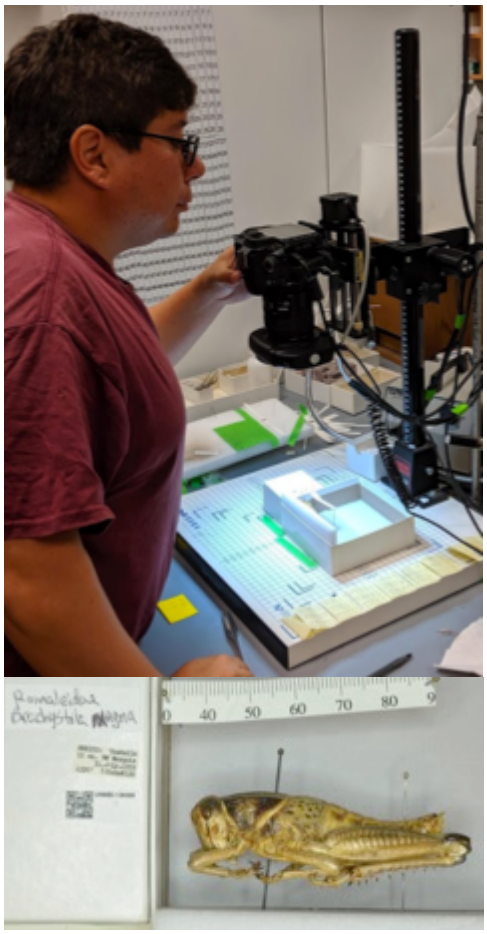
UMMZ Insect Division

Digitization Procedure



~2018~

SPECIMEN DIGITIZATION

******SAVE THE PIECES!!******

If a specimen breaks it is way better to have the broken pieces then no pieces! These broken pieces may be essential to the specimen's identification. If this happens, the broken pieces get glued to a point mount (triangular piece of paper) underneath the specimen. Do NOT glue the broken piece directly back on the specimen – this may accidentally obscure additional features with the glue or positioning.

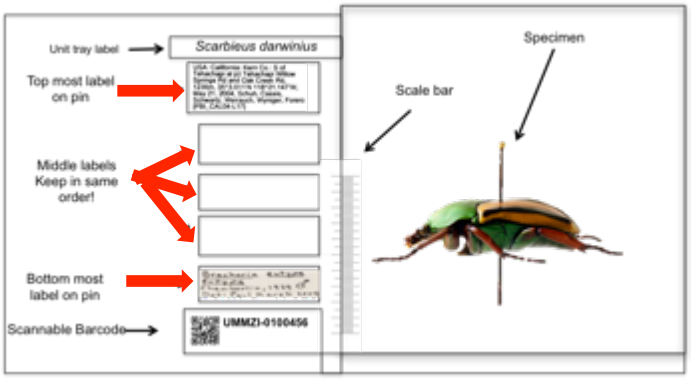
Please talk to me this first time a piece breaks and we can go over the process step-by-step.

******SAVE THE PIECES!!******

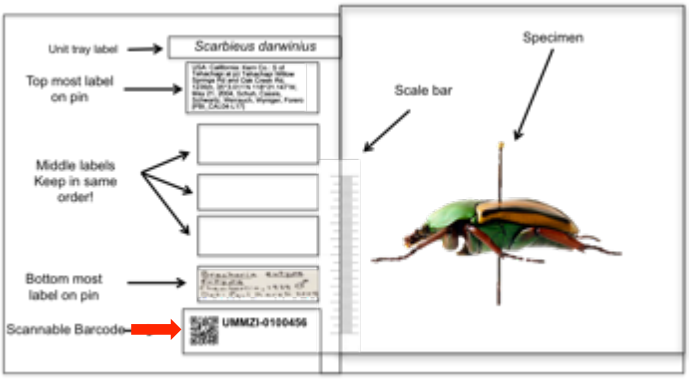
General Procedure:

- Pick an available imaging station (one of the camera rigs or a mobile station)
- Get a drawer of specimens from one of the digitization cabinets. Try to **work in batches of specimens that are similarly sized** – this will save time adjusting the settings.
- Use the pre-made specimen and label stages. Replace the grey background inserts if they look dirty or worn. Let me know if any of the other staging pieces look dirty and worn – I will replace them.
- Write out the name at the top of the unit tray in small print on a piece of paper for the specimens you will be working with. **Write legibly!** Ask me if there is no label at the top of the unit tray to copy. There should be, but occasionally it is missing.
- Place the unit tray label at the top (or side if very long) of the label stage. You can reuse this label for all specimens in the same unit tray.

- Carefully take specimen labels off of specimen using forceps to support the length of each label and place them on the label stage. **Keep labels in the same order as on the specimen** i.e., top label on the top, bottom label on the bottom, and place on staging area.

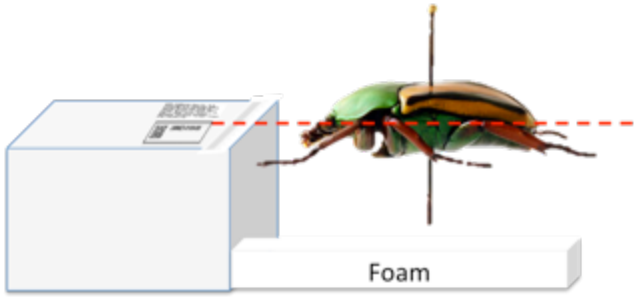


- Cut out QR barcode label and place on bottom of the label staging area. **Do NOT cut into barcode** - this will make it unscannable. If you do cut into the barcode label let me know and I will reprint it. Only the collection manager can print barcodes.

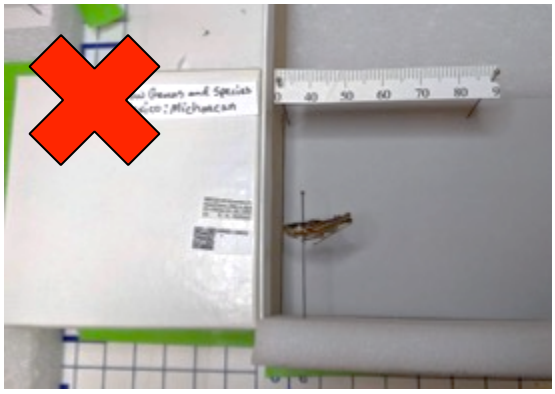


- Try to make all these labels straight and lined up the inner edge of the stage next to the scale bar. Forceps help.

- Place specimen on foam so that it is in profile (lateral habitus/side shot). Specimen should be close to the scale bar side of the stage and positioned so that about half the specimen is above the label stage and about half below the label stage (this will allow us to get as much of the specimen in focus as possible).



- Look through the camera viewfinder and make sure all the labels and the specimens fit in the view frame. You should be zoomed in as much as possible while still fitting everything in the frame.



- **Focus on the labels** and adjust camera as necessary so labels are legible. See page 5 and 7 for specific camera settings for each station.

- Check the lighting. Take a test photo and **check it on the computer** before doing a whole series. If in doubt, a little darker is better than too bright.

- Take image.

- Put labels back on specimen in same order. Barcode should be upside down (opposite of all other labels) and the last label on (this makes scanning the code much easier).

- Repeat.

- At the end of the day upload all photos to **MBox.** The folder 'Specimen reference images' has been shared with you.
    - Go to '**1.Images needing re-naming'**
    - Create a folder with today's date, your name and the label name on the outside of the drawer you're working with '**2018-09-05**-Tucker-Apidae Bombus'. Please input the date in this order (year – 2-digit month – 2 digit day) as it makes sorting the folders much easier.
    - Upload all images to this folder. If there are multiple default folders keep the default folders. MBox saves multiple versions of things, not copies, so we don't want to upload any photos containing the same default name to the same folders. This makes a mess to sort through.
    - After photos are successfully uploaded delete them from the memory disk and then empty computer trash. **Make sure photos are fully upload before deleting!**
    - **Return disk to camera.**

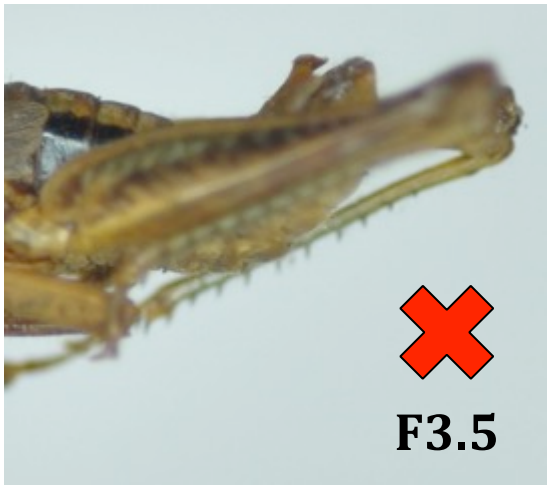
- When you finish digitizing all specimens in in a drawer put a green "digitized" sticker on the front outside of the drawer.

→Digitization <u>Station #1</u> specifics

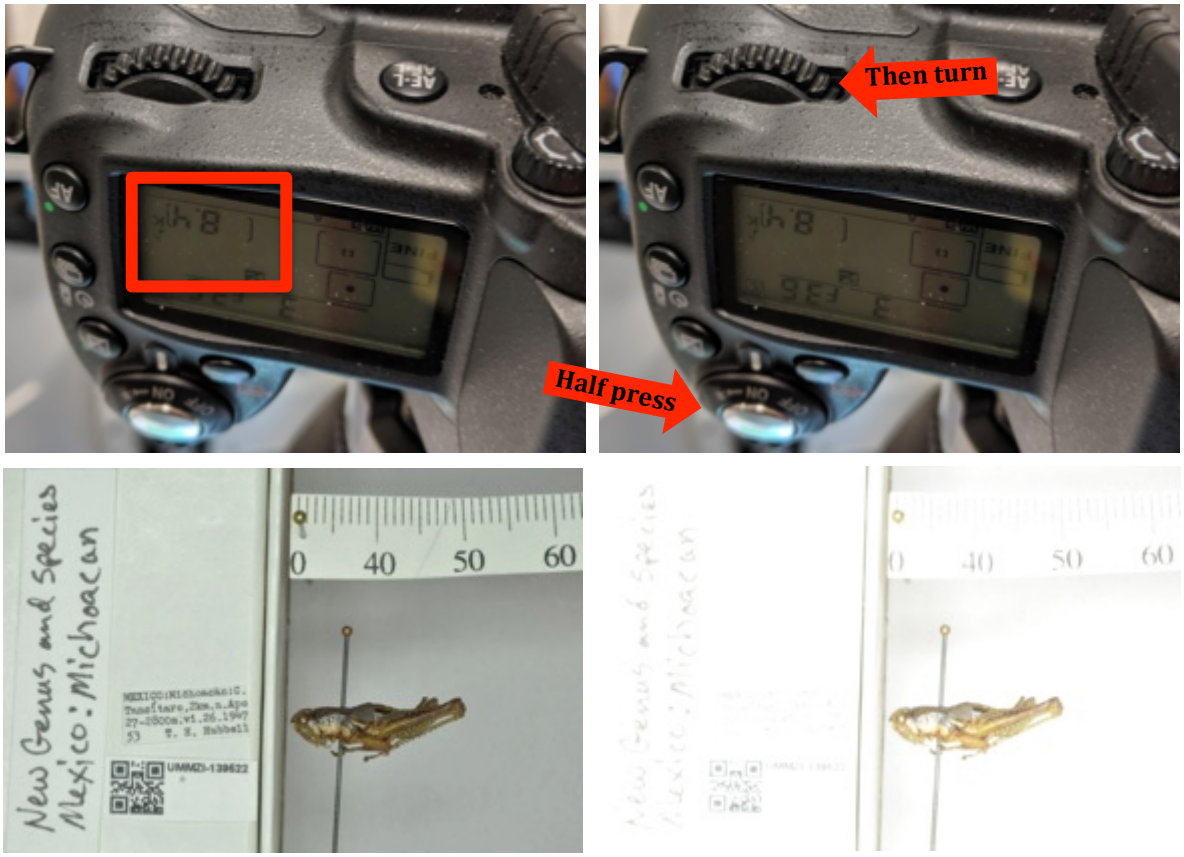
- Set the camera to manual (if not already set)

- Make sure the aperture is set to **f36** (this gives the best depth of field = more of the image in focus). To change this halfway press the shutter button then turn wheel.

This makes a huge difference especially when you zoom in:



- Adjust the shutter speed setting to make the image brighter or darker. Check on the computer before taking a series of specimens.
  Higher numbers = slower shutter speeds = brighter images
  Half press the shutter button then turn the wheel



←←Scroll LEFT = darker <<---->> brighter = scroll RIGHT →→

Small-medium sized specimen approximate settings:

- Camera rig level (zoom level) set to about “30” on bar
- Shutter speed about 1/6 sec

Very large specimen approximate settings:

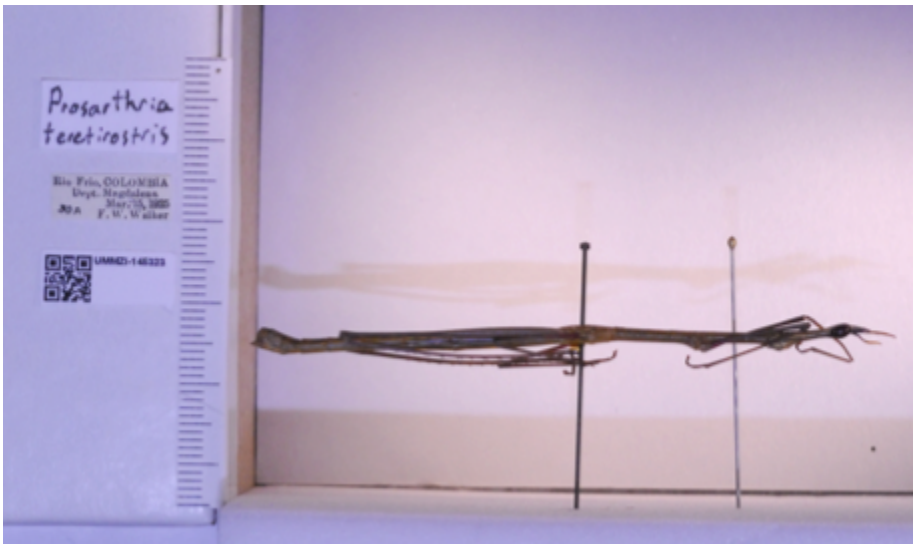
- Camera rig level (zoom level) set to about “40” on bar
- Shutter speed about 1/3 sec

→Digitization <u>Station #2</u> specifics

This camera is much older and not a great quality as the other station. **Only photograph very large specimens at this station** if possible.

- Set the camera to automatic "A" (if not already so). This can be done by hitting the mode button.

- Turn on ring light (attached to bottom of lens), side arm lights, and camera flash
- Make sure everything is in view frame and that labels are in focus



➔ ***<u>Mobile Phone</u> Digitization Station specifics***

- Download MBox on your phone or tablet if you haven't already (go to box.com or through the app store)
- Open the Box app and login to access our shared image folders
- Click the "+" button in the corner to make a new folder for today's batch of images. Label it "2019-12-31-Your name – insect group" (use the current date).
- Next click the "+" again, then click the camera image to tell it to go to the camera function
- Set up your specimen and labels in the staging area
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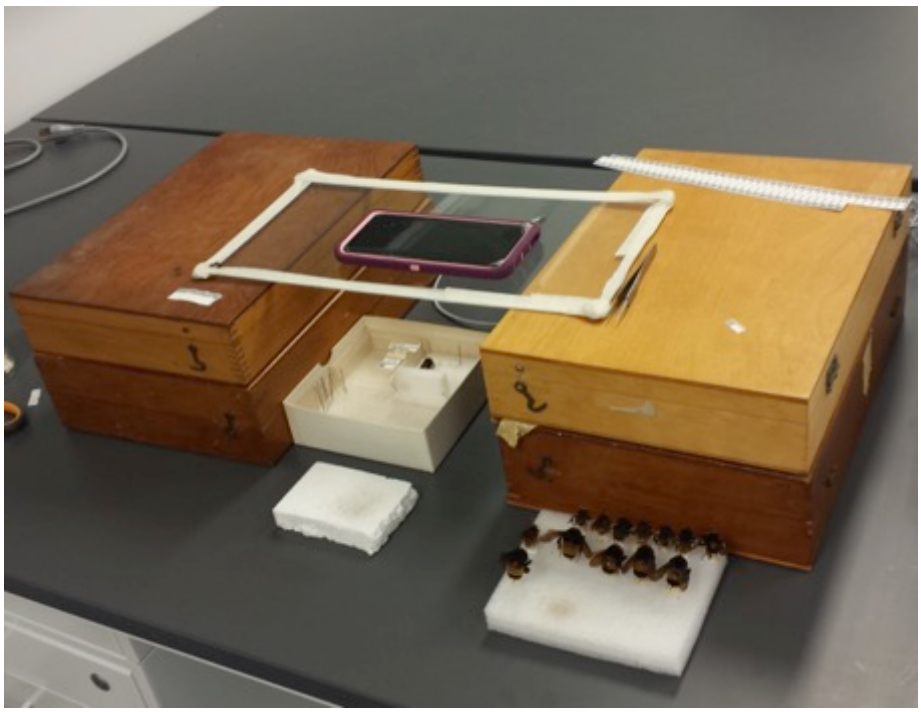
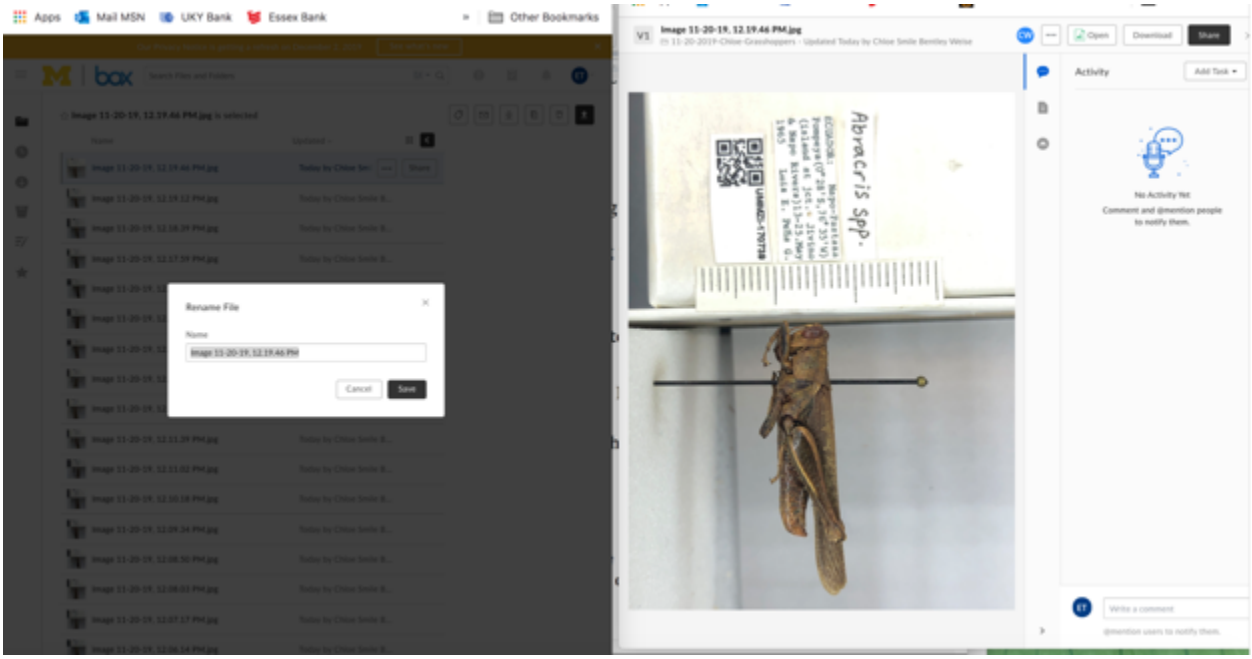
    -
- Take image. It should automatically save to MBox in the folder you just created



Relabeling Images in MBOX Procedure:

All of the images in the '1.Images needing re-naming' folder will eventually need to be labeled with our catalog number (the UMMZI-#### on the barcode label). The default names for these images start with 'DSC_####' or some other random file name.

- Use one of the scanners in the lab to re-label the image file names
- Or use your phone as a scanner if one of the plug in scanners is unavailable
- On your phone download the free app "Barcode to PC"
  - Download the free computer program from https://barcodetopc.com/
  - Install and open the program on your computer
  - Open app on your phone
  - Scan the initialization barcode from the computer program on your phone. That should finish the set up.
- Open the MBox folder you are going to work on relabeling in two separate windows that you can see at the same time.
- In one of the windows open the first image file



- Click 'Rename' (the little pencil on the side of the file name) or place cursor in file name. The file name to be renamed should be highlighted. If you can't select the file name for editing make sure you are logged in.
- Scan the QR code with scan gun or cell phone (if using cell phone the corresponding program on the computer must be open).
- Renamed files should look like '**UMMZI-######**' where the #### is the number from the image you are looking at right after 'UMMZI-'

- Repeat with the next image with that has a default name.

After these images are relabeled/named they will be saved to the museum's digital library and a copy attached to our database Specify. From there the data on these images can be directly entered into Specify from any computer.