

DBG Specimen Imaging Protocol

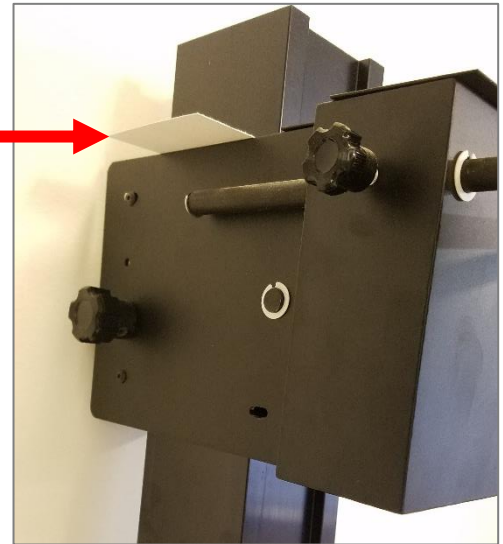
Sam Mitchel Herbarium of Fungi

Equipment

- Laptop with EOS Utility and Digital Photo Professional Installed (Fuchsia)
- Imaging Soft Box
- Camera (Canon EOS 5D Mark II)
- Copy Stand and Lights
- Remote Shutter
- Ethernet cable
- Camera USB cable
- Laptop power cable
- Camera power cable
- Color Square
- Scale Bar
- Gardens Logo Magnet
- Magnetic Square
- 8"x10" 18% Grey Card
- Can of Air (Duster)

Step 1: Set Up Camera and Computer

- Adjust camera height on copy stand to align white card
- Level camera on mount
- Connect camera to laptop with USB cable
- Connect laptop to internet Ethernet cable
- Connect remote shutter to camera
- Connect laptop to power source
- Connect Camera to power source
- Power on copy stand lights
- Power on laptop
- Power on camera
- Remove lens cap



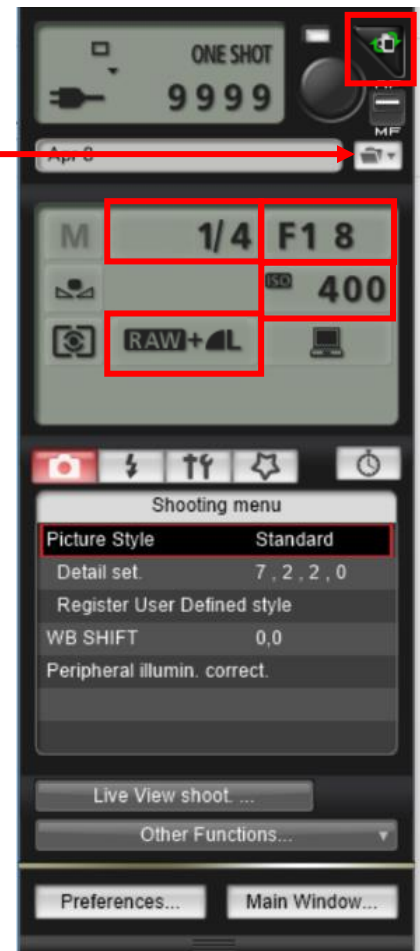
Step 2: Set Up Software

- Open EOS Utility software
- From the opening dialog window, select **“Camera settings/Remote shooting”**
 - If this option is unavailable, make sure the camera is on
- Adjust camera settings as follows
 - Shutter Speed set to $\frac{1}{4}$
 - F-Stop set to **F18**
 - ISO set to **400**
 - Image Format set to **RAW + JPG**
 - Rotate image



EOS Utility

- Set the destination folder where images are to be placed once created as **C:\Users\labguest\Desktop\YourFolder**

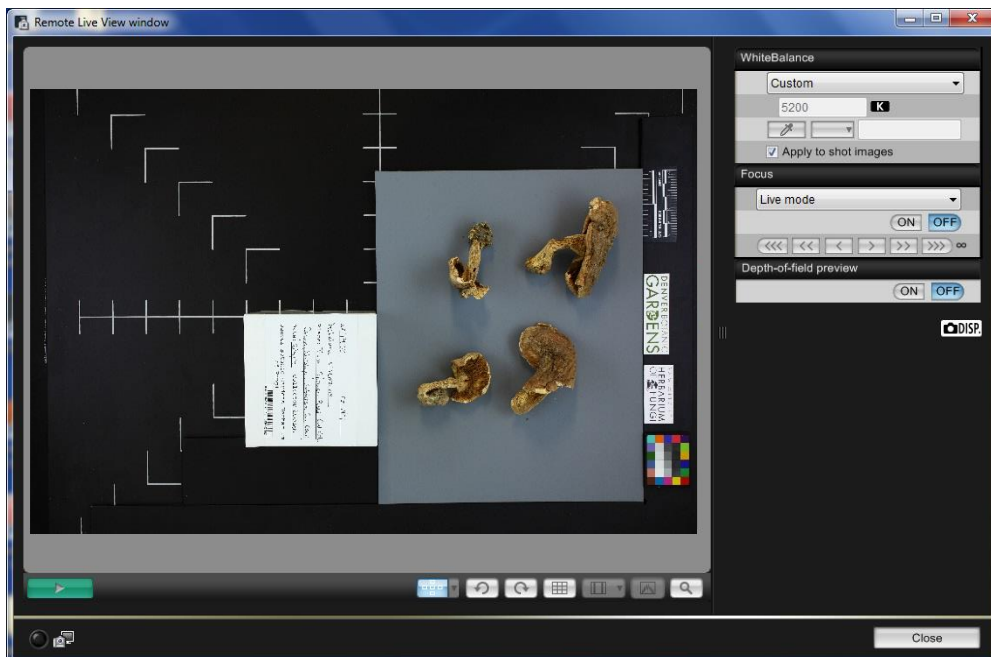


Step 3: Set Up Camera and Stage

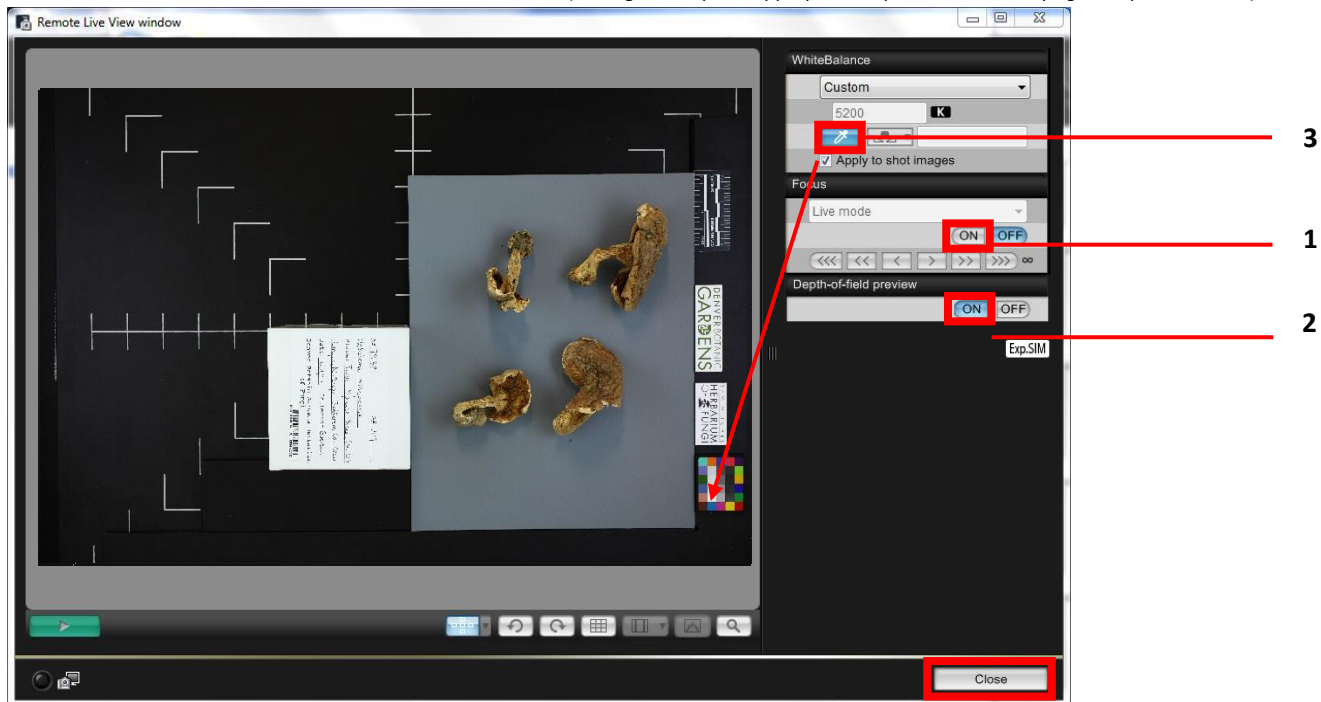
- Make sure the camera lens is set to Auto Focus mode



- Click on “Remote Live View shooting”
- A new window will open that displays the camera’s field of view. Place a specimen.
- Double check that the logos, scale, and color square are straight and correctly positioned.
- Place the 8”x10” 18% grey card.
- Place the additional magnetic alignment piece.



1. Switch the Focus to ON.
2. Switch the depth of field preview to ON.
3. Select the White Balance eye-dropper and click on the white portion of the color square.
4. Close the live view window.
5. Switch Camera to Manual Focus (Settings will capture appropriate depth of field for varying box/specimen sizes)



You are now ready to Photograph Specimens

Start by removing all specimen boxes from a bin box and place them on the rolling table.

Step 4: Capturing Images

- Check that the specimen box has a barcode on the top of the box's lid.
 - If there is a barcode on the top of the lid, continue to next step.
 - If the barcode is on the bottom of the box, remove specimens from box, and place both lid and box base (barcode up) in image frame.
 - If the barcode is affixed on the side of the box lid, place the lid on its side so the barcode is facing the camera. Place the label from inside the box in view of the camera so that the details can be included in the image.
 - If there is no barcode at all, find the corresponding barcode, and place on the bottom left corner of the box lid, assuring that no information is covered. If the barcode will not fit on the box lid, place it on the bottom of the box.
- Open the box and examine the specimens. If the specimens are too covered in spores (would make an untenable mess) place a square of black velvet on the grey card. Otherwise go to the next step.
- Gently remove specimens. Place specimens on grey card (or the black velvet). In the case that there are multiple specimens or parts, arrange so that multiple features can be photographed. Place parts so that they are not touching.

- Place the lid of the box below the grey card so that it is aligned with the additional magnetic alignment metal piece and the bottom of the grey card.
- Press the remote shutter button to capture an image. You will hear a chirp to focus.
 - The first time an image is captured in a session, Digital Photo Professional will automatically open. This allows for the image to be previewed, leave the program open.
- Open a preview of the image in Digital Photo Professional. Always check the first image for a session.
- Periodically check that the image is in focus, double click to zoom. Look at the specimen parts, the barcode on the box, and the measurement scale, to see if they are all in focus.
- Hover the cursor over the white block on the color bar. The RGB values at the bottom of the screen should all be within 3 of 240.

Step 5: Wrapping specimen

- Once a specimen had been imaged, it should be wrapped in tissue paper and placed back in the box.
- Select the appropriate size of tissue paper for the box.
- If there is excess material still in the box, gently pour it into the lid.
- Place tissue paper over the box base and push down to bottom of box.
- Place specimens and all other material in the box and cover with the same tissue paper.
- Close the box and place in the original bin box.
- If the specimen left dust or spores on the grey card
 - Place the lens cap on the camera, and give the stage a quick few sprays of air to clear the material.

Step 6: Finishing a Session

- Once a session of imaging has been completed, transfer the images to the Q drive. They are to be placed in your "Incoming" folder here:
- Q:\Research\Images(new)\MuseumSpecimens\DBG
- Consult with the Database Associate if you need assistance.
- Shut down laptop, turn off camera, and put everything away in its right place.
- Clear any dust/spores left by specimens with brush