



Denis Morris High School Art Department

Grade 12 Photography MACRO PHOTOGRAPHY



What We'll Cover Today:





What We'll Cover Today:

- ▶ **Introduction -**
 - What is Macro Photography**
 - Basic Challenges & Solutions
 - Setting Up Your Camera
 - Lighting and Composition
 - Conclusion / Review / Questions





What is Macro Photography?





What is Macro Photography?



- The term "Macro" is used very loosely and tends to mean any photographic situation where you get close to the subject.



What is Macro Photography?

- Traditional Macro photography is shooting with image-to-subject ratios of **1:4** or closer (**1:2**, **1:1**, etc...).
- This means: The image being captured on the sensor is 1/4 the size of the real object (or larger).
- 1:5 is typically how close you can get with most regular lenses



1:2 Ratio



1:5 Ratio



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Filling the Viewfinder:





Filling the Viewfinder:

- Getting close & filling the viewfinder is the first step to successful macro photography.
- By filling the frame, the subject can be seen in a whole new way, bringing interest to an otherwise boring subject.



Filling the Viewfinder:



Filling the Viewfinder:





Filling the Viewfinder:





Filling the Viewfinder:

Challenges:

- Your lens may not focus close enough or...
- You want this composition, but be further away physically



DSLR Lens Options



DSLR Lens Options

Macro Featured Zoom:

- Versatile, reasonably priced tool for occasional macro work
- Usually limited in how large they can reproduce (1:4)
- Tend to have a higher minimum f-number (ie: gather less light and require longer exposures)





DSLR Lens Options

Dedicated Macro Lens:

- Fixed focal lengths:
 - 60mm, 105mm, 180mm, etc...
- Superior results in all aspects of macro work, including: colour, contrast, sharpness & focus control
- Most reproduce at 1:1
- Tend to have a larger maximum f-stop than zooms
- Typically higher in cost





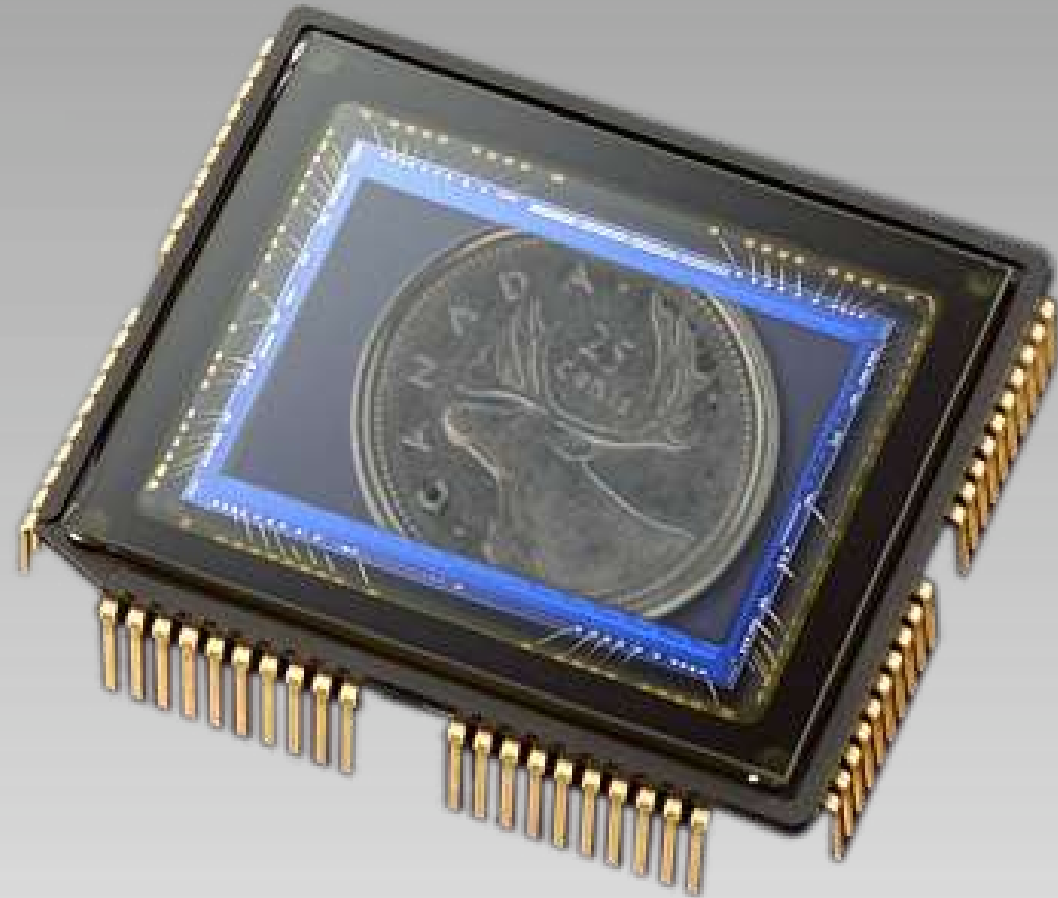
DSLR Macro Lenses



- Lenses that can achieve a **1:1** ratio can make the image on the sensor the same size as the real object.



DSLR Macro Lenses



1:1 Ratio

- Lenses that can achieve a **1:1** ratio can make the image on the sensor the same size as the real object.



DSLR Macro Lenses



1:1 Ratio



1:2 Ratio

- Lenses that can achieve a **1:1** ratio can make the image on the sensor the same size as the real object.



DSLR Macro Accessories



DSLR Macro Accessories

- **Extension Tubes:** Hollow tubes placed between the camera body & lens. Less expensive alternative that can still retain sharp detail. (DSLRs only). Can be used accumulatively for increased effect
- **Teleconverters:** Can be added to macro lenses to increase working distance.

***Note:** Both these accessories reduce the amount of light that strikes the sensor.*





DSLR Macro Accessories



DSLR Macro Accessories

- **Close-up Filters:** Inexpensive screw-on accessories that allow normal lenses to focus closer
- Can be stacked in order for increased effect (ex: +4 on lens, then +2, then +1)
- Tend to degrade the image quality when compared to extension tubes or dedicated macro lenses





P&S vs DSLR Macro Results

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Point & Shoot with close up filters



P&S vs DSLR Macro Results

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DSLR & Macro lens



Controlling Depth of Field:





Controlling Depth of Field:

- As the camera-to-subject distance gets shorter, Depth of Field gets shallower.
- Macro photography involves very short camera-to-subject distances - depth of field will often be VERY shallow.



Controlling Depth of Field:

- To combat this, choose an aperture like f/22 or smaller to produce greater depth of field.
- DSLRs offer much more control and variance in depth of field over Point & Shoot cameras, but great shots with Point & Shoots are still possible.

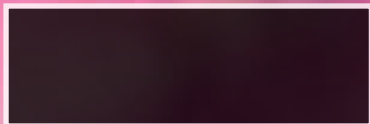


Depth of Field Differences:



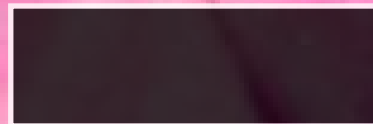


Depth of Field Differences:



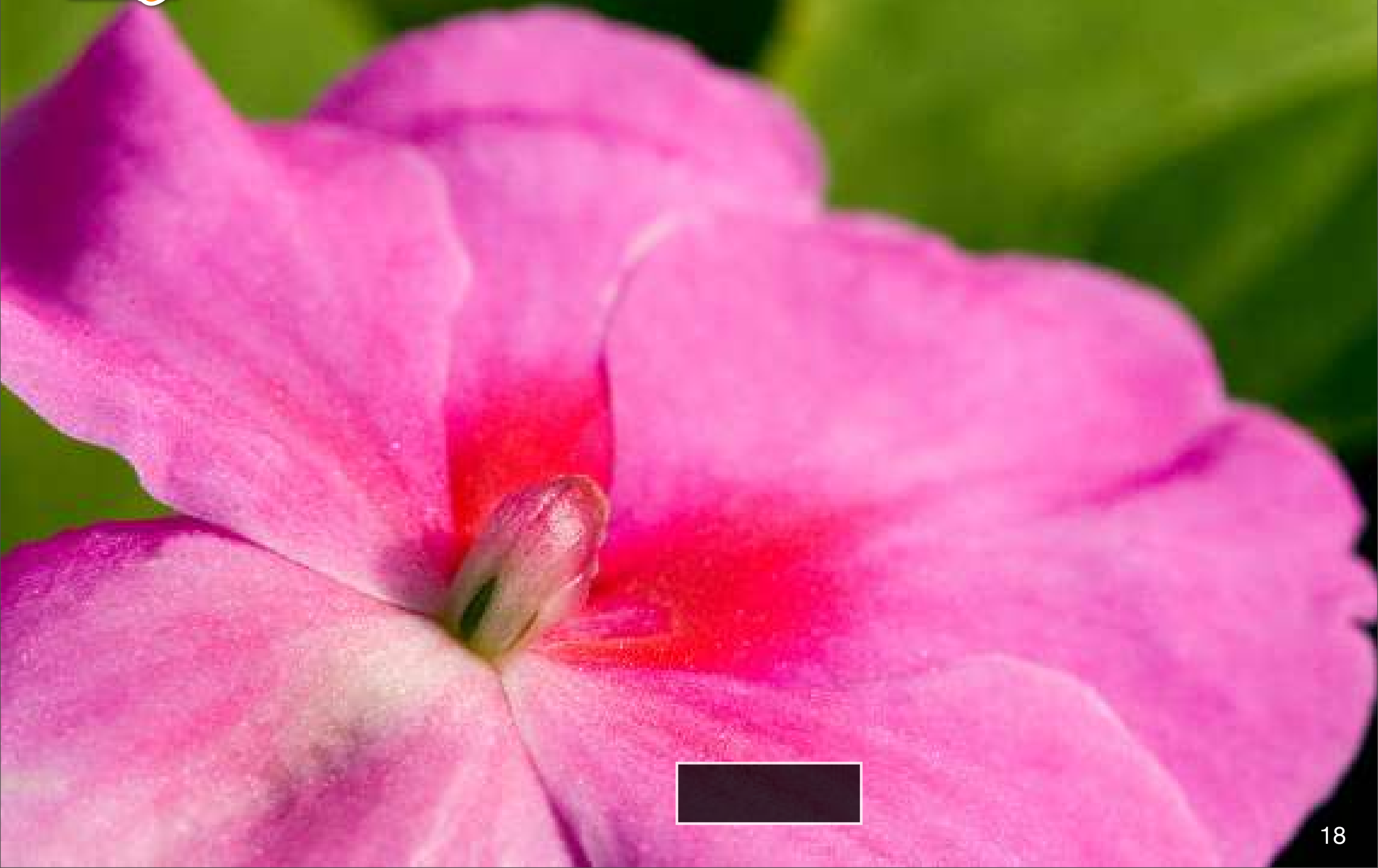


Depth of Field Differences:





Depth of Field Differences:





Depth of Field Differences:





Depth of Field Differences:





Depth of Field Differences:

1/1000 sec f/2.8



Depth of Field Differences:

1/15 sec f/22



Keeping The Camera Steady



Keeping The Camera Steady

- Using smaller apertures to increase depth of field means shutter speeds will often be too slow to hand hold.
- A good, sturdy tripod is also essential because camera shake is magnified more when shooting up close.



Keeping The Camera Steady





Keeping The Camera Steady

- Use a cable release or wireless remote to avoid shaking the tripod.
- Using the self timer can also be effective in reducing shake.





Keeping The Camera Steady



1/30 sec f/5.6



Keeping The Camera Steady



1/30 sec f/5.6 with stabilization



Lighting and Flash





Lighting and Flash



- A built-in camera flash will usually ruin a macro shot by producing very unattractive (harsh) light
- Most good macro shots aren't created with frontal lighting. They are lit from the side or with no flash at all
- Flash may also scare living subjects
- Disable your camera's built in flash to get better results



Focusing: Auto vs Manual





Focusing: Auto vs Manual

- Auto Focus can often be ineffective with macro photography:
 - “hunting” (unable to lock on subject)
 - less than efficient when needing to focus on particular part of subject
- Manual Focus provides complete control
- **Notes:** *Focus confirmation indicator in viewfinder of DSLRs still works in MF.*
- *Proper macro lenses have superior manual focus mechanisms*



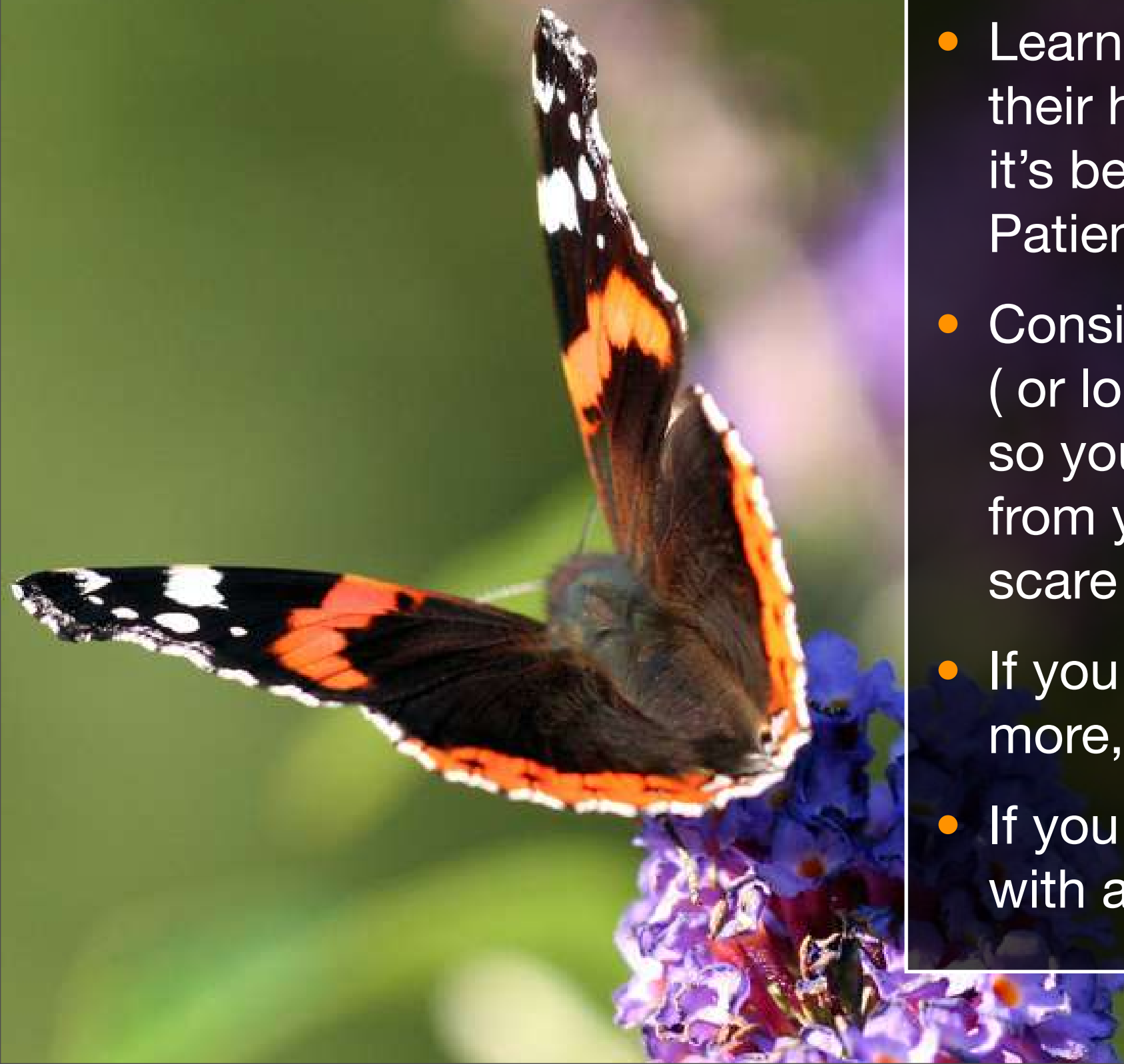


Subject 'Flying Away'





Subject 'Flying Away'



- Learn about your subjects & their habits. Know when/where it's best to photograph them. Patience is key.
- Consider investing in a 100mm (or longer) 'telephoto macro' so you can be further back from your subject (and not scare it)
- If you have 8 Megapixels or more, you can always crop.
- If you are going to wait, wait with a tripod.



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Setting Up Your Camera



Setting Up Your Camera



- **Point & Shoot Cameras:** The flower icon is the macro mode setting. It must be used to enable close focusing. Most effective at a particular spot in camera's zoom range.
- **DSLR Cameras:** Is the macro auto exposure mode, but has no impact on focusing ability. This is not a critical mode to set. Using Aperture Priority or Manual exposure mode offers greater creative control and is recommended



DSLR Techniques



- 1) Turn on manual focus or.. If applicable, turn on macro focusing (switch may be on lens)
- 2) Turn on image stabilization if available
- 3) Set exposure mode to Aperture priority or Manual and set smaller f-stop (ex: f/16, f/22, etc...)
- 4) Disable the built in flash



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General Macro Lighting



General Macro Lighting

- TURN OFF the on-camera flash.
- Be aware of all light sources and their direction in relation to your subject.
- Make sure nothing is blocking the light on your subject.
(You, camera, another person, etc...)
- Consider using one of several lighting accessories available for DSLR cameras - including: Flash/LED ring-lights, lens mountable dual flashes (Nikon R1C1 & Canon's MT-24EX), etc...





Outdoor Macro Lighting



Outdoor Macro Lighting

- Lighting conditions have a LARGE impact on the quality and appearance of your image.

Conditions to Consider:

- Open sun & the direction of the sun
- Available shade
- Overcast conditions
- After it rains

Types of Light Modifiers

- Pocket reflectors & translucent diffusers can help with ambient light
- Diffusers can be used to help reduce the harsh effect of your flash





Outdoor Macro Lighting





Outdoor Macro Lighting





Outdoor Macro Lighting



Outdoor Macro Lighting





Outdoor Macro Lighting





Outdoor Macro Lighting





Indoor Macro Lighting





Indoor Macro Lighting



- Indoor lighting conditions are far easier to control.
- You can use florescent lights or tungsten lights to light the subject



Indoor Macro Lighting





Indoor Macro Lighting

- Light Modifiers: Pocket Reflectors, Scrims, Diffusers, etc... can be used to change & enhance your image.
- When inside experiment with backgrounds, and artificial light





Play With Depth of Field





Play With Depth of Field





Indoor Macro Lighting





Indoor Macro Lighting

- Placing a black card behind your subject will draw more attention to it



Indoor Macro Lighting





Indoor Macro Lighting

Black Backgrounds

- It can be difficult to make the background a rich black because of all the light reflecting in a small space
- Using Photoshop can make the background darker without making the whole image darker





Indoor Macro Lighting

Black Backgrounds

- It can be difficult to make the background a rich black because of all the light reflecting in a small space
- Using Photoshop can make the background darker without making the whole image darker





What Would You Do?





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Tools of the Trade Review





Tools of the Trade Review

Stuff You Need to Take Great Macro Shots

- **Macro Lens** - For the best results
- **Circular Polarizer** - to get the best possible colour & control reflections
- **Tripod** - With a horizontal-capable center post
- **Small Reflector** - to help better light the subject
- **Macro Ring Light (DSLR)** - To help light the subject evenly
- **Photobright** - To provide more light for compact cameras
- **Henry's Photo Box** - For giving products softer, more even light
- **Spray Bottle** - to lightly mist your subject



Conclusion and Review:



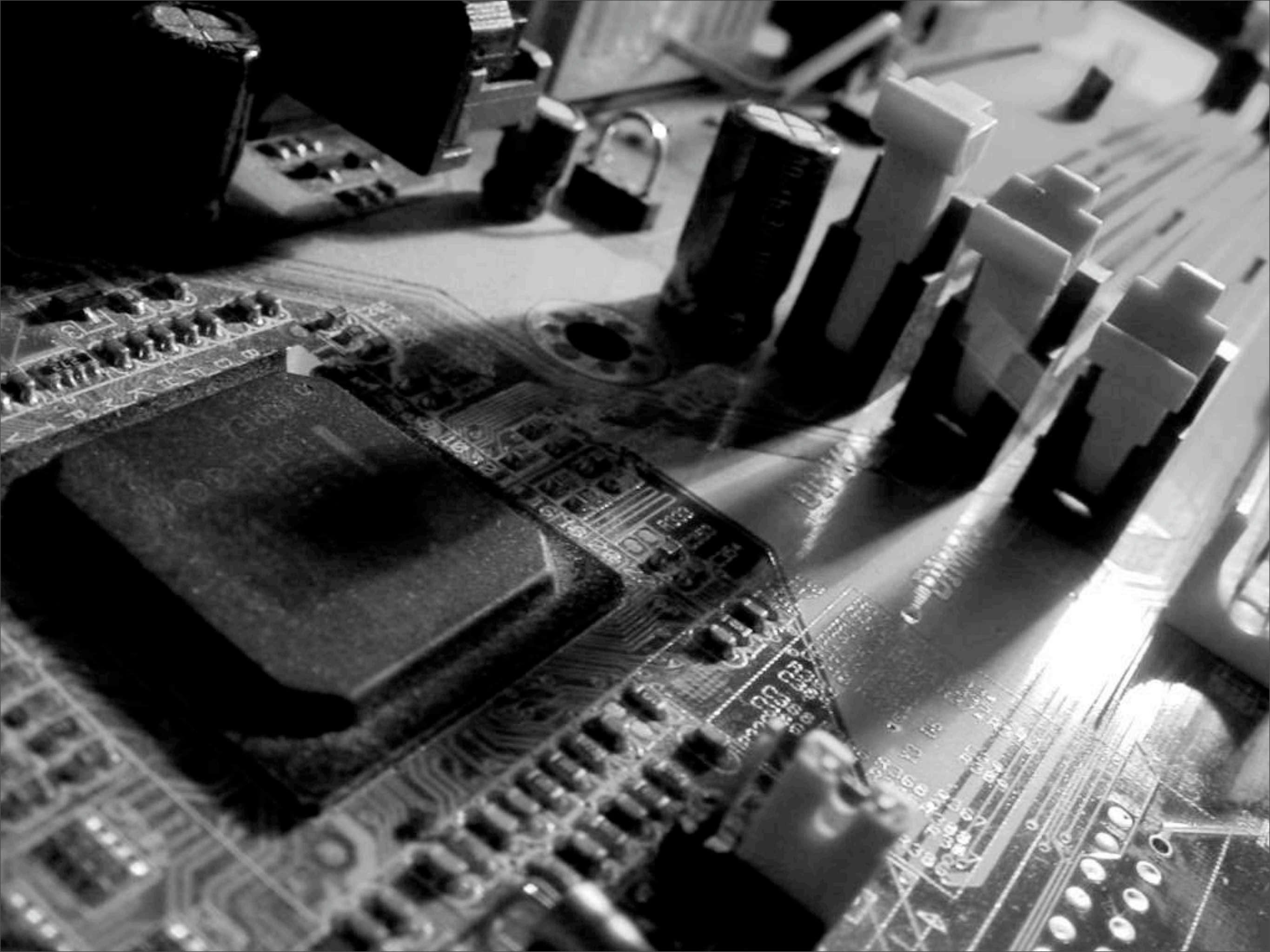


Conclusion and Review:

You will Improve your Macro Photos by:

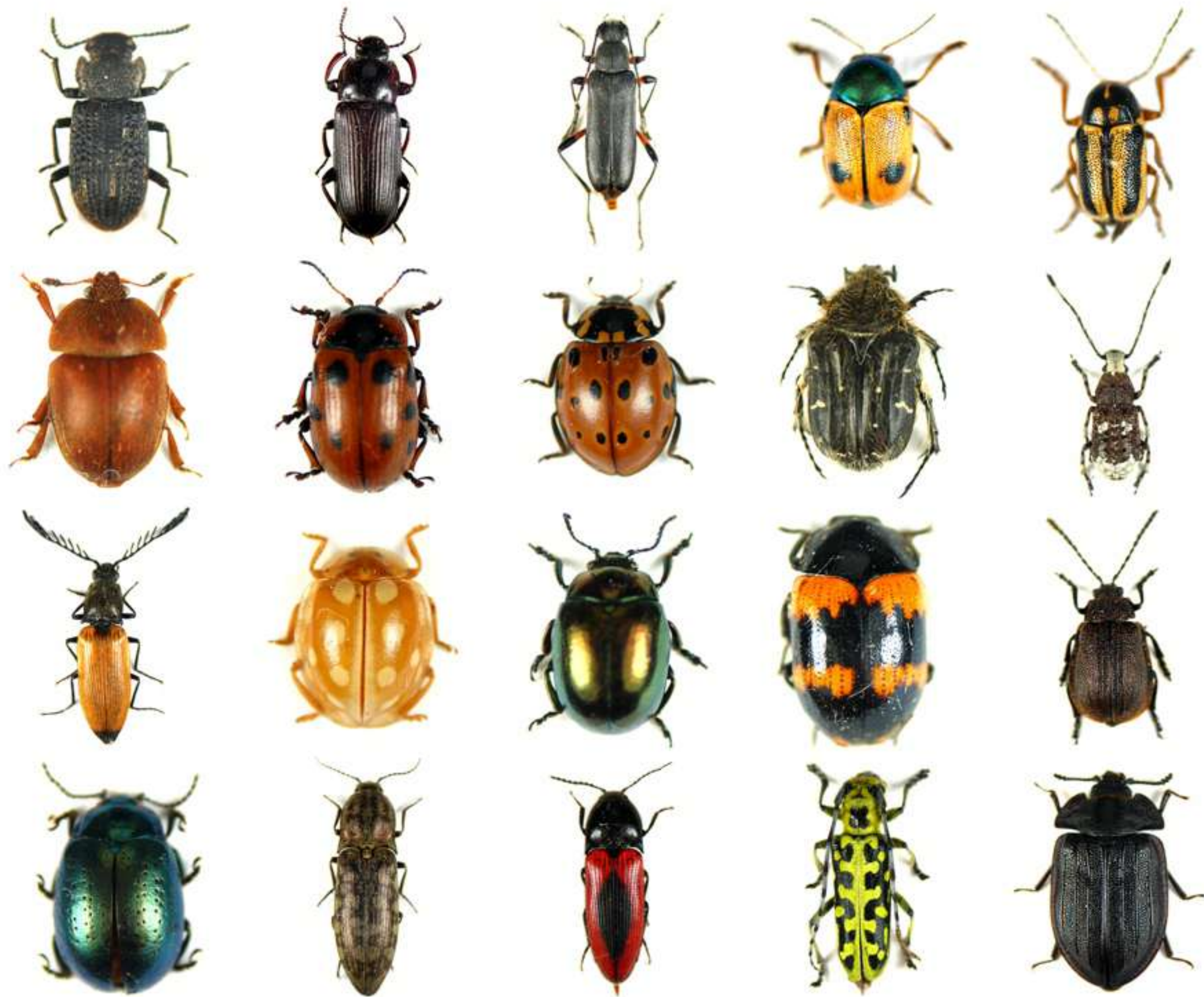
- Equipping yourself with the right gear
- Being aware of lighting conditions, the source direction and if there is anything blocking it
- Modifying the light to work for you
- Being Patient















The End