

Langerhans Lab Protocols

NC STATE UNIVERSITY

Using the X-ray Template File

Procedure:

1. Either retrieve specimens from tubes already in DRILL or prepare new specimens in tubes for DRILL. Never have more than one jar or tube open at a time.
2. Open the excel file "DRILL x-ray template.xlsx."
3. Copy a single row from the "Collection Info" sheet of the file for the collection you are currently working on.
4. Paste that row into the "Specimen Data Input" sheet of the file.
5. Fill down (ctrl-D) all columns to fill in the cells for all the fish to be processed for that collection.
6. Note that the yellow columns indicate ones where project or specimen specific information goes (so these are the ones you need to check, and may have to modify).
7. There are 2 rows of data for each individual: one for the .jpg image file name, and one for the .raw file name.
8. Check that the Image Folder column has been automatically entered correctly.
9. The Image Filename will be automatically entered for L1 images, but change this if the scale is different (e.g., L2PD).
10. Enter the sex (M,F,J) in the appropriate column. (It's usually easiest to sort out males and 20 females in a tray with water in it [keep them hydrated] and do one sex at a time.)
11. When saving x-ray image files, first put them into your "not uploaded" folder until you are done with that type of image for that collection. Then, upload the images to the appropriate folders within the "Images Ready for DRILL" folder on the FTP server, and then move them on your working computer to your "uploaded" folder.
12. When dissecting stomachs, weigh each fish first and record its weight in the appropriate column, the Diet ID will be automatically entered.
13. Use this template to start each collection's file, and save a separate excel file for each collection, named with the site name (optional), collection ID, and designate it's for x-rays (e.g., cousteau-00364-xrays.xls). Save these files in your Specimen Spreadsheets folder on the x-ray machine laptop computer, and backup to the FTP server.
14. When a specimen spreadsheet is complete and you're ready to update the database (all specimens from that collection are imaged and info entered), you need to first save the file in csv format (comma delimited), and then login to the DRILL admin interface, and upload the csv file to append to the database. Be sure you never modify any columns or headers to your specimen spreadsheets as this will cause a lack of alignment of columns between your file and the database and cause the upload to fail.

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Your folder structure on your working computer looks like this:

Your Name

DRILL x-ray template spreadsheet is inside the main folder

Specimen Spreadsheets

specimen spreadsheet files for each collection-image type combination
not uploaded

Poeciliidae

Gambusia

holbrooki

00411

lateral

dorsal

xray_lateral

uploaded

Poeciliidae

Gambusia

holbrooki

00411

lateral

dorsal

xray_lateral

- Review DRILL Processing Protocol for detailed information regarding photography details.
- Review DRILL Overview Protocol for information on the spreadsheet columns.
- Review X-ray Processing Protocol for detailed information regarding acquiring x-ray images.

Key things to keep in mind:

- Keep fish from drying out.
- Obtain nice images for morphometrics.
 - Be sure that none of the key landmarks on the body used for morphometrics are in any way obscured (see image below).
 - For x-rays, you should be able to see all the bones in the specimen if possible.
 - Fish should not be tilted or curved (toward or away from camera), but should provide as flat a lateral profile as possible.

