

# No, that's ~~NOT~~ chaga!

Ron Spinosa and Britt Bunyard

As a result of the flood of chaga advertising and glowing testimonials of life-changing results, there are now a multitude of chaga hunters combing our beautiful northern birch forests looking for precious black clinkers. But some of these prospectors don't really know what they are looking for. Perhaps they saw a photo or heard a description. Consequently many hunters mistakenly collect some pretty strange fruiting bodies. You might wonder: how could anyone mistake another fungus for chaga? Once you've seen that big ugly cracked lump, it would seem unmistakable. The same might be said of morels, but occasionally a novice morel hunter is fooled and collects "false morels." Likewise a neophyte chaga hunter will sometimes bring in some strange black fungus and ask, "Is this chaga?"

infrequent hosts. *Diseases of Forest and Shade Trees* by Sinclair and Lyon, 2nd Edition (page 314) states: "... Occasional to rare records exist for *Alnus rubra* (red alder), *Fagus grandifolia* (American beech), *F. sylvatica* (European beech), *Ostrya virginiana* (hop hornbeam) and *Populus balsamifera subsp. trichocarpa* (black cottonwood)." The famous Russian polypore expert Bondartsev is probably one of the few to ever study the fruitbodies of this enigmatic fungus. In his epic *The Polyporaceae of the European USSR and Caucasia* (1953) cited rare hosts to include "hardwoods such as beech, maple, elm, birch, and mountain

genus *Phellinus* (*P. ignarius*, *P. gilvus*, *P. tremulae*, *P. robiniae* = *Fomes rimosus*, etc.). Yes, it does have a cracked black surface, but unlike chaga, which is the sterile conk of *Inonotus obliquus*, these conks are very hard, tough mushrooms.



Bizarre growths on aspen seen in Yukon Territories, courtesy P. Herzog.

Thus, you will be able to spot a pore layer or hymenium. Species of *Phellinus* typically are rusty-brown to yellow-brown inside the conk tissues, and have a tube layer on the underside with a brown or grayish-brown pore surface. I sometimes have someone tell me that they saw chaga on an oak while on a hike. No, it was probably *Phellinus igniarius*.

It is also not uncommon to spot, from a distance, a big dark lump on a tree, only to find on closer inspection that it



*Phellinus robineae* conk on black locust tree, courtesy P. Harvey.

Of most importance, you need to determine the host tree—what was it growing on? If it was any tree other than white or "paper" birch (*Betula papyrifera*), it was unlikely to be chaga. Reputable books on fungal tree pathogens list several species of birch and even non-birch tree species as

ash." But before you get your hopes up, living experts studying this fungus say that it is very unlikely you will see it on anything other than white birch trees (R. Blanchette, personal communication).

By far the commonest case of mistaken identity are with conks of the



Aspen forest with bizarre growths seen in Yukon Territories, courtesy P. Herzog.

is actually a burl. Burls are tumor-like growths on trees that may be caused by injury or infection from bacteria, viruses, or fungi. Try collecting one of those with a hatchet! Those hard woody tree tumors would require a chainsaw for removal; whereas chaga can often pop out of a birch with a few whacks with a hatchet or even a good swift kick, if you are lucky to find your prize near ground level.

There are a few more false chaga IDs that we have encountered. Once I (RS) was shown a handful of cramp balls (*Daldinia concentrica*, *D. grandis*), and in another case, it was black knot of cherry (*Dibotryon morbosum* formerly *Apiosporina morbosa*). *Daldinia* puts down a new layer of stromal tissue each season; these layers build up and a cross section reveals growth rings. Perithecia embedded in the surface of the stromal tissue release spores into the air. You often see black knot as small turd-like

excrescences on cherry tree twigs, but sometimes they can become quite large on the trunks of mature cherry trees; eruptions on small limbs may even be black and crusty. *Dibotryon* can in fact resemble chaga, but chaga does not occur on cherry. Furthermore, black knot will most often be seen on small twigs and chaga occurs on large limbs and more usually the main stem of larger host trees.

There is one more case of a chaga false alarm worth noting. It was a black crust-like fungus on fairly rotten wood. That one sent me (RS) to my reference books. It turned out to be not the “Cinder Conk” (i.e. chaga), rather “Brittle Cinder” (*Kretzschmaria deusta* formerly *Ustulina deusta*). Tree pathologists abhor this species, as it is a nasty parasite of beech, oak and maple that makes their trunks brittle and susceptible to fracturing. On an old rotted stump it will fool you into thinking there was a forest fire in the past.

Probably the most head-scratching I (BB) ever did was in pondering a strange growth on aspen in New Mexico at a foray a few years ago. Indeed, much of the aspen grove was afflicted. Of course, I erroneously diagnosed this to be chaga (one of many such erroneous embarrassments I’ve made in the years preceding my education during the production of this issue of FUNGI).



Not chaga! A wound on cherry tree, courtesy B. Bunyard.



Underside of *Phellinus tremulae* from aspen, note pore layer courtesy B. Bunyard.



Corky bark disease on New Mexico aspen courtesy J. Sparks.



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"What I'd seen in New Mexico was a proliferation of the bark of aspen trees known as corky bark disease. These are seen infrequently and the cause is a fungus called *Diplodia tumifaciens*. But out the car window as you're travelling logging roads in the forest, it's a dead ringer for chaga." 🍄



*Kretzschmaria (Ustulina) deusta*, courtesy N. Siegel.



False Chaga tumor on aspen, courtesy J. Sparks.