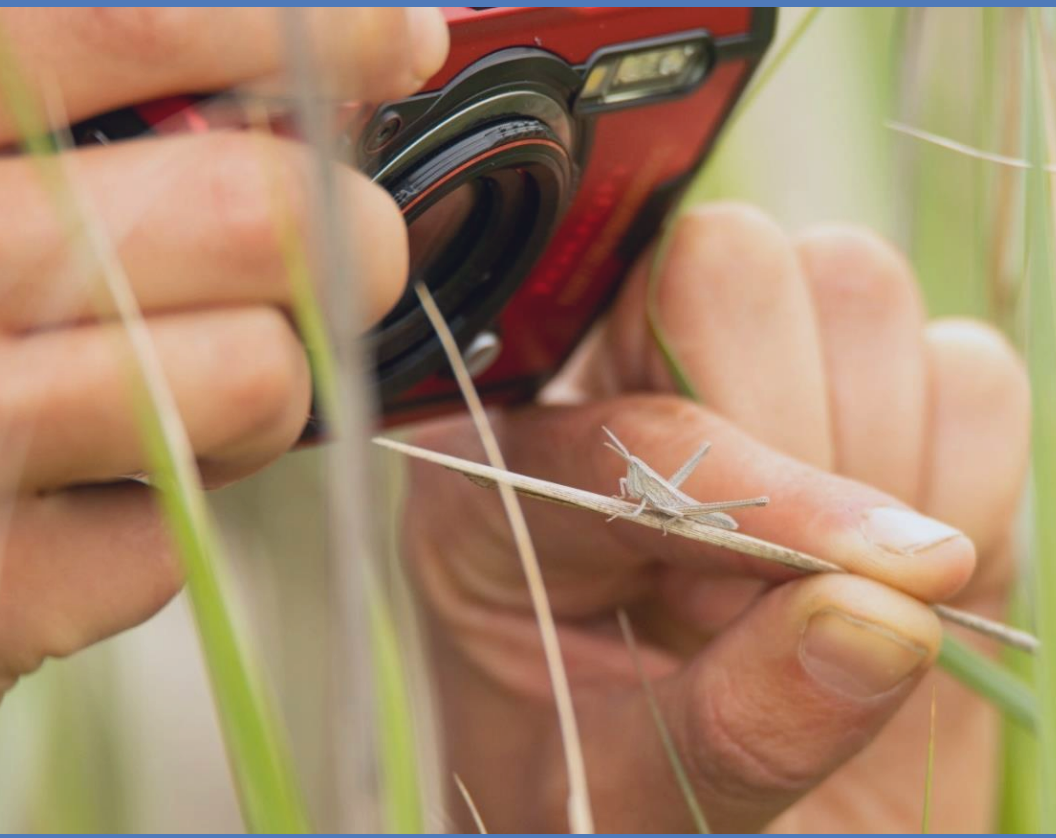
# iNaturalist Photo Guide

Tips, tricks, and guides to help get your sightings identified



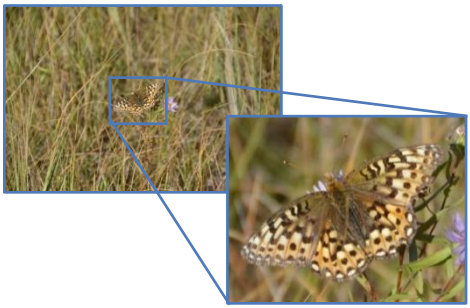
A collaboration between the BC Parks iNaturalist Project, BC Conservation Data Centre, Royal BC Museum, Scott Gilmore, and Andrew Simon

# Table of Contents

# Basic Techniques

## Cropping

Always crop your photos so the focus is on the species you are observing. This gives computer vision software the best chance of suggesting the correct species and makes it easier for others to confirm your species identification.



*Insects can be tricky… take multiple shots as you approach and see how close you can get!*

## Multiple Views

Take photos of different features at different angles and combine your multiple views into a single observation. A photo showing the habitat or what the species is growing on can also be useful for species identification.

*Try to take macro (close-up) photos of these features. The more detail, the better the chance of identification.*

## Focus

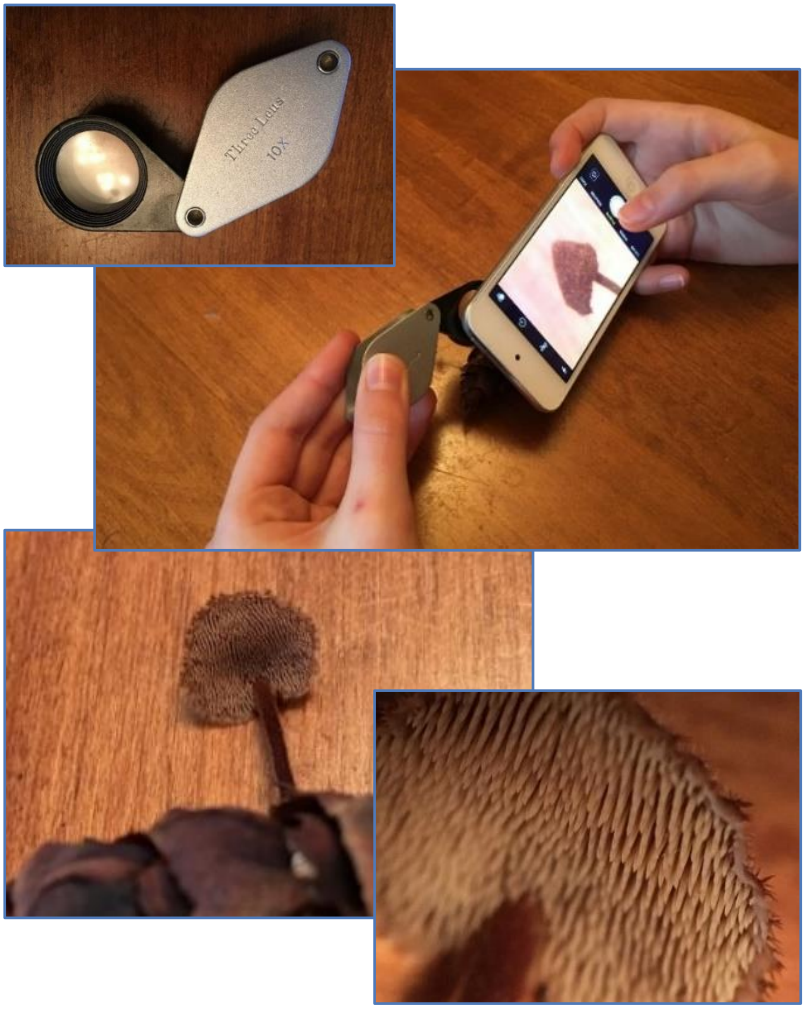
Depth of field is the amount of space that is in focus in a single photo. For 3D subjects like tall plants or insects with long legs and antennae, it can be hard to get the entire subject in focus. Use the largest possible depth of field by setting your camera to a larger aperture number or “f-stop” (e.g., f11 instead of f2.8).

The photo on the right has flowers, stems, leaves, and rocks in focus – all in one shot.

*Be aware that using a higher f-stop in low light may mean movement from the camera or the subject will result in a blurry photo. When it is dark or windy, use a flash or a headlamp. If needed, take multiple photos.*

## Create Your Own Macro Lens

Did you know a basic jewelers loupe hand lens acts like a macro lens for your smartphone camera? Just hold it up to the lens and get close for a much more detailed photograph.




*If you have access to a microscope, you can use a similar technique to photograph tiny things.*

# Arthropods

## Beetles, Bugs, and Crabs
## (Flat species from the top)

The most important photo is from above. This allows the shape of key features to be seen. Additional photos of the side, front, and underside can also be extremely useful.

*For tiger beetles, the mandibles and labrum (in addition to the view from above) are important for identification.*

## Bumblebees, Flies, and Leafhoppers (Flat species from the side)

Take a photo from the side so that the head and abdomen are visible. Additional photos of the abdomen from above, the wing venation, and the face head-on can increase the likelihood that your sighting will be identified.

Side

Abdomen

Face

Top-down

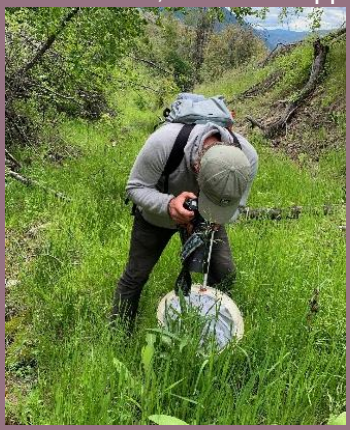
# How They Got The Shot

## Brian Starzomski

(https://inaturalist.ca/people/bstarzomski)

**Golden Northern Bumble Bee** *(Bombus fervidus)*
https://inaturalist.ca/observations/51238166

“I always take multiple shots of insects. They move so fast that it is difficult to get that "perfect" shot. Fortunately, you can combine multiple photos in one iNaturalist observation, so I do my best to get as many different angles as possible. Side shots are essential, especially of things like dragonflies and butterflies where both the top and bottom of the wings are important for IDs. Top shots are important for beetles. So, when I'm approaching an insect, I take lots of photos and choose the best ones later to combine into one observation. I'm shameless about including as many as 20 different photos into one observation, to ensure as many ID characteristics as possible are present. I’ll do this with a macro lens on my DSLR or a hand lens over my cell phone lens: whatever works!”

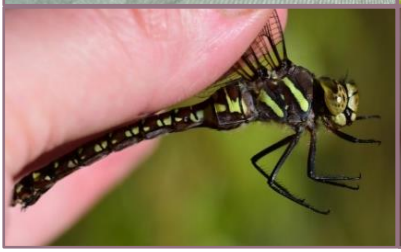


## Butterflies and Moths

For many butterflies, the underside of the wing is more important for identification than the top side. For many moths, the top side provides more information about the species than the underside. When possible, it is beneficial to photograph both perspectives.

## Dragonflies

Photos should be taken from the side, showing the thorax and if possible, the terminal appendages. If there is a distinct wing pattern, a photo taken from above will work.



# How They Got The Shot

## Kate McKeown

(https://inaturalist.ca/people/katemckeown)

**Southwestern Eyed Sphinx**
*(Smerinthus ophthalmica)*
https://inaturalist.ca/observations/54866955

"When photographing butterflies and moths, I take several photos as I approach. You usually cannot get too close before they fly away. When photographing moths at night, I use a flashlight or headlamp to illuminate the subject so my camera can focus. I make sure to use a good flash so I can see all of the details of the moth's back. When possible, I also photograph the moth's side as the underwing can provide useful information about the species."

## Spiders

Photograph the shape of the spider's web and take note of its habitat.

Next, use your macro lens to obtain close-ups of the top side and underside of the spider, as well as a shot of the face head-on to see the position of the eyes.

Photographing the eye arrangement and dorsal pattern can help you identify the spider to family or genus.

# How They Got The Shot

## Thomas Barbin

(https://inaturalist.ca/people/thomasbarbin)


**Johnson's Jumping Spider**

*(Phidippus johnsoni)*

https://inaturalist.ca/observations/59997087

"I like to encourage active spiders (especially jumping spiders) onto a stick, leaf or rock to make photographing them easier. I hold the object with the spider in my left hand while resting the end of my lens on the palm/wrist area of my left hand. This allows everything to move as one, making it easier to focus on the spider. As I track and photograph the spider, I move the object with my fingers to get all the key angles for ID. Once I have what I need for an ID, I like to get creative with different angles. By facing different directions, I can choose what I want the background to be (blue sky, green leaves, dark background, etc.).

Jumping spiders can be especially tricky and like to jump. When they jump, they leave a dragline attached to the object they jumped from and repel down. Try to grab their dragline before they hit the ground and lift them back up to your stick/leaf/rock!"

# Chordates

## Amphibians and Reptiles

Photograph these species from the side, ensuring there is a clear view of the side of the face, and from the top-down.

*For reptiles, a close-up photo of the scales may help with identification.*

## Birds and Mammals

These species may move quickly so capturing any photo is better than no photo! Ideally, you should get a photo of the entire body and ensure that the face is visible. Remember to crop your photo so the animal makes up most of the image.

# How They Got The Shot

## John Reynolds

(https://inaturalist.ca/people/johndreynolds)

**Bufflehead** *(Bucephala albeola)*
https://inaturalist.ca/observations/63359802

“Flight shots of birds are tricky; for every one that works, I usually get 10 that don't. Having a good zoom lens and a camera that takes multiple frames per second certainly helps. Fast shutter speeds are essential. Set your camera's focus to track moving objects if possible, then focus on the bird as soon as you can and keep firing as it flies by.

Delete delete delete... success!”

# Cnidarians & Molluscs

## Anemones

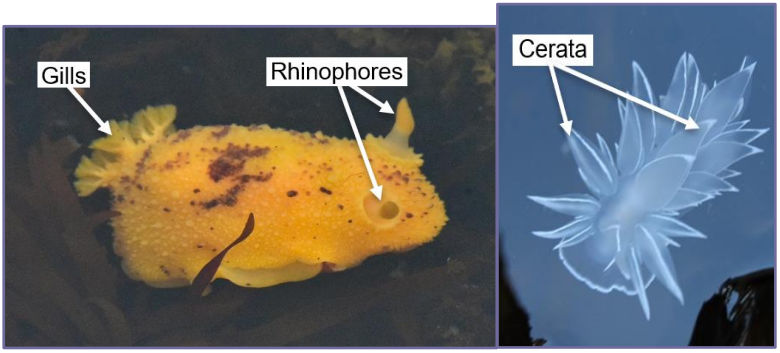
Photos of the column and the oral face are most important for identification.

## Limpets

Take photos of the top, the side, and the inside of the shell. Photos of the inside of the shell show the dark blotch in the middle, which can be useful for identification.

## Nudibranchs

In addition to a photo of the whole body, try to obtain close-ups of the rhinophores, gills, and cerata (as applicable).




## Bivalves

If they are alive, take photos of the side and the hinge.

If they are dead, photos of the top, inside of the shell and the hinge can provide key identification features.

## Snails

A photo of the snail's opening (aperture) is the most important photo.


*Additional photos of both sides are helpful, particularly for land snails.*

# How They Got The Shot

## Lena Dietz Chiasson

(https://inaturalist.ca/people/ldietzchiasson)

**Purple Dwarf Olive Snail**
*(Olivella biplicata)*
https://inaturalist.ca/observations/55674317

“Walks on the beach are especially exciting to me because there’s an endless variety of critters to find and observe. Some of them like to hide in the sand or under rocks and are a bit tricky to find, while others will be scurrying in front of your feet. I like to carry a waterproof camera or my waterproofed phone and hand lens when exploring intertidal areas.”

# Plants & Fungi

## Mosses, Liverworts, and Hornworts

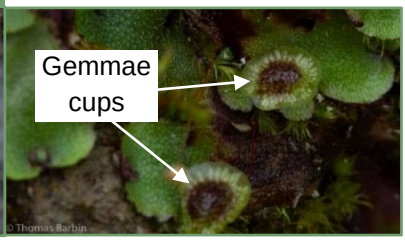
For these taxa, photograph the overall shape of the species and what it is growing on (e.g. wood, rock, soil, etc.). Use your macro lens to obtain close-ups showing how the leaves attach to the stem, if and where there are teeth on the leaf margins, and (for mosses) the shape, number of teeth, and colour of the capsule.

### Mosses





### Liverworts



## Vascular Plants

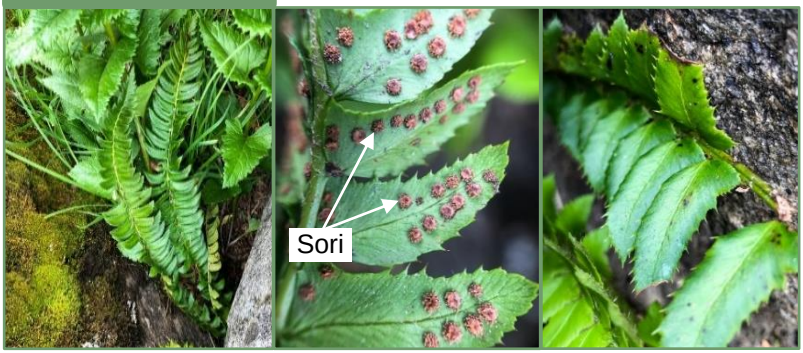
Take photos of the species' habitat and its overall appearance (showing scale if possible), then photograph the different features of the plant. Common features include the capitulum (head of the flower), involucral bracts (modified leaves at the base of the head of the flower), and basal and cauline leaves (leaves at the base and leaves further up the stem, respectively).

### Flowering Plants


*Close-ups showing texture of these features (e.g. hairiness of involucral bracts, leaves, stems) may offer more information about the species.*

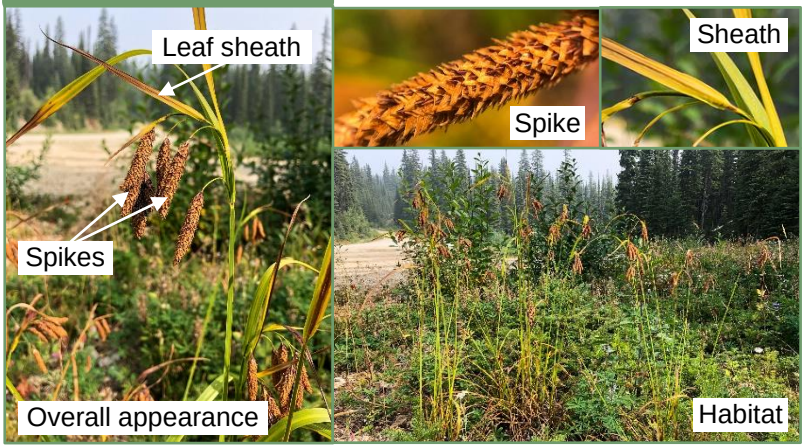
Also photograph sori, fruit, and cones as applicable.

### Ferns

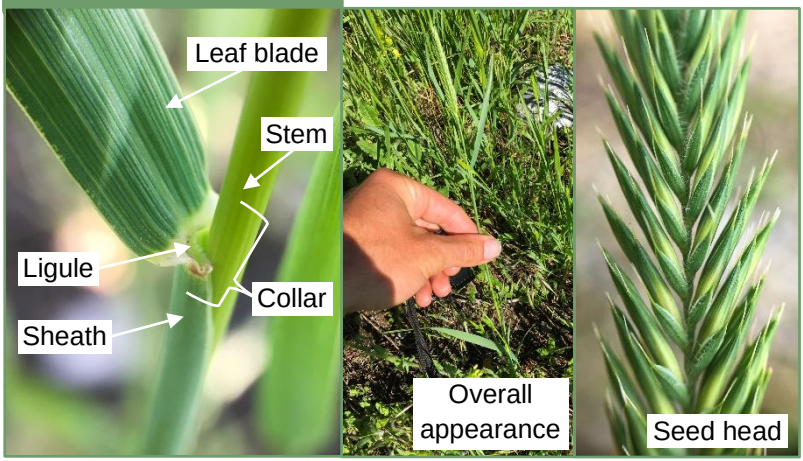


Sedge stems are triangular and solid while grass stems are round and hollow. When photographing a sedge, take close-ups of the basal leaf sheath (for colour), both sides of the cauline leaf sheath (for venation, shape, and texture), and the spike. When photographing grass, take photos of the seed head, collar (ligule and sheath) and leaves (leaf tips and blades). Don't forget to photograph the overall appearance and habitat, too.

**Sedges**




**Grasses**



# How They Got The Shot

## Jason Headley

(https://inaturalist.ca/people/jasonheadley)

**Spotted Coralroot**
(*Corallorhiza maculata*)
https://inaturalist.ca/observations/27367682

"Macro helps a ton with identifications, whether it's showing fine hairs on leaf margins or you just want to show off the spots on *Corallorhiza maculata*. Most macro setups can be expensive and cumbersome in the field; however, holding a hand lens/jewelers loupe up to your phone camera can be an inexpensive solution with surprising results.

I often use a 10x21mm loupe that rarely leaves my side, you never know when you'll run into the next insect or beautiful spring wildflower.

Pop the hand lens over the phone camera and voila!, a DIY close-up shot that gets all the key ID features for this beautiful plant."

## Fungi and Lichens

The habitat where a fungus or lichen is growing is crucial for its identification. Take photos of what the organism is growing on (e.g. wood, rock, etc.), its overall shape, and the different sides of the organism (e.g. the underside of a mushroom cap and both sides of the lichen). Use your macro lens to obtain close-ups of the different features and textures of the organism.

**Fungi**






Fungi on wood | Overall shape | Underside

**Lichens**


Top view of lichen (on wood) | Underside

Many fungi and lichens must be viewed under a microscope and often fungi have a spore print taken to identify them to species.

## Acknowledgements

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## iNaturalist Resources

BC Parks Foundation Guide to Becoming a Citizen Scientist
https://bcparksfoundation.ca/site/assets/files/1697/bcparksinaturalist_howtoguide.pdf

iNaturalist.ca – Getting Started
https://inaturalist.ca/pages/getting+started

iNaturalist Tips & Tricks by Cassi Saari
http://www.cassisaari.com/inaturalist-tips-tricks/

How to photograph plants (and more) by Lena Struwe & Peter Nitzsche
https://botanydepot.com/2020/07/27/presentation-how-to-photograph-plants-and-more/

## Check out the BC Parks iNaturalist Project at https://inaturalist.ca/projects/bc-parks