Macro Photography

Hints and Tips

Lenses

For Fungi/Macro

What is the best macro lens

- Physical size
  - hand held
  - tripod
- Budget
- Preferred subject matter
  - Flowers
  - insects
- Preferred style
  - Sharp
  - impressionistic

Focal lengths

- Short macro lens 35-60mm
  - Light weight, cheaper
  - Shorter working distance, not good for insects
- Midrange macro lens 80-105mm
  - Light weight, somewhat inexpensive
  - Larger working distance, great for flowers
- Long macro lens 150-200mm
  - Great working distance, good for insects
  - Heavy, expensive

Alternatives

- Extension tubes
  - Decreases minimum distance without adding glass
  - Keeps image quality high
- Reversing rings
  - Inexpensive adapter that allows you to mount a lens backwards on your camera, transforming it into a high-magnification macro lens
- Close up filters
  - Acts like a magnifying glass screwed onto your lens filter thread

Identifying Fungi

Cap

- Shape
  - Convex, flat, sunken
- Colour
- Texture
  - Slimy, dry, scaly

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Gills or pores

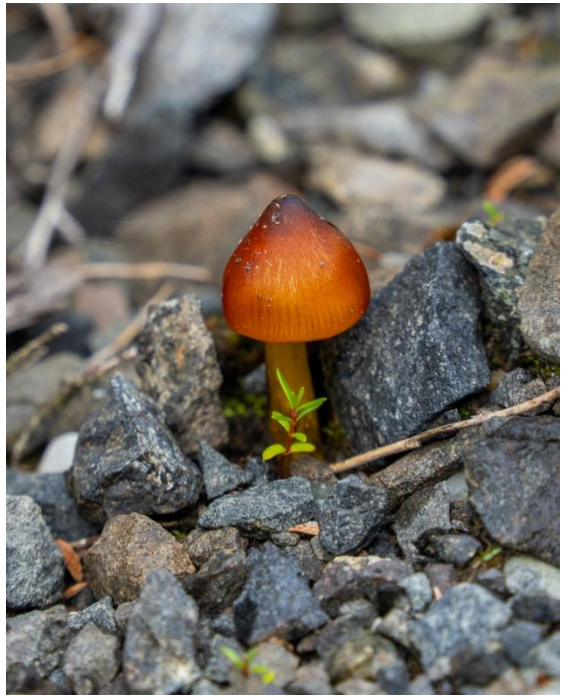
- Attached to stem
  - Adnate
    - Directly attached to the stem
  - Decurrent
    - Extend downwards from the stem

    Below the point of attachment to the cap
  - Free
    - The gills do not reach over to touch the stem

Stem

- Presence of ring or volva
  - Cup-like or sac-like structure at the base of the stalk

Habitat



Website

- https://virtualmycota.landscareresearch.co.nz
- https://blog.tepapa.govt.nz

Things that make it easier to get a good image

Tripods

Lighting

Comfort

Other Stuff

?

Tripods – why you need them for fungi

- Longer exposures ½ sec – 1/20th sec

  Stationary subject so longer exposure = lower ISO and smaller apertures (greater depth of field)

- Maintaining/refining your composition

  Stationary subject so can check image – adjust composition &“gardening”

- Saving your back and knees

  Camera often in an uncomfortable location for extended periods

Standard Tripods - need for fungi on:

- Tree trunks
- Banks and track cuttings
- Large logs and windfalls
- Any subject more than ½m off the ground

Marasmiellus sp. growing on a tree trunk

Hot lips puffball growing on a vertical bank beside a track

Mini/Table-top Tripods - *get camera low*

- **Majority of small things are on the ground!**

get low - ***Seeing the gills*** – adds interest & needed for identification

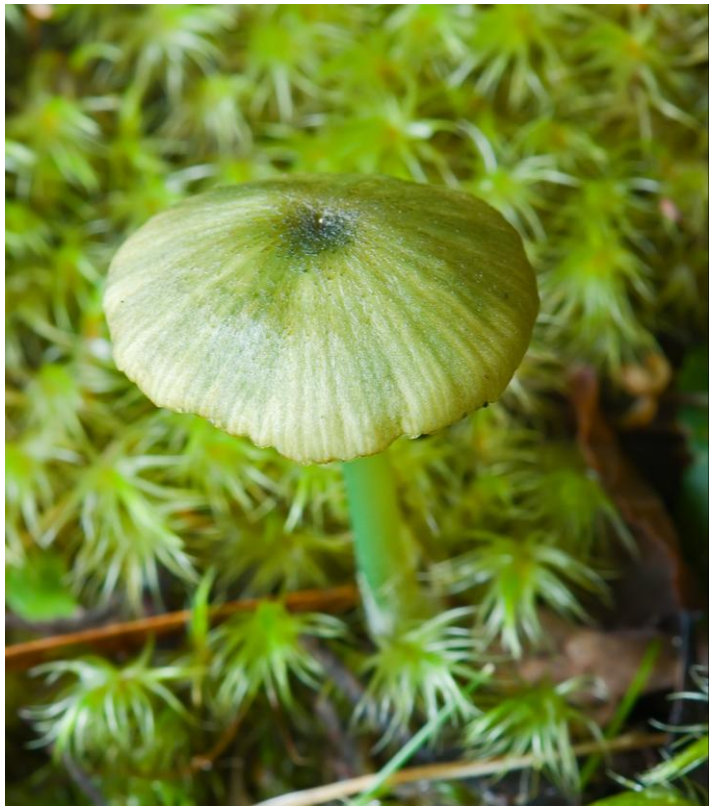
Above – "looking down on"

VS.

Below – "looking up at"

Mini/Table-top Tripods - *get camera low*

- Majority of small things are on the ground
- Seeing the gills – interest & identification
- **Easier to create separation**



Portable Lighting – *fungi are generally in low-light forest locations*

Small, adjustable LED panels or flashlight/touches are ideal for

- brightening shadows
- ✓ illuminating under-cap gills and highlighting translucency,
- creating rim lighting and/or highlighting textures
- ✓ allowing lower ISO settings and smaller apertures *(greater depth of field)*

"Adjustability" (dimming) is important – you often only need a small amount of light – a standard touch is way too bright (layers of tissue can act as a diffuser)

A small sheet of shiny aluminum foil or white plastic can be placed on the ground below the fungi to reflect any nature light up into the gills

Portable Lighting

Natural light only

LED lighting from behind and below

Other Stuff

My "always haves"

- Sack/plastic bin liner/small groundsheet –
  Keeping yourself dry while working with a camera close to the ground
- Foam pad/folded towel/anything soft –
  Easer on the knees while working with a camera close to the ground
- "Cable"/remote release –
  Easier to trigger the camera when its close to the ground
  Avoid camera shake with long exposure
  Avoid moving the camera and disturbing composure/focus
- Soft paint brush – "gardening"

Have found useful

- Diffuser – reducing "hot spots" from little patches of sunlight
- Clip cloths pegs on a length of string – hold twigs/branches/fern fronds out of the way

….. and how much does it cost?

~$180

~$50

~$350

~$60

$50

- **Bean bags are an alternative**

When ….Fungi can be found in New Zealand year round though the peak season is autumn and winter ,(March to July), particularly following rain.
While many mushroom are seasonal, you can find different varieties throughout the year by looking in native forests, urban parks, and older, established gardens.

Where in Southland ….
Southern NZ beech forests, particularly in Fiordland, eg Monowai, Kepler Track and other Southland areas , eg Piano Flat, are hotspots for fungi in autumn (March-May) due to symbiotic relationships with tree roots.

The Catlins rainforest is another particularly fruitful area and Reserves closer to Invers such as Seaward Bush, Omaui, Otatara , Edendale and Mores Reserve Riverton , (lower western track), provide opportunities for Fungi photography.

How to locate Fungi
Take your time and be inquisitive , inspect rotting vegetation including at the log/branch leaf litter intersection and under if raised off the ground. While Fungi generally prefer damp environments such as mossy banks they can also be found elsewhere… such as in thin leaf litter on ancient sand hills under totara forest as well as out in t he open and the display can very considerably from season to season

If moving for staging please place back once finished shooting. ……..

Macro photography creates an extremely shallow depth of field often only a few millimetres or less meaning only a tiny fraction of the subject is in sharp focus and Focus bracketing / Focus stacking can help overcome this.

FB is the process of capturing multiple images at different focal distances while FS is the subsequent editing technique that blends these images to create a single deep depth of field image.

Some cameras allowing Focus Stacking of up to about 15 images with a final in camera jpg composite otherwise the raw bracketed images need to be stacked in your preferred photoediting software.

My camera Settings …
Aperture Priority or Manual …
Varies from F 5.6 to F11. I have on occasions used F16 with an increased ISO…..
Varies from ISO 100 to 400….
Shutter Speed I allow the camera to determine this as I mainly use AP with a tripod.

I use the camera default incremental setting of 4 and try to focus manually slightly in front of the subject if at all possible because sometimes the slightest movement when touching a camera button can throw off focus especially when using a bean bag and at times a tripod.

Remember also to refocus prior to starting a new set .

Leotia sps aka jelly baby fungi. These were tiny with individual plants being about 5cm in height with variation in the colouring of the cap from black ,brown and green) and degree of the wonderful stalk markings.

A stack of 22 images —- SS 1/2 a second … F11… ISO 160… Spot Metering.

Full frame camera on a bean bag using a 100mm macro lens. I was probably in aperture priority mode with soft portable LED lighting…