

PHOTOGRAPHING FUNGI FOR IDENTIFICATION PURPOSES BARRY MUIR

Some people take stunning pictures of fungi because they are beautiful in form or colour and make highly artistic images. Sometimes these pictures are sent to mycologists for identification, but it can be difficult to identify fungi from pictures. In these days of digital imaging, it costs nothing to take extra pictures, so take several. The key to good photographs is focus, focus and focus again. Take several to make sure at least one is in focus, especially with the very convenient but difficult to hold still telephone cameras. Set telephone cameras on “selfie” if you are photographing the underside – then you can see what you are doing. The following guide is primarily for use with telephone cameras.

All fungi

- Take a picture of the overall habitat, such as a section of the rainforest or a picture of the paddock. It can be very helpful in understanding the habitat.
- A closer (but not too close) image to show whether the fungus is growing on wood, soil, old termite mounds, leaf litter, mulch, etc. A picture of a rotting log, for example can show what the decay state of the wood is, and that can help in identification.
- Put something standard like a coin in the picture for size or buy yourself a small ruler with clear markings. Things like lens caps are of limited use (e.g., is the lens cap off a 600 mm or a 40 mm lens)? Car keys, your foot or hats are also of limited value.
- Photograph the cluster if it is in tiers on wood and take special note of whether there are root-like structures growing from it and out over the surface of the wood. Photograph those structures (called rhizomorphs).
- With ground-dwelling fungi photograph a group which includes both young and mature fruit bodies so change in shape or colour with age are apparent.
- Some fungi experts and photographers will only take photographs by natural light. That is fine, but often leads to colour distortions (especially too much blue on cloudy days or in the rainforest) or unwelcome shadows. Take another couple of pix using flash – the colour rendition is usually better, and the harsh background shadow caused by the flash sometimes helps to highlight features like fine hairs, scales and how the gills or pores are attached at the stalk. Such features are often very hard to see on natural-light photographs. Slightly underexposed photographs may alter the colour tone and overexposed may burn it out, so take several.
- A brighter light, such as a flash, will give you a much greater depth of field, allowing details to be seen. Natural light photographs are often partly out of focus, losing depth of detail.
- You can always lighten up an image using a reflector – a white hat, a piece of paper or a tissue can be used to reflect light onto the subject.

Mushrooms and similar life forms ON SOIL or mulch

- Put something standard like a coin in the picture for size or buy yourself a small ruler with clear markings. Things like lens caps are of limited use (e.g., is the lens cap off a 600 mm or a 40 mm lens)?
- Don't hesitate to move leaves, sticks or other debris that obscure parts of the fungus, distract the viewer or reflect bright light and affect the exposure.
- Get as close as your camera will allow to get detail. Try to fill the frame and to clearly see the gills or pores and details of the cap and stem.
- A photograph of the mushroom cap is great but **MUST** be accompanied by a picture of the underside of the cap and the stalk. If you are in a protected area such as a national park you cannot pick them, so carry a small mirror – it can allow you to look under the cap or can be used to reflect light under the cap. You can also photograph the underside by taking a picture of the reflection.

- Outside protected areas it won't kill the fungus (the mushroom is only a fruit – like an apple. The real fungus body is under the soil or inside the wood) if you pick one of the mushrooms and lay it on its side so a picture can be taken of the stalk, and whether it has a ring on the stem, scales or hairs, gills, spines or pores and other features. To photograph the underside, you do NOT need to get down to fungus level – just collect one and put it in a convenient place such as on a nearby log. There are no fungi that will harm you if you pick them, unless you are highly allergic. Don't forget to include the coin or scale.
- If you are in a protected area set telephone cameras on “selfie” so you can see what you are doing when photographing the underside directly (or use the mirror).
- Some fungi that grow on soil, such as some of the *Amanita's*, have a sac at the base of the stalk or a long rooting stalk called a shank, and this is a valuable character to note. For that reason, if you are going to collect it to photograph, use a twig or a pocketknife to dig up the fungus, rather than snap it off at the base.
- Try and get a close-up of where the stalk joins the cap. How the gills or pores are situated in relation to the stalk is a vital piece of information. Sometimes, with careful manoeuvring, you can even see if there are joining pieces between the gills, whether the gills branch, or how thick the walls of pores are.
- If the fungus bruises or changes colour after you handle it, take a “before and after” pic.

Mushrooms and similar life forms ON WOOD

- Same as on soil but try to get a close-up of where the fungus emerges from the wood. A ring of hyphae, a bunch of hairs or what colour they are and the presence of rootlike structures called rhizomorphs can give vital clues.

Bracket fungi on trees

- Similar guidelines to above. Photograph the fruit body from above, from the side so its thickness can be estimated and the underside to show whether it has gills, pores or spines, or no visible structures at all. Don't forget to use a coin or something for size. If it is just too awkward because of its vertical position, just putting your hand near it for size is better than nothing.
- If you are not in a protected area, use a pocketknife or brute strength to cut or break a piece off the fruit body and take a close up of its internals. Colour, structure and bruising is extremely helpful.
- Photograph the cluster if it is in tiers and take special note of whether there are root-like structures growing from it over the surface of the wood.

