

# SOP: Creating new images of vial-preserved specimens for uploading into TaxonWorks

By Tommy McElrath and Michelle Kohler

Illinois Natural History Survey (INHS)

Initiated: 26 June 2020, Modified 1 July 2020

## Preamble

This standard operating procedure document (SOP) describes the process of photographing specimens in vials for uploading into TaxonWorks.

## Guidelines:

1. Personnel must follow all procedures listed on the [COVID-19 SOP](#).
2. Please handle specimens with care.
3. ALL MATERIAL in or attached to the vial should end up in the RESHELVED vials, except for dirty/discolored alcohol, and any substandard vials.
4. Substandard vials:



5. Standard vials:



## Procedures:

1. Removing specimens from vials and prepping them for photography:
  - a. Grab the vial rack or racks that you will be photographing. Generally, one full vial rack takes ~1 hour, and four-five takes about 4 hours. The more vial racks you do at a time, the more efficient you are.
  - b. Only remove as many vials racks as you can do without leaving specimens out. All specimens should be back into vial racks when you leave. NO EXCEPTIONS.
  - c. Grab a red or black tray for each vial rack. E.g. if there is one vial rack in a tray, grab an entire tray for that vial rack in order to keep track of where each vial must return (the same vial rack).
  - d. Grab as many small petri dishes as you have vials in a rack, and lay them out on each tray.
  - e. Grab long forceps, probe, a page of INHS numbers, pipet, tray, alcohol refill bottle, gloves of the appropriate size, and eye protection if needed.
  - f. Make sure you have a supply of new 3-dram and 4-dram vials and respective caps available. Replenish caps from the supply in 287A.
  - g. If vials are already standard, remove caps and empty contents into each petri dish. Include all labels and all specimens. Set vials and caps aside.
  - h. If vials are substandard, remove all vial stoppers and discard.
  - i. Empty all contents into petri dishes, including labels and specimens. If alcohol is dirty or yellowed, replace with clean new 70% ethanol.
  - j. Sequentially, add catalog numbers to each petri dish.
  - k. Repeat until all vials are emptied into petri dishes.
  - l. Place lid on each petri dish to prevent evaporation
2. Photographing individual specimens and labels
  - a. Use the "Photographed by" document on the desktop to make a metadata label. Print the page, it will print in 287A on the HP printer
  - b. Grab each petri dish one at a time and place it into the photography stage.
  - c. Move each label into the appropriate portion of the stage (see image on the wall).
  - d. Make sure you are using the smaller Canon lens, NOT the MPE.
  - e. Turn on the camera.
  - f. Remove the lens cap.
  - g. Turn on the computer.
  - h. Log in.
  - i. Follow the instructions to photograph each staged specimen.

- i. If the camera is not in position then load camlift controller (the icon labeled VD on the bar menu)
    - ii. Click 'Load' then 'Saved Position' Click on "Spider Project" then Load, then click "Go"
    - iii. Exit Camlift by clicking on the X on the upper right corner
    - iv. Load EOS Utility (Icon is on the desktop)
    - v. Click 'Camera setting/Remote shooting'
    - vi. Click on the folder icon, Under the Destination Folder click on 'Browse'
    - vii. Under Dropbox, choose the appropriate folder for your project, then click 'Make New Folder' Label the folder with today's date (yy\_mm\_dd)
    - viii. Click OK, and close the Preferences box.
    - ix. Use the Live View Shoot and adjust the focus.
    - x. Settings set to:
      1. Shutter speed 1/6
      2. F-Stop10
      3. ISO-200
      4. Set Image settings to "Fluorescent".
    - xi. To take pictures, press the button on the camera. A preview will automatically show on the monitor.
    - xii. Commence shooting.
    - xiii. The camera should be set at: M=1/6; F10; and ISO 200 If you don't know what this means, please ask Michelle or Tommy!
    - xiv. Once done shooting - check if images are upside down. If not - upload to TaxonWorks.
    - xv. If upside down - select all needing modified - right-click and select "Rotate right" - twice until the images are displayed right-side up.
    - xvi. Then, click on the parent folder and select "Autorotate"
    - xvii. Let the script finish.
  - j. Return labels to the petri dish and remove the petri dish from the stage, returning it to the tray.
  - k. Repeat for all specimens.
3. Replacing specimens in vials.
    - a. If originally, specimens were in substandard vials, transfer all specimens and labels to new, standard vials, and top off to just below the neck of each vial with new 70% ethanol.

- b. If originally specimens were in standard vials, return specimens and labels to original vials and reuse alcohol, or top off with 70% ethanol to just below the neck of each vial with new 70% ethanol.
  - c. Repeat for each vial and return them to their vial rack.
  - d. Rinse petri dishes and lids
- 4. Uploading images into Taxonworks: [New Image SOP](#)