Specimen Digitization @ the Botanical Research Institute of Texas: Imaging Equipment & Protocols

Tiana Rehman, Collections Manager trehman@brit.org
Jason Best, Director of Biodiversity Informatics, jbest@brit.org

TORCH VIII – iDigBio Workshop
Imaging workflow

**Specimen pulled**

**Pre-imaging curation**
- Barcode applied
- Accession stamp
- “Imaged + date” stamp
- Other annotations

**Image capture**
- Specimen imaged using scanner on herbscan/S4 (TIFF) or camera using ebox (RAW)
- Imaging log (image metadata)

**Label data capture**
- ROI data captured using Apiary, Excel, or entered directly into Atrium

**Image processing & archiving**
- Conversion of RAW to .dng (camera images)
- Conversion to JPEG2000 (scanned images)

**Data dissemination**
- Atrium
- JSTOR Plants
- GBIF
- iDigBio (soon)
- Dropbox (dig loans)
- External harddrives
Capture device: scanners

Epson Expression 1640 XL on Herbscan (Kew RBG)

Epson Expression 10000XL-GA on S4 (J. Best, BRIT)
Capture device: camera & eBox

Canon 5D MarkII body with a 50mm f/2.5 macro lens, using a Photo-eBox Plus unit for lighting
ADDITIONAL CAMERA EQUIPMENT
• Wooden supports for placing under lightbox, to sides of copystand
• Level for assuring camera lens and specimen are on parallel planes
• AC adapter
• Colour bar/grey scale
• USB tether to computer
• Capture software: Canon provided
• Image Processing: Adobe Lightroom

ADDITIONAL SCANNING EQUIPMENT
• Colour bar/grey scale
• Black photo mat to ensure correct placement of specimen and consistent placement of colour and scale bars
• Capture software: EpsonScan

ADDITIONAL EQUIPMENT USED IN BOTH
• Scale bar: Forensics scale (#6-3813), flat color, no-glare plastic, no advertising, 15 cm & 6 in. (redwop.com, ~US$10 for 10)
• Dedicated desktop
• External hard-drives for back (~3TB)
• Central server
• Image metadata capture: Microsoft Excel
CAMERA COLOUR BAR: 24ColorCard-4x6-V2 (http://www.cameratrax.com/color_balance_4x6.php)
SCANNER COLOUR BAR:
Kodak Q-13 Color Separation (w/ grey scale)
adorama.com (~US$24)
CAMERAS? SCANNERS? BOTH?
• Original setup and installation of imaging equipment
• Configuration of equipment immediately prior to imaging
• Image acquisition
Plant to planet.