Capturing Fungi: Photography Tips for Great Identifications

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Increasingly, it’s looking like our season this year will be a more solitary one. We'll have fewer opportunities to gather together, perhaps, but there are still plenty of ways to enjoy and study fungi this summer. We’ll both be spending as much time as possible out in the woods beyond our homes, documenting and collecting mushrooms for later study. This is a great way to take part in citizen science: photographing, documenting, and sharing great descriptions of fungi on either Mushroom Observer or iNaturalist. Even if you are simply posting your observations on our Facebook page, it is important to properly document your finds, especially if you are asking for help with an identification. For example, one photo of just the top of a mushroom cap will not, in most cases, result in a reliable identification.

Whether or not you’re interested in sharing your observations online, taking photographs and writing descriptions of your collected mushrooms will enhance your own knowledge and observational skills, and help you come up with an ID. The first step is taking detailed photographs, and here are a few tips to accomplish this.

Your goal in taking photos of your finds is to properly document the things that are necessary for identification. This includes all parts of the fungus: upper and lower surfaces of the cap, the main part of the stem, and the stem base. It also helps to include a ruler in one of the pictures, or otherwise note in your description the size of the specimens you are photographing. Arrange the mushrooms at different angles to capture all the features (Figure 1). Take close-up shots of key features such as the gills, pores, or any ring or bulb (Figures 2, 3). For certain fungi such as *Amanita* species, it is particularly important to dig down and carefully get to the bottom

Figure 1. *Cortinarius armillatus* arranged to show all of the salient features.

When taking photos, direct or bright sunlight is actually not preferred! Bright sunlight can wash out the colors and details of your mushroom. Shade or cloudy days are better for photography, or you can try to shade your mushroom with your own body (or a trusted assistant!) while taking the photo.

Figure 2. A detailed view of the underside of the cap, cap edge, and upper stem of *Amanita volvata*.

Figure 3. The split or “deft” bulb at the base of the stem of *Amanita brunnescens* is a distinguishing characteristic of the species. It is important to document the stem bases of all *Amanita* species you encounter.
of the stem; the morphology of the stem base and any other surrounding tissue can be crucial to determining which species you have (Figure 3, 10). Be sure to capture any other stem details as well. In boletes and some gilled mushrooms, this includes not only stem shape and color, but also possible ornamentation: are there reticulations, pits, scabers, etc.? See Figures 4 and 5 for examples.

Figure 4. Details of the stems of various boletes. Left, the shaggy stem of *Aureoboletus russellii*. Middle, reticulations on the stem of *Tylotus felleus*. Right, Scabers on the stem of *Leccinum holopus*.

Figure 5. Pits or "scrobiculations" on the stem of *Lactarius subpurpureus*.

Also document whether the pores or gills bruise, exude any liquid and if so, what is the color. Figure 6 shows the bruising of the pores of the bolete *Boletus sensibilis* and Figure 7 shows the blue latex typical of the beautiful *Lactarius indigo*.

The flesh of the fruiting bodies can stain as well when you cut them open (Figures 8 and 9). The color of the staining is an important character to note.

Figure 6. The dark blue bruising properties of the pores of *Boletus sensibilis*.

Figure 7. Blue latex on the gills of *Lactarius indigo*. Also note the rings (zonation) on the cap; this is an important detail to use in the identification of certain *Lactarius* species.

Figure 8. The flesh of *Lactarius indigo* stains a bright blue when you slice it open.
Another character that helps tremendously with ID is a spore print. To make one, remove the cap portion from the stem and place it on white paper. Cover with a bowl or glass until you get a print. It may take as long as overnight, or it could happen in an hour! Sometimes it doesn't happen at all if the cap is not at the right stage of maturity. Try to photograph it to capture the color as accurately as possible. Figure 12 is the bright pink spore print of *Psathyrella conissans*, an unusual characteristic that helps to identify this species.

If you can’t get photographs of all of these characters, take careful notes and include them with the description you post.

Ultimately, your goal is to take quality photographs of fungi for your own benefit in later identifying and describing them. The more clues you can capture at the time you find a mushroom, the more information you have later to help you identify it. Please consider sharing all of your carefully documented finds on our club’s Facebook page – we are really looking forward to seeing what everyone finds, and it will be a great way to stay in touch!