# A specimen cradle for imaging

The specimen cradle serves several purposes:

- Enabling rapid and consistent positioning of specimens for photography
- Ensuring each specimen image includes a measuring standard.
- Focuses a viewer's attention on the specimen.

The design described her and illustrated on the next page is simple and can be made inexpensively Depending on the resources available, it can be made with paper-covered Styrofoam board covered with flat black paper or plywood (flat black means non-reflective black). I used Styrofoam board 0.25 in thick covered on both surfaces with flat-black paper. I purchased it at a local stationary store. If using plywood, paint it with flat-black paint. Surrounding a specimen with a black border focuses a viewer's attention on the specimen.

There are three layers: base, frame, and ruler (+ color checker if available). If in doubt, make a paper version to check your dimensions and serve as a pattern for the Styrofoam or plywood.

1. Measure the standard size of your specimens
2. Make a base layer that is a rectangle about 4 cm wider and longer than your standard sheets.
3. If using plywood, paint the upper surface with flat-black paint.
4. Prepare "walls" that will be glued or nailed to two sides of the base. These will form the corner into which the specimens are placed. Each wall should be a rectangle about 4 cm wide. One should be as long as the top (short) side of the frame. It will form the short wall. The other wall should be the same width but about 4 cm shorter than the long sides of the frame. It will be placed at a right angle to the top wall. Together with other parts of the imaging equipment, they will make it easy ensure that the specimen is always placed at the same location with respect to the camera.
5. If using plywood, paint all surfaces (top, bottom, and sides) of the walls with flat-black paint
6. Fasten the short wall to the top of the base layer, making sure its outer vertical edge is flush with the outer vertical edge of the base.
7. Fasten the second wall along and flush with one of the long sides of the base, making sure the two walls form a right-angle. Specimens will be slid into this corner for imaging.
8. Print a copy of the ruler [I am still trying to find a pdf for the ruler]. You can insert a logo into the pdf. It will help people who view your images know where they came from. Remember, if your logo is in color, you will need to print the rule in color. Use a laser printer, not an inkjet printer.
9. Check that your printed ruler measures accurately.
10. Glue the printed ruler on the surface of one of the walls. Its presence will make it possible for viewers to use programs like ImageJ to measure features on your images.
11. If you can afford it, purchase a color checker in the nano size, such as the Calibrite Color Checker nano Calibrite ($189 in the US). It makes it easy to calibrate the color of your images using software that can be downloaded for free.

Specimen sheet

Top wall
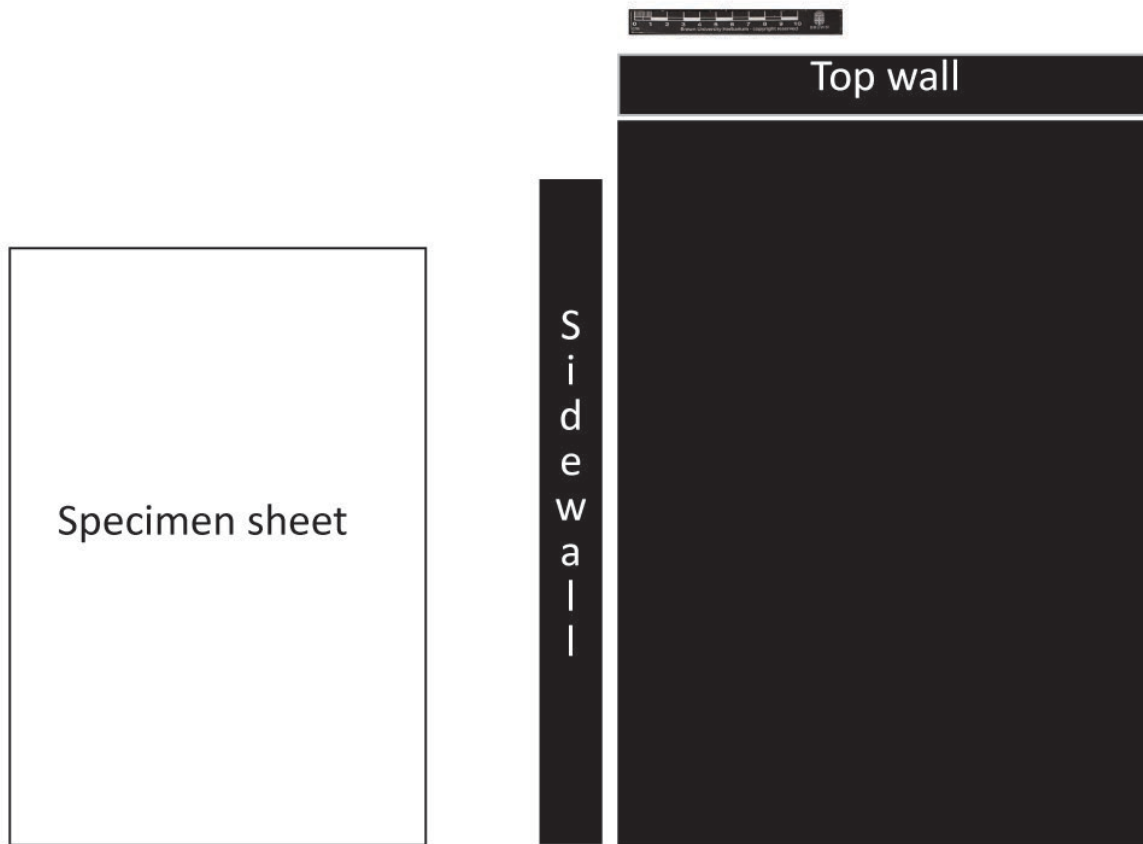
S i d e w a l l

There are three layers to the cradle:
1. The base layer
2. The two sidewalls
3. The ruler.
The two walls should be placed together carefully so they form a right angle that is flush with two sides of the base.
The ruler is attached to one of the walls; it does not matter which.
If you have a standard color such as Xrite color checker nano or Calibrite color checker nano, the standard can be attached to the same wall as and adjacent to the ruler.

Figure 1. A simple specimen cradle for imaging herbarium specimens

The figure on the page reflects the dimensions of standard herbarium sheets used in North America. They are wider and shorter than those used in European herbaria.