MushRumors

The Newsletter of the Northwest Mushroomers Association

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Mushroom of the Month, *Collybia arachnoidea* (La Virage) nom. prov. *By Buck McAdoo*

photo by Buck McAdoo

Even in a genus where the white-spored species that can't fit anywhere else tend to accumulate, *Collybia arachnoidea* stands out from the crowd. Brought in by Celeste La Virage in late October of 2002, the sighting of both Celeste and the strange fungus at the Bellingham Food Co-Op caused heads to turn above coffee mugs.

Celeste is not even a member of Northwest Mushroomers. She lives a reclusive life on the outskirts of Glacier, and not until she yahooed 'Bellingham mushroomers' did she track me down to arrange a meeting. She was very striking to look at. Tall with chestnut colored hair tied in a neat bun, a pallid face with inquisitive brown eyes, and eyebrows that arched at will. Almost dangling from her cupped hands were the mushrooms. They were small and whitish and covered with even whiter strands that seemed to the crowd at the Co-Op to be some sort of spider's web. She told me she had been actively searching for *Collybia bakerensis* when she ran into them.

" I am sorry to have to meet you thees way," she smiled, "But evolution wait for no one."

The eyebrows shot up over a half an inch from where they were. Obviously I was expected to respond.

The caps were only 2 ½ cm wide, shallowly convex and bone white in color. Context was thin, white, and nearly translucent. The gills were white and subdistant, a bit ventricose and somewhat thickened. Many of them had already been munched on by the larvae of the phorid fly. Nothing out of the ordinary until one came to the 'spider web'. This was silvery white in color, but instead of forming any sort of a ring on the stem or patches on the cap, it turned out to be a veil in the form a web. The stipe was smooth, shiny, and a cheerful coral-brick color. She had found them on rotting conifer bark.

"And the taste?" I asked.

"Zat ees not so important, hein? Eet ees ze strategy, see you not?"

Celeste had a theory about the web shaped veils.

"Zey are for attract spiders," she announced.

"Mushrooms already have enough bugs. Why would they want any more?"

"Symbiosis," she nodded.

I had no idea where this was going but didn't want to appear dim or rude or possibly both at the same time. I could only stare through the gun slits of my eyes. I had heard of species of Pleurotus that could lay traps for nematodes, but why would a fungus want to eat a spider? Even more to the point, how could that benefit the spider?

She took a quick glance around the room, absorbing the general attire around us, then pulled a few tufts of hair out of her bun. I realized she was making an effort to fit in. After a few minutes, almost imperceptibly, other girls in the room began fiddling with their hair. It seemed like she had started a fad.

" Eet ees to give ze spider a nozer idea," she said.

She went on to explain that I was on the wrong track, that if I could approach the situation with more intellect, I could see that the mushroom wanted the spider to compete with the veil, to be attracted by the veil and then want to build its own web next to it. At this point the spider could not help but notice the wriggling of the larvae within. It might even hear the larvae before construction. This was a point to be settled by future waves of mycologists. But the main thing was to acquaint the spider with this novel food source. If the spiders failed to capture any larvae, they would at least capture the flies that hatched. The mushrooms would also benefit. With fewer larvae munching away, their life spans would be prolonged, affording them more time to release their spores.

She had no idea, she told me, that some fungi in America would be so much more advanced than those in Europe.

Celeste was probably in her early twenties. She instinctively felt she had found a new and revolutionary species. She wanted to publish it herself, but whom could she trust? Her eyebrows made great semicircular arcs that rose and descended meaningfully depending on where the conversation was going.

"You're not alone," I told her.

Her story of how she came to be in Whatcom County was even stranger than her spider theory. She was here for one reason only…. to find a neotype.

We went back for refills of the Nicaraguan coffee.

Now there are all kinds of types out there. There are holotypes and lectotypes, syntypes and isotypes, and woe to the researcher who uses one out of context. I was grateful that she had spoken 'neotype.' To me that meant 'new type', which in turn suggested a replacement type, which in turn was a concept I could understand. I nodded appreciatively.

Her eyebrows arched involuntarily.

"I am here because Docteur Lamelleaux tell me zaire ees no more *Collybia bakerensis*," she said in a voice that was almost a whisper.

Dr. Maurice Lamelleaux. The *Hebeloma* King of Northern France. I was momentarily stunned. Lamelleaux just might be the most austere mycologist of his generation. He was a great stickler for the rules. That he would send a French researcher to re-locate an American mushroom showed how dire the situation had become.

"You know zee rules," Celeste smiled.

"Only through hearsay," I nodded back. All I knew was that if the type specimen was lost or used up, a professional mycologist could be summoned to select another dried specimen from the same herbarium collection. If there were no longer any other dried carpophores in the original collection, the next best thing was to find a fresh specimen from the exact same location. This would be called the 'neotype'. It was considered more accurate than trying to find another dried collection from a different location that might represent a different species. Only a professional can order the finding of a neotype.

"So now you know," she added quickly, "Why *Collybia bakerensis* remains een *Collybia* when all ozare medium *Collybia* have gone to *Gymnopus*."

Dr. Lamelleaux had been just as intrigued as every other mycologist when the DNA sequencing became widely available. It was a marvelous new tool. It would show which species across different genera might appear in the same clade. Interrelations that had been suspected for centuries would be proven one way or another. Subspecies, varieties, forms could be sunk en masse, or even the reverse could occur. Dozens of new genera

might be called for. The next crop of mycologists would be attaching their names to established species at a rate not seen since the time of Fries.

All was well until Dr. Lamelleaux began wondering about the types. How could you conduct a foolproof system if you didn't use the type itself to extract DNA? You would just be relying on another mycologist's interpretation of that type. To be perfectly accurate you would need to work with the one dried specimen that represented that species everywhere. But the position was obviously untenable. If every mycologist wanted to take a whack at the type, there would soon be none left. Dr. Lamelleaux became appalled at the scope of the problem. When there was no more holotype, a lectotype would be used. When the lectotype was used up, an isotype would have to serve….and on down the line. He had been aware that there was an extreme shortage of types even before DNA sequencing kicked in.

"When he discover that even la type to *Amanita muscaria* ees lost," continued Celeste, "La merde a frappé le ventilateur." (The shit hit the fan).

Maurice went into overdrive. He announced from his web site that any student of his who would agree to a mission to relocate a type would be excused from the dissertation normally required for graduation. The day of the dissertation is the worst day in any French person's life. It is a day of such dread and foreboding that suicides occur annually. You are put to the test in a way not conceivable by other civilizations.

Within weeks, his office was flooded by applicants. Celeste had been one of the lucky ones. Not only had she eaten chanterelles, which she called 'les girolles', she had remembered the Latin name for them. This put her in the upper tier of applicants and she was accepted.

The next part was not so good. Dr. Lamelleaux had all the students line up in a long hallway just outside his laboratory. He then called out the name of a student who would then approach him to select a fortune cookie from a laundry bag. The name inside would be the mushroom whose neotype that student would have to find.

"It might take years," Lamelleaux had warned. Careers, marriage, hobbies, real jobs that earned money, all of those might have to be postponed… indefinitely. Most students stayed put. Even the unknown was better than the horror of the dissertation.

Celeste had drawn *Collybia bakerensis.* Dr. Lamelleaux pointed out to her that it was the only *Collybia* larger than her thumbnail that had not been transferred to Gymnopus or Rhodocollybia. The type had been found next to a logging road in the Pacific Northwest of America near a town called Glacier. This was in the state of Washington. The logging road was called Anderson Creek. Presumably a creek ran by it.

Celeste had listened, her eyebrows transfixed at the very height of their arc. She had been brought up in Reims, a semi-large industrial town about an hour north of Paris. Although the dominant color of Reims was gray, the people were anything but. Located next to the heart of France's champagne district, the people of Reims were witty and joyful, clinging to traditions that embodied the classical soul of France. At lunch breaks in her lycée, Celeste and her circle of friends would sip the great champagnes of the region and nibble on the crispy pink 'gateaux de Reims', a sort of sugar cookie that was the perfect accompaniment to champagne.

"You will live here," Maurice was saying. He and Celeste had been hovering in front of the monitor, zooming in on the aerial view of Glacier. Dr. Lamelleaux had found a burnt out bare spot just to the east of the town. The only road out of the town went by it. Behind the burned spot were a few shacks on the edge of a field. They were lined up along a curved path. They looked just big enough for a hobbit.

The next step was the training. Dr. Lamelleaux had phoned his counterpart in Seattle who in turn had dispatched an undergrad to drive to Glacier to photograph the food.

"Your nouriture," he had gestured at the photos.

Celeste, peering intently, noticed jars of El Sabroso Pork Rinds, bags of Cheetos, Ruffles, Golden Grahams on just one shelf. Below this were Red Hot Blues, Western Family Hotdog Relish, Oberto Beef Jerky. All these to be washed down with Red Bull, Amp, Fat Tire, Black Hook, or Moose Drool. Celeste had no idea what sort of exotic flavors awaited her.

"We have taken care of that," Maurice had smiled.

Thanks to black market connections not even his graduate students suspected, Dr. Lamelleaux had managed to corner all these foods and have them shipped to a small village in the Pyrenees. Celeste had to spend no more

than a month there getting acclimated to French altitude and Glacier grocery fare.

Life ees unfair," sighed Celeste, "Dr. Lamelleaux weel not let me publish *Collybia arachnoidea* until *Collybia bakerensis* ees found."

It will only be a 'nomen provisiorum' until she does. This seemed to be a bigger problem than the change in diet. She had already spent eight months in Glacier searching for *Collybia bakerensis* on top of logs only to be told that the species fruits mainly inside of bark. She had had to go to Hardware Sales to purchase a crowbar.

" You might have walked by dozens of them," I offered.

" My boyfriend ees back already," she grimaced.

It turned out that Marcel had not found his assigned neotype. He had been appointed to northern Sri Lanka to find a tropical Entoloma. After just three days he had been evacuated due to the unexploded land mines in the area.

A mutual friend, Gerard, had had a stranger experience. He had been sent to an atoll in the South Pacific to find a polypore. When the cutter hired to sail Gerard to the islet arrived at the correct co-ordinates, the atoll had sunk beneath the sea. The nearest atoll was 279 nautical miles away, upwind.

"We have been sent to find zee lost types," sighed Celeste, "But now we are called Les Types Perdues."

The irony is that Celeste has become at home in Glacier. She now hints that Moose Drool is just as good as Kronenburg and Fat Tire maybe even better. The champagne can wait for later. That would be when she finds the evasive neotype and gets to co-author *Collybia arachnoidea* with Dr. Lamelleaux.

When I last saw her, she was pressuring Maurice to buy the vacant lot with the burn spot on it.

"He could put a lab here… and French students… zey come every year."

And haunted are those who think badly of it.

'Poisson d'avril' (April Fools)

Have You Seen Me?

By Buck McAdoo

photo by Buck McAdoo

Under this intriguing title, Jack Waytz, our newsletter editor, has agreed to usher in a new column in each issue to run right after 'Mushroom of the Month'. This column will be devoted to those mushrooms that we just can't figure out. It turns out that from time to time members bring in specimens that elude our understanding, including exhaustive keying in the monographs. The arrival of Dr. Dick Morrison in our midst has added another skilled researcher to our team. I foresee Dick contributing a lot to this column also. If we make a mistake and miss something obvious, we at least hope this extra exposure will attract the appropriate attention. We will detail our efforts on identification and where we ran aground. In the meantime, if you think you may have found a highly unusual mushroom, take good notes on where, when, what substrate, and with what tree it was found near. Then you can bring it to Dick, myself, Fred Rhoades, Christine Roberts, or Maragaret Dilly for an opinion. If it is truly weird, you may see it in this column.

To kick off this column in style, we showcase a *Suillus* found by Harold Mead. Harold and Maggie Sullivan have never given up hope. They have found this mushroom twice now, maybe even three times, and it won't key out anywhere easily. They have even made a CD of it in its orange-pored phase, if phase it is. So without more ado, we present you with…….

Suillus sp.

Caps – 3-5 cm wide, viscid, convex to campanulate, pale ochre-yellow with sparse, appressed, pale brown squamules (most likely uplifted at first). Surface turns blue when touched.

Pores – Pin-prick orange pores in one specimen. Larger specimens with mustard-yellow, angular to rounded pores, 2-3 per mm. Turns blue gradually when bruised.

Tubes – Of larger specimens, 7 mm long. Dark mustard yellow.

Stipe – 13-18 mm thick and 6-7 cm long. The specimen with orange pores has a smooth, pale orange stem becoming browner towards base with two dark brown radicating 'roots'. The context is yellow-orange and stuffed. The glandular dots are brown (although one photo of Harold's shows them with whitish dots.). The specimens with mustard yellow pores have bright yellow stems that become reddish below and then brown at the base. There is a white, pointy 'root' radicating from it. The glandular dots are more vinaceous.

Odor & Taste – Mild.

Spores – Olive for all specimens.

Habitat – Several found by Harold Mead under two-needle pine (possibly *Pinus contortus*) near Hart Lake outside of Anacortes, Washington, on November 6, 2010. He also found them at the same location two years before.

The first time I saw these specimens I was standing by the identification table at Bowman Bay in November of 2008 for the annual Margaret Dilly foray. It was sitting on the table labeled as *Suillus tomentosus* among a plethora of more common fungi. A silent figure standing next to me was shaking his head in dissent. This was Harold, who had brought a pair of them over from Anacortes. I had to agree. *Suillus tomentosus*, common in

the area, had a larger stature, and a browner pore surface. It could possibly fit the specimen with mustard yellow pores, but not the one with orange pores and a nearly bald cap surface. I suggested to Harold that he take a photo of the collection and mail it to Dr. Ammirati. This he proceeded to do.

photo by Harold Mead

According to Harold, Joe was excited about the collection. He emailed us that he didn't think it was a *Suillus*, that it might be a *Boletus* or maybe even a *Tylopilus*. Although we still hold out for *Suillus* because of the glandular dots on the stem, fungi aren't always what they seem to be, and this opinion of Joe's should not be dismissed out of hand. At any rate, sending the collection to Joe was the right thing to do. Not because Joe is going to work on it any time soon, but because it is now in a herbarium, and if a boletologist happens by and thinks it is worthy of new species status, the type specimen is already in place. Neither Joe nor I had seen this bolete before.

Then, lo and behold, Harold ventures forth and finds it again! Same place two years later. Since he finds the orange-pored and the mustard-yellow pored specimens together again, he theorizes that the orange-pored ones are just more immature. As the fruiting bodies develop, the pores expand and change color to mustard yellow. The caps are similar and the stems not hopelessly different. (In the photos the orange pored specimen is on the left.)

photo by Harold Mead

In the Key Council keys it didn't key out anywhere in *Tylopilus* or *Boletus*. In *Suillus*, it is very close to *Suillus tomentosus*, which differs by having densely tomentose caps at first and young pores that are brown to vinaceous brown. Never carrot orange or mustard yellow.

The next time I spot Harold, he is at the Key Council foray at the mouth of Hoypus Point in November of 2010 exhibiting his latest find to the members. I don't know how that went down, but he allowed me to take a photo of the collection under a two-needle pine at the site. This is what you see here. I also went home with the specimens and proceeded to check them out microscopically, once they had dried in the dehydrator. Harold is looking for some kind of closure here. Whether his theory is correct or not, I decide to treat them as separate species just in case.

Besides looking at the spores of a *Leccinum* once, this is the first bolete I've fully examined under the microscope. I did not find pleurocystidia, but that doesn't mean they aren't there. Also, I found coralloid elements in the stipe tissue of both specimens and am not sure what to call them, either a second kind of caulocystidia or forms that represent some evanescent velar material not seen with the naked eye. In case this is a new species, the less I hack into it, the better.

Since I am not a boletologist, I don't know how much weight to attribute to each character. The spores of both specimens were the same elliptical-cylindrical shape, with the mustard yellow pored ones being a bit larger. Score one for Harold's theory. The basidia of the yellow-pored specimens were shorter, and both 2 and 4-spored. Those with the orange pores were only 2-spored. Score one against Harold's theory. The cheilocystidia of the orange-pored ones measured 43-50 microns in length. Those of the yellowed pored ones measured 24.6-41.5 microns in length. Score another against Harold's theory. They were both brownish in KOH and generally clavate in shape. Score another for Harold's theory. The pileipellis of the orange-pored one was an ixocutis with exerted ends. The yellow-pored one had more of an ixotrichoderm with wildly entangled hyphae. Score another point against Harold's theory. Both specimens had a pileal context of tightly packed, sinuous hyphae less than one micron thick. Score another point for Harold. And finally, the caulocystidia of both specimens

were large, clavate to fusoid, and gray-brown in KOH. This breaks the tie and lends more credence to Harold's theory than not.

This is fun stuff, but the main question remains…. What the heck is it? To that end, we have mailed the full description to Dr. Tim Baroni in Cortland, New York. He is a true bolete expert and recently described a new species from North Carolina. We want to thank him in advance for agreeing to look at this 'Suillus' and three others when he returns from Argentina. He will not be looking at the Leccinums from Concrete, a ghastly genus to work in, but feels he can make some headway with the Suilli. More power to him, and thanks also to Harold for bringing this most unusual bolete to our attention.

Suillus sp. (pg. 428#7)

Pileipellis – Gelatinous, pigmentation an ochre wash. Hyphae 3.7-14.6 microns wide.

Pileal context – Of radially repent hyphae 4.7-8.6 microns wide. Also gelatinous. Beneath this zone, very tightly packed, sinuous hyphae less than 1 micron thick.

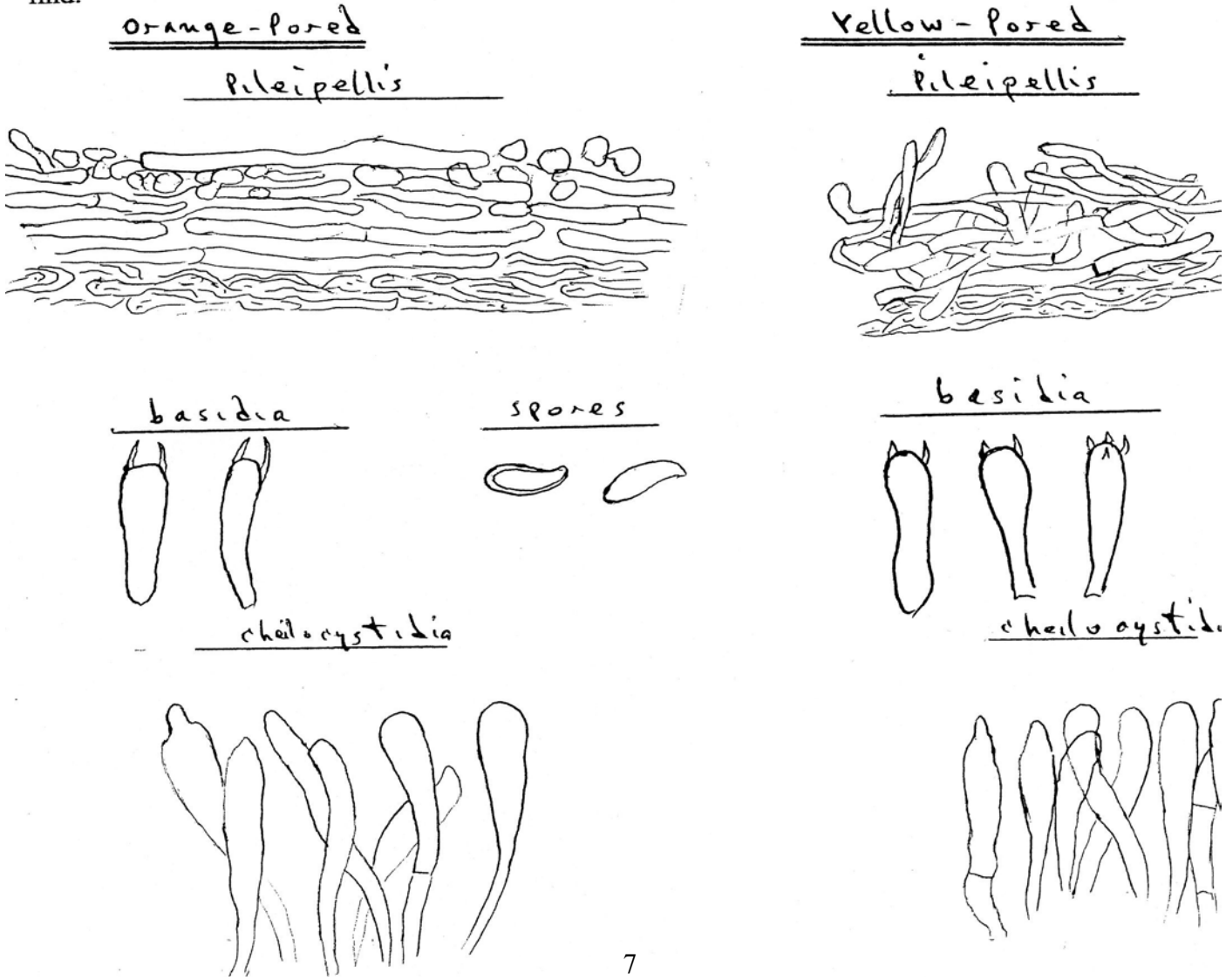
Caulocystidia – Of two types: 1)- Hyaline, coralloid, branched hyphae with obtuse apices, 3.3-5.4 microns wide. 2) – Long, clavate, grayish cystidia, 7-8.6 x 43.6-61.5 microns.

Stipitipellis – Vertical hyphae 2.9-11.4 microns wide. microns wide. Pigmentation an orange-brown wash.

No intermediate zone. Changes from entangled hyphae to miniscule, sinuous hyphae less than 1 micron thick.

Of two types: 1.) Contorted, entangled hyphae 2.6-10 microns thick, heavily septate, 2) – Gray to brown clavate to fusoid hyphae 7.2-10 x 38.6-48.6 microns The same.

Comment – Dr. Ammirati is also supposed to have material of this taxon in his herbarium from the initial find.



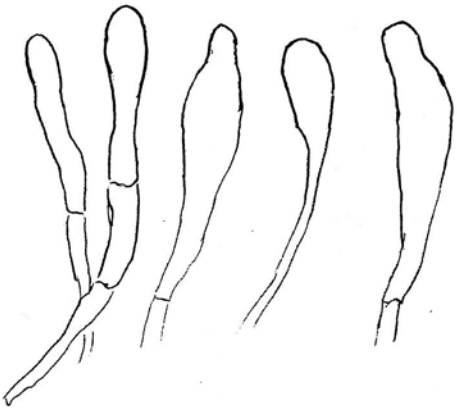
Suillus (M.428#7)

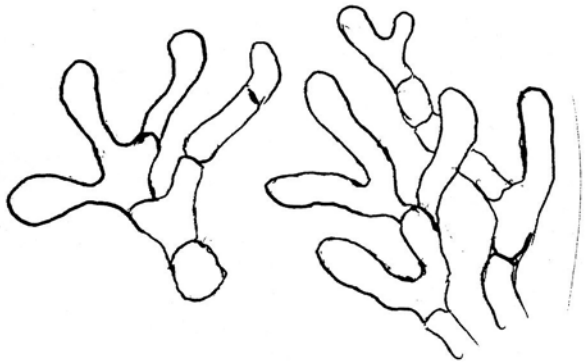
Orange-Pored

caulocystidia

Yellow-Pored

caulocystidia





Microscopic data

	Orange-Pored	Yellow-Pored
Spores –	Elliptic-cylindrical, 2.7-3.2 x 7.5-8.7 microns	same shape, 2.9-3.4 x 7.9-9.9 microns
Basidia –	2-spored, 4.9-5.7 x 20.4-30 microns	2 & 4-spored, 5.7-7.3 x 14.3-24.3 microns
Clamps –	None seen in both specimens.	
Cheilocystidia –	Clavate, one broadly mucronate, gray-brown in KOH, 4.7-7.4 x 43-50 microns.	Clavate to fusiform, in clusters, brownish in KOH. 5.7-7.2 x 24.6-41.5 microns.
Pleurocystidia –	None seen in both specimens	
Pileipellis –	Almost an ixocutis with exerted ends.	More of an ixotrichoderm. Hyphae 2.9-6

*This article is NOT part of the "April Fool's" segment of this letter.