PREVIOUS ISSUE FOR DIRECTIONS.

The Foray season is upon us, remember that this is your best chance to learn mushrooms at first hand from old time members and experts, it is far better than the best guide book, do make the effort to attend forays and you will reap the benefits.



See you at the Northeast Foray in Rhode Island!



MORELS...MORELS...MORELS...MORELS...MORELS...MORELS...MORELS...MORELS

1988 was a paradoxical year for moreling with very mixed reports from club members as to their success and of the relative abundance of morels. Many seemed to feel that they were down from the super-abundance of 1987 and it is true that some areas did seem rather sparce. Indeed some members reported (Bob Hosh) that an area which was prolific last year was non-existent this year. However others seemed to have no difficulty at all and, as usual, foremost among these was Grete Turchick! With Grete you don't talk in dozens, or even in hundreds - its always in thousands! To quote from her brief but to the point news bulletins: "Found 2,054 at last count, some 8½" tall and 13" around (its true!), still very fresh and good." This was dated around the end of May.

One of your editors (G.Kibby) and his wife Susan was also very successful with a total of a around 1000 morels weighing in at nearly 30lbs. Our largest specimens equalled those of Grete (sorry, but the best I can reveal of whereabouts is: "somewhere in New Jersey".

We received a charming report from relatively new member Joe Latorraca,Jr. on his exploits in Hunterdon County and we are quoting it in full as an example to all of dedication and bravery in the face of obstacles (briars, ticks, poison ivy etc).

MOREL REPORT FROM HUNTERDON COUNTY

Here 'tis May 30th and, I think the 1988 Morel season is now history. In Clinton Township, Ron Grabowiecki & wife Cindy picked 40 Morels on April 18th. I collected my first morels on April 25th (60 dandies). From that date on (total of 32 hrs. in the field) I hunted and collected approximately 500 morels. Eleanor and I enjoyed most of them the same evening.....what a delight. The others I dried for 9 hours at 110 degrees in my home-made "oven" which Bob Hosh demonstrated at our February meeting.

Thanks much Bob....my cost for the oven was $3.75. Eleanor & I will enjoy the reconstituted Morels in the months ahead. Fellow memers, my summary of the 1988 Morel season...."FAIR", the ticks which go along with theMorel hunting...EXCELLENT! 5-6 on each foray.

Joe Latorraca, Jr. "The Hunterdon Fungus"

POISONING BY "GERMAN BROWNS".....by Sam Ristich

At 10.30PM the poison control center in Portland, Maine, called to tell me they had a person who had been vomiting for two hours after he ate "German Browns". German Browns? What in Hell are "German Browns"? I remarked! Describe what you have in hand". His description left no doubt these were Gyromitra.

The next day I drove to West Portland to interview Milton Temple Here is what I found. Milton was 20 years old. He picked a bag of "German Browns" - which I recognized as Gyromitra. The most common species in the bag was G.esculenta, but there were two light tan, unexpanded G.fastigiata look-alikes. He had eaten the same species twice before this Spring.

He prepared 8 from this batch as follows: (1) steamed twice and discarded the water (2) sauteed for 20 minutes. Milton ate this mushroom mixture in the morning around 9.00 AM. At noon he ate lunch and had an alcoholic beverage. Nine hours later he had a fever, felt nauseated and began to sweat. He began vomiting at about 15 minute intervals for several hours. After 2 hours of this torture his mother had him admitted to the hospital. The hospital held him under observation for 4 hours and gave him a series of tests. They released him after the tests.

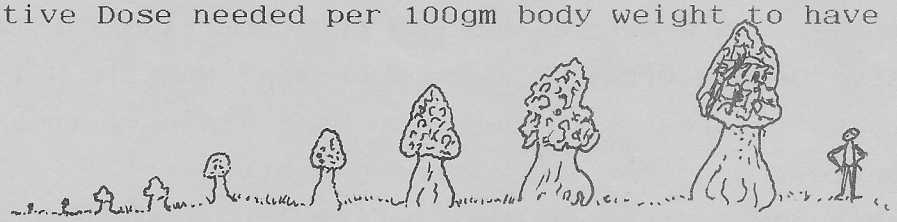
When I saw him the next day he looked like he had gone 10 rounds with Sugar Ray Leonard but remarked that except for a very sore stomach he did not feel weak or nauseated!

I learned the following addittional information, he and his father had been eating the same (?) species of Gyromitra for 5 years. This year his father and aunt ate the sauteed Gyromitra - his father fromanother picking, his aunt from his batch - she ate only a few and felt nauseated.

Conclusions and enigmas.

I checked the mushrooms microscopically. Even the fastigiata look-alikes had typical esculenta spores. If monomethylhydrazine (MMH) (=rocket fuel) is water soluble and volatile, why wasn't the toxin diluted and volatizd by 2 steaming operations (lid on pot) and 20 minutes of sauteeing. Or what toxin induced a fever, sweating, nausea and severe vomiting in Milton's body 9 hours after he ate the mixture of G.esculenta for the third time in several weeks?

In Milton's case (and in others reported in the literature) I believe there is an ED100 threshold either to a build up of a toxin or to a super sensitive allergic reaction. (Eds. note: ED100 is the Effective Dose needed per 100gm body weight to have a toxic effect.)



MORE MORELS

Still on the theme of morels we reproduce below an article which appeared in the food/nutrition section of the Star Ledger, May 15 1988, by Iris Bailin which discusses the recent success and forthcoming commercialization of cultivating morels.

Domesticating the wild morel

By IRIS BAILIN

Hunting wild morels can be great fun on a glorious spring day, even when the hunt is fruitless. But sometimes you wish you could just go out and pick up some of the edible fungi at the supermarket. That day isn't far off.

Morels have been domesticated by a team at Michigan State University and may be on the market within a year, said mycologist (mushroom expert) and project leader Dr. Gary Mills. Mills is a visiting assistant professor at the university.

The idea of cultivating morels isn't new; mycologists have been attempting it for years. But it wasn't until Ronald D. Ower conducted the successful experiments in his San Francisco home that serious organized research began. Ower's is the classic tale of the brilliant but maligned inventor—with a tragic twist.

The story begins in 1982, when the journal Mycologia ran a short article about a fellow who had grown morels indoors. Ower had just completed a master's degree at San Francisco State University and wasn't even working in a major lab.

The announcement met with skepticism. "A lot of people didn't believe a person like him could do it," said Mills. "After all, a lot of large companies had tried it unsuccessfully. I was one of the people who did believe it, and a group at Michigan State also were believers."

The group asked Neogen Corp., a Lansing, Mich., biotechnology company, to fund an attempt to duplicate Ower's results. Neogen arranged a collaboration with Ower, and within three to four months, the group had grown morels.

In 1983, Neogen gave the university a substantial grant to continue the research and set up a lab for Ower in San Francisco. Over the next two years, research focused on "scaling up" the technology for commercial use, said Mills.

At that stage there was some concern about the idea being stolen, he said, but enough steps are involved in the process that it wouldn't have been easy. He declined to say how the mushrooms are actually grown.

The group filed for a patent in December 1985, but before it was issued six months later, a tragedy occurred. Ower was killed during a mugging. "He never got to enjoy the fruits of his labor," said Mills. "People thought he was a crackpot."

After the patent was issued, research continued. The group now is growing white morels on a "semi-commercial level" and expects to license growers to produce the mushrooms within a year, Mills said.

Because building new facilities is expensive, the company hopes to interest established mushroom growers in devoting space to the newly tamed fungi. The morels initially will command about $15 a pound, said Mills. "I'm almost positive the price will drop after that."

As funders of the project, Neogen and its three partners could reap considerable financial rewards from the licensing. The other investors include the Salk Institute of Biological Associates, La Jolla, Calif.; Scandigen, a Swedish biotechnology company; and Kuhn Champignon, a Swiss mushroom producer also conducting research.

PHOTO CONTEST

Just a reminder to get out there now and start taking pictures for our winter photo contest, it will be here before you know it. Plus you can help our club by taking shots of mushrooms for the slide library, there are all sorts of species we dont have photos of, maybe you have come across something that could benefit everyone. Go get that film!

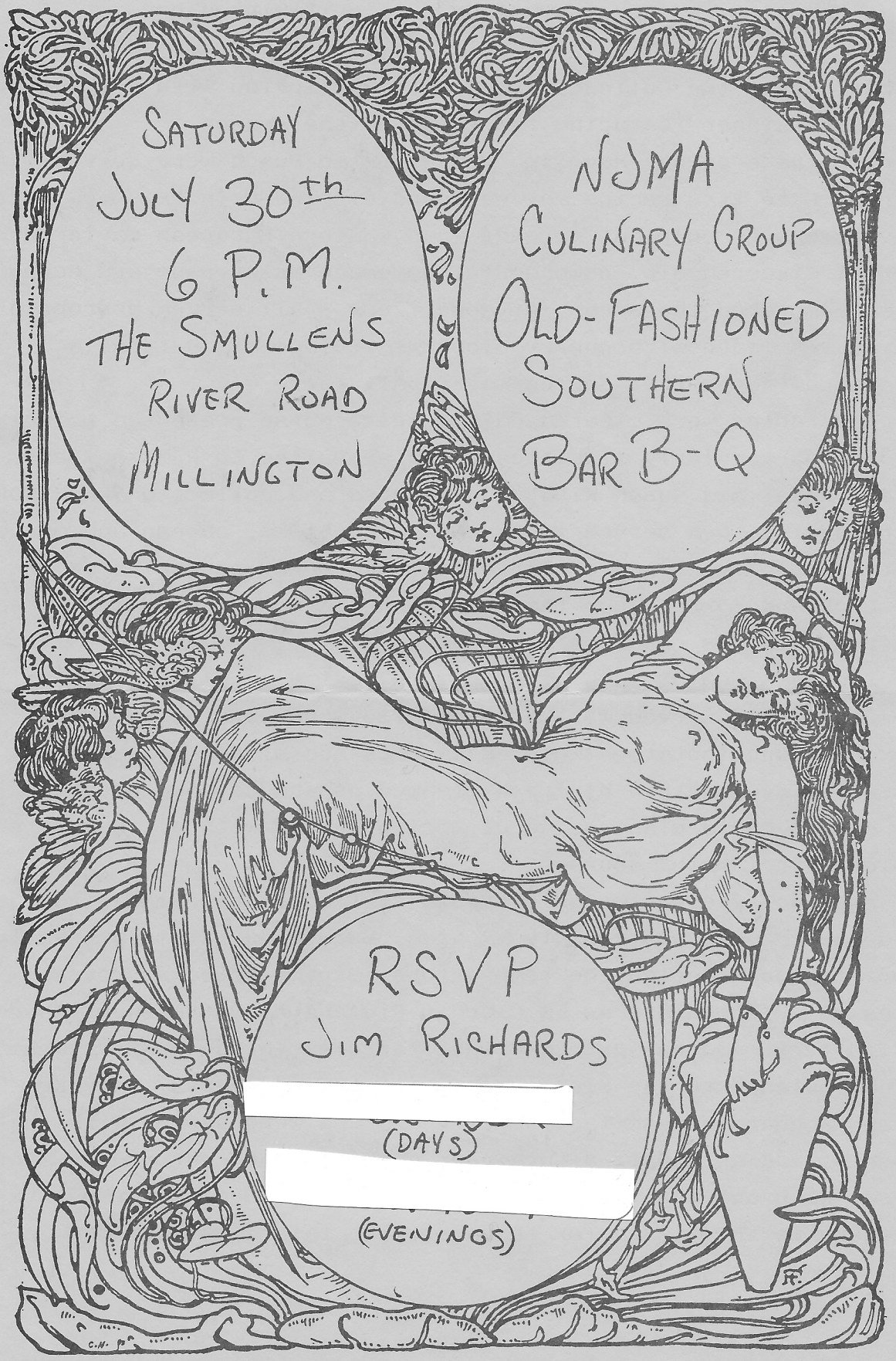
SPRING COMES TO THE CULINARY GROUP.....by JIM RICHARDS

On April 30th, the Culinary Group welcomed Spring with a spectactularly successful dinner featuring the foods of the season.
To begin the evening, May-wine and Mint-tea Punch were served with a Mushroom Paté (the recipe may be found elsewhere in this newsletter), two versions of eggplant spreads - an Eastern European Caviar and an Oriental Gingered dip. A wonderful homemade Mascarpone and Gorgonzola spread completed the array of appetizers - all served appropriately from tables laden with cherry blossoms, tulips and daffodils - welcome reminders that Spring was finally here.

The tables were clearedand the next course presented - including one dish particularly significant and appealing to NJMA members. Maurice Russi and Susan Kibby had located and collected FRESH MORELS which Maurice then served in a sauce with cream, cheese and sun dried tomatoes over two kinds of fettucine. Accompanying the pasta was a cold Leek and Sorrel Soup that Bob Hosh had made from main ingredients gathered from his garden.

Boneless Leg of Lamb stuffed with veal mousseline with Shiitake and spinach and served with a Bordelaise Sauce and accompanied by oven-browned potatoes, glazed carrots and slices of the veal mousseline. A mountain of fresh steamed asparagus; new potatoes in sour cream, and a giant salad of Spring greens with a vinagrette completed the "main" course.

Amazingly, even though everyone claimed to have eaten too much the dessert table was rapidly emptied. But, then it is not really surprising considering the temptations: Strawberries as mousse and as snow, Chocolate as in C.Cream Pie and as Bittersweet Chocolate Truffle tart. Adding just the right tartness to the festivities and a great balance to the richness of the other desserts, were Key Lime Pie and Rhubarb-cheese Tart. Coffee and tea were served with the desserts, and as usual, afterdinner conversation centered on - of course- when and what will the next Culinary Group dinner be. (see elsewhere in this issue for the answer to this question).


SATURDAY
JULY 30th
6 P.M.
THE SMULLENS
RIVER ROAD
MILLINGTON
NJMA
CULINARY GROUP
OLD-FASHIONED
SOUTHERN
BAR B-Q
RSVP
JIM RICHARDS
(DAYS)
(EVENINGS)

MUSHROOM PATE

4 Tbs. unsalted butter, at room temperature
8 oz. mushrooms, cleaned and finely chopped
1½ tsp finely chopped garlic
¼ cup finely chopped scallions, whiteparts only
1/3 cup chicken stock
4 oz. cream cheese, at room temperature
2 Tbs. finely minced fresh chives or green scallion tops
Salt and pepper, to taste
1 tsp. chopped chives or green scallion tops, for garnish
Toast points, or crackers

1. Melt 2 tablespoons of the butter in a medium size skillet over high heat. When it is hot add the chopped mushrooms and saute 2 or 3 minutes. Add the chicken stock and cook over high heat until all liquid has evaporated, 4 to 5 minutes. Let the mushroom mixture cool to room temperature.

2. Combine the cream cheese and remaining 2 tablespoons of butter in a mixing bowl and stir to mix well. Add the mushroom mixture, minced chives, and salt and pepper. Mix well. Fill a 1 cup crockery bowl with the mushroom mixture. Cover with plastic wrap and refrigerate until needed. (The pate can be made a day in advance to this point.)

3. When ready to serve, sprinkle the pate with chopped chives and garnish with toast points. Belgian endive may be used in addition to, or in place of, the toast points.

Recipe from Betty Rosbottom's Cooking School Cookbook, (Workman Publishing, 1987)

Prepared by Al Northup and served at the Culinary Group's Spring Dinner.

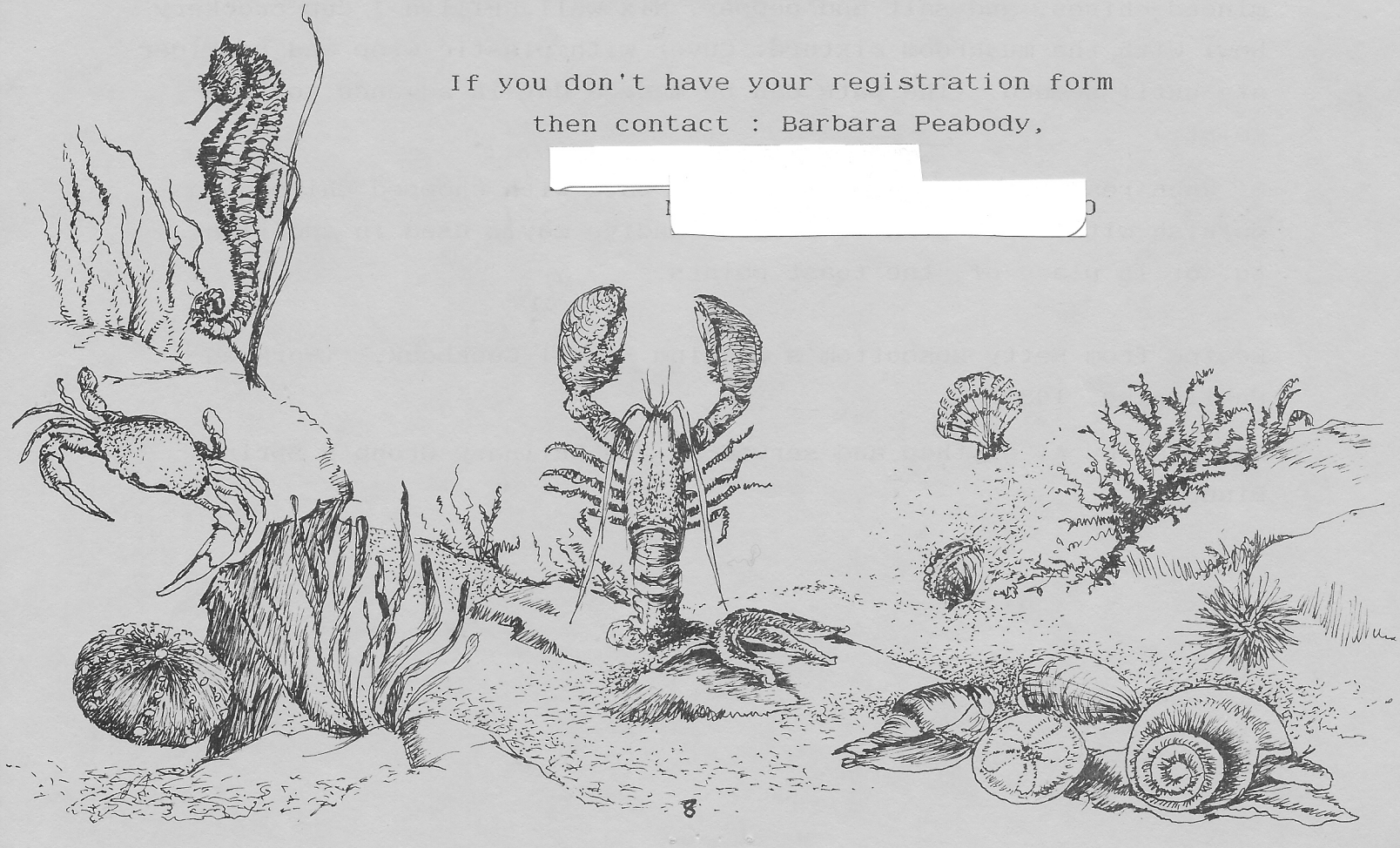
1988 NORTHEASTERN MYCOLOGICAL FORAY - last chance to sign up!

AUGUST 4-7, UNIVERSITY OF RHODE ISLAND, KINGSTON

If you did not complete the registration form that was enclosed in the previous issue then quite soon it will be too late to register at all. Any applications received after July 18 will be RETURNED. That would be a shame since this is the premier event of its kind in the country, a chance to immerse yourself in every aspect of mushrooming for a weekend with beginners and experts alike. 12 consulting mycologists and 12 special guests will be attending and available to aid you in your endeavours. Lectures will be given all through the weekend on every aspect of mycology from cookery to tropical fungi, from how to use a microscope to the effects of acid rain on fungi. Forays will be led both morning and afternoon and highlights of the weekend include an old fashioned New England Clam Bake, all part of your registration fee! Special guest mycologist will be Dr Roy Watling, one of the worlds most erudite, charming and instructive mycologists, if you miss this chance you are just plain dumb!

So send in your registration while there is still time, it will be an experience you will remember all year long.

If you don't have your registration form
then contact : Barbara Peabody,



What is the Mushroom North Americans Have Been Calling ''Amanita caesarea''?

Rod Tulloss

[redacted]

At the 1984 Northeast Mycological Foray (NEMF84) in Glassboro, those present heard Dr. C. Bas (Rijksherbarium, Leiden) state that, in his opinion, there is no specific difference between the Southeast Asian Amanita hemibapha subsp. hemibapha and the mushroom most North American field guides have been calling Amanita caesarea. At the 1985 NEMF in Oneonta, we heard Dr. R. Pomerleau describe his reasons for distinguishing the North American entity from the European caesarea. Dr. Pomerleau first applied the name Amanita umbonata to our beautiful, red-orange Amanita. After discovering that the name had been applied to Squamanita umbonata at one time, he supplied a second epithet---Amanita jacksonii---in honor of the Canadian painter and mycologist, H. A. C. Jackson.

Despite the name changes, a great many North American amateur and professional mycologists are probably going to go on using ''caesarea'' for some time. This note is not a definitive answer to the taxonomic questions surrounding our ''american caesarea''; however, it will review the history of the taxonomic study and nomenclature of this mushroom.

The East Asian Connection

Dr. Bas has shown me a slide of Amanita hemibapha subsp. hemibapha from Japan which could very well have been taken in Massachusetts---if one ignores the vascular plants and focuses on the cluster of scarlet-capped mushrooms. We begin our history in Asia, with the review in Corner and Bas (1962).

In 1871, M. J. Berkeley and C. E. Broome described Agaricus hemibapha based on material from Ceylon gathered by Thwaites. The name is apparently formed from the Greek roots: hemi- (half, near, partial) and baphe (to dye or to quench---to dip with the effect of a color change); hence, it probably was intended to convey the idea of color distribution on the fungus----deep red over the disk and much of the surrounding region with yellow at the margin and on the stipe---''half-dyed''. [Thanks to Daryl C. Lu for his research in a dictionary of Classical Greek.]

In 1910 the British botanist T. Petch collected the same species in Ceylon. According to Corner and Bas, Petch described the pileus as ''deep crimson with a broad, bright yellow margin, the stipe as yellow, covered with thin, appressed, reddish patches and the ring as

yellow.'' In 1951, K. B. Boedijn published a description of the same species from Java; however, there were marked color differences: pileus ''orange-yellow to ochre yellow, sometimes with a brown tinge, paler toward the margin''; stipe ''yellow with orange buff scales''; ring ''orange buff''. Colored illustrations of the Javanese fungus exist thanks to Boedijn and van Overeem.

Corner and Bas (1962) reviewed material from Singapore and Malaya which was certainly closely related, but differed as follows: pileus ''fuliginous-bistre to brownish olivaceous with a pinkish to yellowish tinged margin''; stipe ''bright to pale yellow with pinkish orange to concolorous fibrillose scales''; ring ''pinkish to orange-yellow''.

Corner and Bas decided to taxonomically separate these geographically distributed entities as subspecies of Amanita hemibapha (Berkeley & Broome) Saccardo:

1. Subsp. hemibapha for the crimson-capped entity,

2. Subsp. javanica Corner & Bas for the collections of Boedijn

3. Subsp. similis (Boedijn) Corner & Bas for the material from Singapore and Malaya which had been called Amanita similis by Boedijn.

[In a recent issue of the newsletter of the New York Mycological Society, a participant in an Indian foray described an entity which must also belong to the group that Corner and Bas discuss.]

Dr. Bas' interest in A. hemibapha continues. In 1976 he delivered a lecture on the species concept in Amanita section Vaginatae which featured A. hemibapha in more than a cameo appearance. In the published form of his talk (Bas, 1977) one can find his then-current, working notions about the taxonomy of the relatives of A. vaginata (Bulliard ex Fries) Vittadini and A. caesarea (Scopoli ex Fries) Greville.

In the ''species concept'' paper Bas discussed what he called the ''A. caesarea complex''. This included A. caesareoides Vassilieva from eastern Russia and Japan and A. hemibapha's subspecies. He accepted the likelihood that A. hemibapha was the entity in North America. While he did not think he had the problem completely solved, he felt A. caesareoides was probably a synonym of A. hemibapha. He noted that spore size varied with geographical location of collections within what was apparently one species---in the cases of both A. caesarea and A. hemibapha. For example: There are large-spored caesarea collections and small-spored caesarea collections; the size of spores is not correlated to the habit of the basidiocarp; there is some correlation with geographic area of collection. Spore

dimension, then, is not much of a help in preserving any distinction between caesareoides and hemibapha.

The North American Connection

In the early 19th Century, L. D. von Schweinitz assigned our ''american caesar'' to A. caesarea Fries and was certainly one of the first to do so.

Mary Banning of Baltimore was a careful collector and illustrator of fungi in the latter decades of the 19th Century. She communicated to C. H. Peck information concerning a fungus similar to A. caesarea. ''Amanita caesarea'' then, as today, was the name widely applied to the North American mushroom under discussion in this note. Miss Banning called her 1877 collection Amanita pellucidula. Peck (1892) published her communications; and one sometimes sees ''A. pellucidula Banning & Peck'' mentioned in the literature. However, Peck quotes Miss Banning to the effect that the name applies to an aberrant entity. Dr. Bas writes (personal correspondence): ''I am not quite sure if the name is validly published by Peck or not. One could say that Banning expresses doubt but not Peck, but I am inclined to say: Amanita pellucidula Banning in Peck, invalid, not definitely [ac]cepted by its author (Banning).''

Incidentally, Miss Banning certainly recognized that there were other, related entities in North America including a usually small and slender, yellow-orange fungus with a tendency for the disk to become browner in age. This entity, which has a yellow partial veil (annulus), but lacks orange stipe fibrils, is still unnamed; it is not at all uncommon in the Northeast and at least as far west and south as Ohio and Virginia. Amanita arkansana Rosen may well turn out to be still another subspecific taxon of the American caesar's mushroom.

In his classic Amanitaceae (1940/41), E. J. Gilbert recognized the distinctly different habit of the North American and European ''caesareas'' and introduced the name ''A. caesarea forma specialis americana'' for the North American entity. This name is now declared invalid.

Earlier, while Gilbert was developing his understanding of the amyloid reaction of Amanita spores, a student in the same university building was looking at European fungi with a North American eye; this student, Dr. René Pomerleau, became the mentor of many North American amateur mycologists. When Dr. Pomerleau came to organize his lifetime knowledge of the mushrooms of Québec, he spelled out his reasons for separating the North American entity from A. caesarea under the name Amanita umbonata Pomerleau:

Dr. Pomerleau noted that the European entity lacks an umbo, has less brilliant coloration and shorter striations, lacks colored fibrils on

the stipe, etc. He also noted the difference in form of the expanding basidiocarps just at the point when the universal veil (or volva) is about to break---the European mushroom is like an inverted pear at that point while ours is ovoid or elliptical. While Bas expressed concern about whether there was a consistent difference in spore size between the European and North American ''caesar's,'' Pomerleau maintained that he found a consistent difference---with the smaller spores from the North American mushroom.

However, the name ''Amanita umbonata'' was problematical. The interesting species Squamanita umbonata (coincidentally, collected at NEMF85) had been placed in Amanita by Sartory & Maire in 1923. Dr. Pomerleau (1984), discovering this, needed a non-homonymous name; hence, as he told us at NEMF85, he published the combination Amanita jacksonii.

There is at least one more chapter to be written. I have recently had an opportunity to visit Dr. Bas in the Netherlands. During my visit, he mentioned that he and Dr. Jenkins are planning to publish a note which will clarify the taxonomic and nomenclatural situation surrounding the ''American caesar's mushroom''.

* * *

It appears that like the tulip tree (Liriodendron), alligators, certain catfish and many other organisms, Amanita hemibapha is found both in Eastern Asia and Eastern North America. (Thanks to Dr. S. Mazzer for the illustrative life forms.) The species has been described as possessing several distinct subspecies in East Asia. It seems likely that a number of sub-specific taxa or closely related species will eventually be recognized within our country's borders.

Do we have the true Amanita caesarea in North America? There are persistent reports from Mexico, Southern California, and Alabama (including one collection of Dr. Jenkins') that, besides the familiar crimson entity, something very like the European caesarea is in this hemisphere. Those who can afford the expedition, may wish to search around the Gulf of Mexico for the true European mushroom.

* * *

I wish to thank Drs. C. Bas, D. T. Jenkins, and M. Schaechter for reviewing this article. Their corrections and suggestions have greatly contributed to its accuracy and quality. Errors remaining in it are my own responsibility.

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FUNGUS FEST '88

What! Its only July and we are already badgering you about October! Yes. Its now that we have to start planning and aiming for Fungus Fest on October 2nd. We need your input and help; last year was the most attractive and successful exhibit ever and that was because of the effort and enthusiasm of dedicated club members. You can help by volunteering your services for the day or even for just an hour or two of set-up time. Do you have a great idea for an exhibit or display? Do you think we are lacking something or that there is some other way we can reach the public? Let us know, contact either the club president Bob Hosh or the editors and let us know. We need your input and talent, don't be shy, come forward. Its a busy, giddy, non-stop day but what fun it is!

FIRST CLASS MAIL

NJMA
C/O Susan Kibby

COLOR ME

FISTULINA hepatica

The texture of beef and oozing red juice gives the common name "Beefsteak polypore."

Cap - 8-10 cm across, semicircular, flat, glutinus, blood red to reddish brown in color.

Flesh 2-6 cm thick, off white to pinkish, streaked with red, soft & juicy when fresh, with separate Tubes 10-15 cm long, free.

Pores - 1 mm wide, circular, whitish to yellowish-buff becoming reddish brown.

Stalk when present up to 6 cm long, 1-3 cm thick, lateral, blood red attached to wood.

Spores oval, smooth, colorless to pale yellow. Print pinkish-salmon to pale rusty brown.

Found solitary or several on dead oak trunks & stumps or at base of live oak in July to October.