



There are “No Known Poisonous Polypores” ... Think Again!

Jan Thornhill, Ontario, Canada

I don't know how many times I've read this phrase over the past couple of years: “There are no known poisonous polypores.” I see it mostly on internet forums, and mostly on threads about edible or medicinal fungi. Someone will excitedly post a photo of their first “chicken of the woods” (*Laetiporus* sp.) or “reishi” (*Ganoderma* sp.), photos that routinely show that the poster has got the wrong ID. This happens unbelievably frequently with the fad medicinal, “chaga” (*Inonotus obliquus*). A photo of a burl or gall, growing on the trunk of a tree that is obviously not a *Betulina* species of any sort, will be posted as “chaga” and everyone will chime in their congratulations and suggest that the finder immediately race back to hack away at a living tree with a hatchet to claim his or her “prize.” When someone sensible suggests that one of the above IDs may be flawed, another poster will jump in with the claim that a misidentification doesn't matter anyway since “there are no known poisonous polypores.”

Well, it's not true. There is at least one seriously toxic

polypore, *Hapalopilus nidulans* (also known as *H. rutilans*). *Hapalopilus nidulans* is an unassuming, cinnamon-colored polypore that can grow up to 10 cm wide, though it's usually considerably smaller. It has a rough or smooth cap and small angular pores, 2-4 per millimeter. When fresh, its flesh is soft and watery; when dry it's tough and hard and can be quite brittle. A white rot agent, *H. nidulans* prefers a wide variety of deciduous trees, but can occasionally be found on conifers. Though widely distributed east of the Rockies, it's not particularly common.

An Impressive Chemical Reaction

Hapalopilus nidulans is an easily overlooked, unexciting fungus—unless you happen to have some KOH handy, or a bottle of ammonia tucked under your kitchen sink. Personally, I loathe the smell of ammonia, probably because I once had a 19-year-old cat that could no longer find its box. Though that cat is long dead, I still put up with the stink of ammonia since this inexpensive cleaning solution is a wonderful tool for any fungiphile as many species of bolete undergo specific color



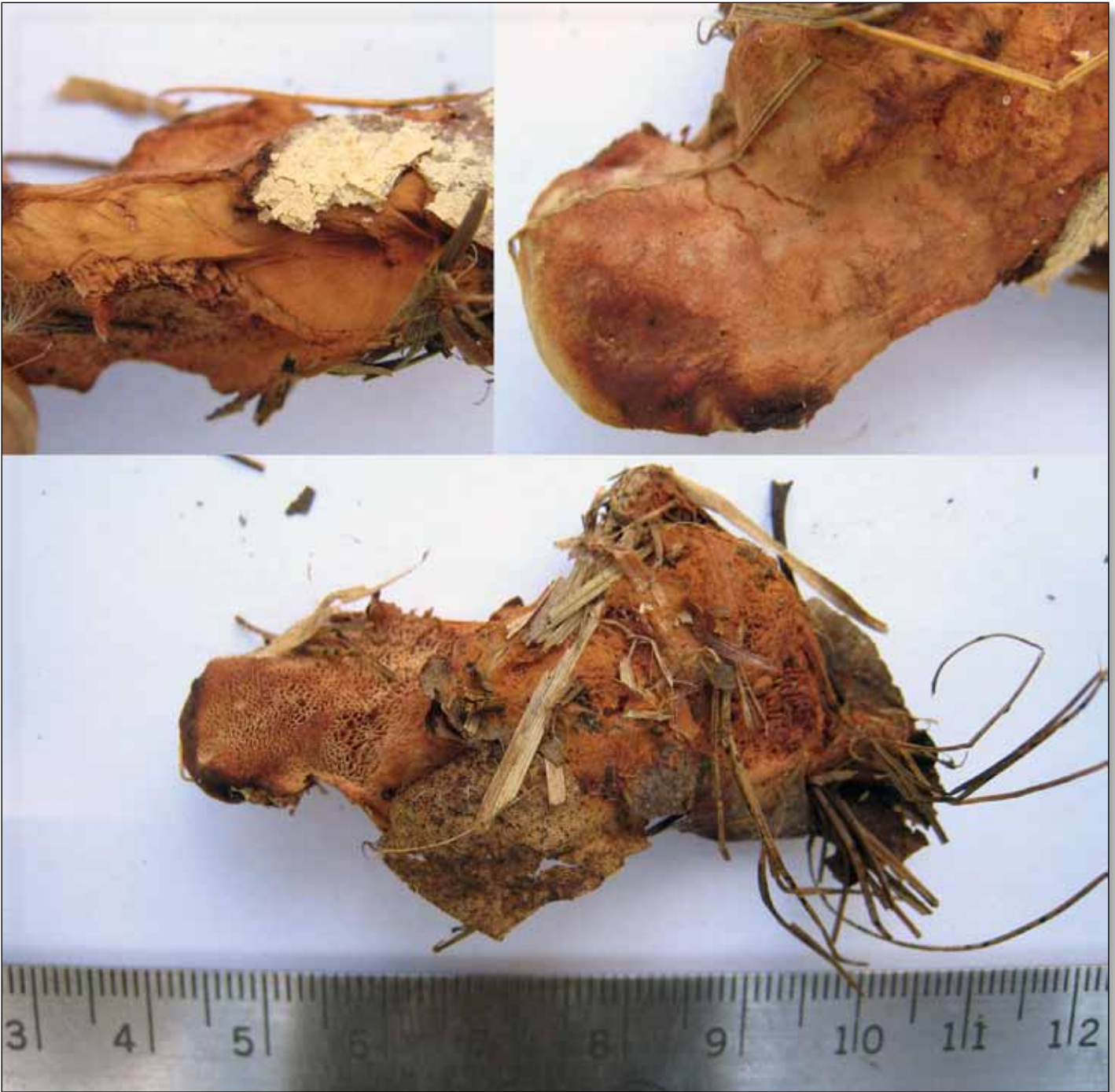
changes when hit with a drop of it—as does *H. nidulans*.

When this otherwise boring fungus comes into contact with either ammonia or KOH, it immediately turns a psychedelic fuchsia (or cherry red in other parts of the world), a reaction that's so magical and so spectacular it's hard not to play with the effect over and over again. At least it is for me. It's also a fabulous part of anyone's arsenal of ultra-cool things to get kids interested in mycology, along with reconstituting jelly fungi and locking children in dark closets with bioluminescent mushrooms. *Hapalopilus nidulans* is also much sought after as a natural dyeing agent that—again with the help of ammonia—produces purples that are both more vivid and more fast than those produced by other fungi.

Toxicity

Apparently there's also nothing boring about eating this humble little character, though, from the sound of it, there's nothing *pleasant* about it either. The few cases of poisonings on record, including one adult and two children in the late 80s, and a father and daughter a couple of years ago, (the latter incident involving the consumption of *H. nidulans* after misidentifying it as the "beefsteak fungus," *Fistulina hepatica*), have all been similar in their descriptions of signs and symptoms that happen after a delay of at least 12 hours, the results of dysregulation of central nervous system functions and liver and kidney dysfunction:

- abdominal pain
- nausea and vomiting



- headache
- visual disturbances, including double vision, blurred vision, hallucinations
- multidirectional involuntary eye movements
- balance disorders
- general weakness
- loss of appetite
- signs of liver and kidney failure
- and violet-colored urine

The culprit is likely polyporic acid, which can make up an astonishing 40% of *H. nidulans* by weight. In a lab study, rats given straight polyporic acid via probang developed “strongly reduced locomotor activity, depressed visual placing response



and impaired wire maneuver,” as well as hepatorenal failure and low blood potassium and calcium levels, symptoms that closely parallel those of the people who ate the fungus. I am not sure if the urine of these poisoned rats turned purple or not—but I bet a cat’s would!

As noted above, the father and daughter poisoned by *H. nidulans* mistook it for *Fistulina hepatica*, which is a well-known edible. I have to assume they were not experienced foragers since there are very clear differences between *Hapalopilus* and *Fistulina*. Unlike the soft, fibrous flesh of *H. nidulans*, the flesh of *F. hepatica* is strangely meat-like, streaky whitish and reddish, and “bleeds” a reddish liquid when squeezed. The surface texture of both cap and stem is finely, and peculiarly pebbly. The tubes on the undersurface are also completely different—easily separable from one another because they are not fused together as they are in most polypores.

Further Reading

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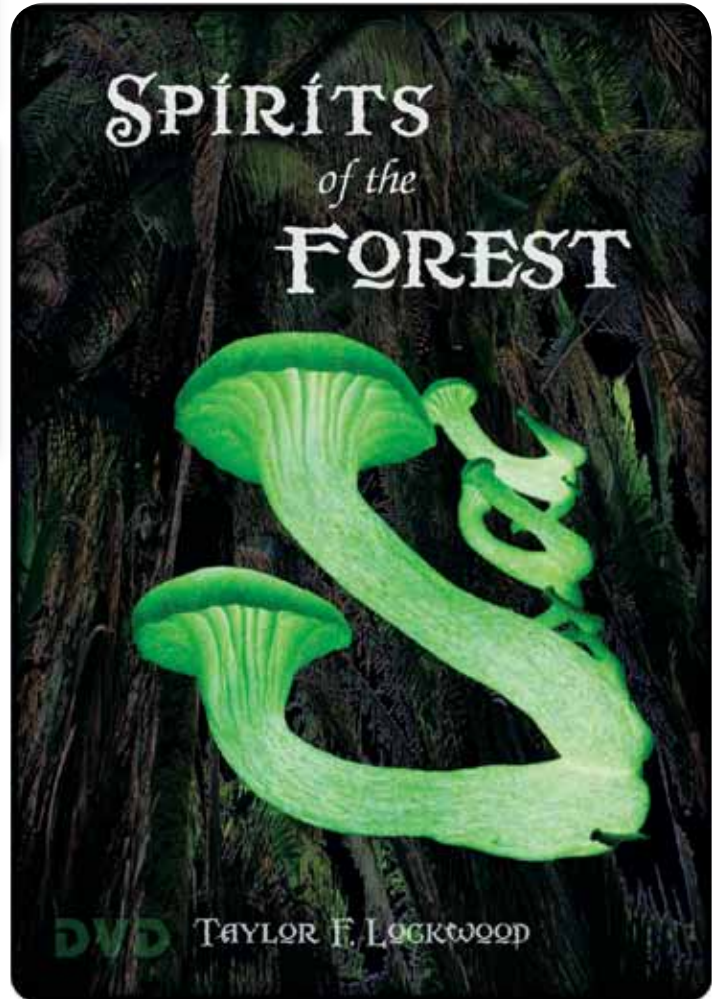
Villa, A.F., P. Saviuc, J. Langrand, G. Favre, D. Chataignerl, and R. Garnier. 2013. Tender nesting polypore (*Hapalopilus rutilans*) poisoning: report of two cases. *Clinical Toxicology* 51(8): 798-800.

Dyeing with *Hapalopilus*: <http://www.allfiberarts.com/library/mushrooms/hap-rutilans.htm>

[Editor’s Note: This report was excerpted from an article previously published in the newsletter of the Mycological Society of Toronto.]



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