

HOW TO CAPTURE TINY INSECTS WITH YOUR SMARTPHONE

1. The Full Picture



This face is cute, but not easy to identify.

One way I like to do this is when I spot a moth on our glass doors. I get a photo of the underside from inside, then I creep around to the outside to get a shot of the upper-side. Having the underside photo can often aid ID.

As best as you can, when photographing insects, try to get at least one shot of the entire creature, including antennae if they are very long.

Although close-ups of a particular feature can make for interesting photographs, they are often very difficult to identify. I like to try and get at least two angles: a "birds eye view" shot, and one showing the creature from the side or underneath.



A full view of the top and side are useful, and for grasshoppers like this, the underside and pictures of the wings and tip of the abdomen could help too.



Getting both sides of this Australian Pug Moth (*Chloroclystis filata*) with the help of a glass door.

2. Getting the Focus

One of the most frustrating things when trying to get a photo of a tiny bug is getting it in sharp focus. My first hint here is to add a backdrop. (Of course, if your phone allows it, you can try focusing manually, but that can be quite tricky to get the hang of.)

Particularly if you are photographing an insect sitting on a flower, it can be hard to get your phone to focus on such a small object in the foreground. If you can, without disturbing it, carefully move your hand behind the insect to give your phone a larger target to focus on. Some people carry a piece of white or blue card for this purpose (I am never that organised). Sometimes it is possible to use your hand as the focal point, then quickly take it away and snap the photo without your phone focus readjusting.



a) Blurry and out of focus, b) a hand helps bring the focus in, c) carefully removing the hand with the camera still focused on the subjects - a pair of male *Lasioglossum* bees.

3. Know Your Limits

My second hint for getting your subject in focus is knowing how close you can get before your phone can't focus anymore. This is because you're getting closer to the subject than the



I was getting my phone camera too close to this crab spider feeding on a stingless bee. Backing off a little bit helped bring it back in focus.

phone's focal length allows. No matter how hard you try, the bug is still blurry - in this case, back it up. You can take the photo from further away and crop it down later (or use the zoom, but I often find it is harder to hold the camera still enough, and the result is the same regardless of whether you zoom in while photographing or crop later).

One way to improve the focal length and magnification of your phone is to use a lens. I use a clip-on 15x lens, ordered online. However, before I had that, I found you could take decent photographs with a handheld magnifying lens. This takes some patience but the results are worth it.



Unmagnified and magnified (with a hand lens) long-horned beetle.

4. Slow It Down

Sometimes, you just can't get a good shot because your subject is TOO DANG FAST. Target insects when they are not moving too much e.g. while basking in the sun, feeding, mating etc. You could try offering food - ants are constantly running back and forth, but many species will stop for honey or other sweet foods. This is a great time to try photographing them.



Basking Wandering Percher (*Diplacodes bipunctata*), and *Ochetellus* sp. ants feeding on honey.

Finally, you could always catch the insect in a container and photograph it there. Some people recommend putting the container in the fridge to cool it down, but this runs the risk of

killing your bug if it gets too cold too quickly. I like to put them somewhere dark for a few minutes then photograph them while they are still. My favourite container for photographing insects are Ferrero Rocher plastic boxes (or maybe I just enjoy the contents...). These are super clear with flat sides. You might like to include a ruler or 5mm grid paper as a background which doubles as a scale.



Another way to get shots of an insect that is moving too fast is to use the burst shot function. This produces clearer photos than taking a video and pulling a single frame out, as videos are often compressed and lose sharpness.



I used burst shots to get this photograph (a) of a velvet ant, and in the process deleted many photos like (b).

5. Location, location, location

This is the one I always get annoyed at my past self for: neglecting to record where I took the photo. Location is so important when identifying insects, and getting the most accurate



What's that in the background? A clue! Avoid this detective work by always recording the location of your photographs.

location possible will really help your chances of getting an ID. In most phones you can turn on geotagging for photographs, but this is not always perfect. Nor is my memory, I have many photos of cool insects but I can't remember where I saw them! The best remedy for this is to physically record the GPS coordinates and write them down when you take a shot, or mark it on a map. The next best thing is to write a note where your photo is stored with a description of where you were, or to take a photo of the wider landscape where you saw the insect that will help jog your memory later. I was recently able to pinpoint where I took a photo of a fly because in the background I could see a bathroom block with a blue and white striped roof - it took me a while on Google Maps but this clue helped! It could have been much

simpler if I had made a note of where I was.

6. Fix it in Post

I never used to put any effort into editing my photos after I took them. But if you are like me and not so interested in fiddling around trying to make your photo look nicer, at least consider these three edits: CROP: So you saw a

butterfly, but could only get so close before it flew off.

You think someone could still identify it, but it's in the upper right corner of the photo and not very obvious. This is when you should use the crop tool: even if the image loses some detail from being enlarged, it helps the IDers see what it is you want IDed and saves them from having to zoom aaaaall the way in.

ROTATE: I like to rotate my moths so that their head is at the top of the

picture. This just helps when comparing your photo to documented specimens, which are almost always photographed with the head at the top. For butterflies, I rotate so that the forewing is at the top, and the hindwing at the bottom. You may also like to do this for other insects such as beetles.

BRIGHTEN: Sometimes you see an interesting insect but it's just too dark, and flash is not helping. You can slightly adjust the brightness later to help highlight patterns that weren't obvious before.



To help make this dark photo of a Southern Moon Moth (*Dasypodia selenophora*) easier to identify, I cropped, rotated and brightened the image to bring out the patterns in its wings.



A Blurry Smudge (*Confundo obscurus*) - okay, not really.

-Claudia Schipp