Imaging of animal communities

Video: https://www.youtube.com/watch?v=XH_dtow-rpg

Imaging has to be done within one month after the extraction to standardize coloration of animals. All animals from each sample are imaged together in 96% ethanol in one Petri dish, 5 photographs per sampling point: nematodes, enchytraeids, mesofauna, macrofauna and earthworms separately (25 photographs per site). All photographs are submitted to the Central team, which extracts abundance and individual body masses. This protocol has been developed based on our experience with the scanner EPSON Perfection V600 connected to a PC. Alternative: a scanner which allows for 3200dpi+ and has a CCD image sensor. Petri dish bottom should be flat, thin, and without any scratches (see image).

Differences between groups:
- Macrofauna and earthworms: plastic Petri dish ø 9 cm, 2400 dpi, white background
- Microarthropods: plastic Petri dish ø 9 cm, 2400 dpi, white background
- Nematoda and enchytraeids: plastic Petri dish ø 3.5 cm, 4800 dpi, black background (the white background panel is removed)

Key settings:
- Mode: Professional
- Export format: JPEG
- Document Type: Reflective
- Document Source: Document Table
- Auto Exposure Type: Document
- Image Type: 48-bit color
- Resolution: Nematoda and enchytraeids: 4800 dpi; Other: 2400 dpi
- Unsharp Mask: on

Instructions:
1. Turn on the scanner and the computer
2. Shake the vial with animals and ethanol and pour all animals into a Petri dish
   a. Ensure to transfer all animals by flushing the vial
   b. All animals need to be completely covered by ethanol; do not put on the lid
   c. Use transparent and thin Petri dish without scratches; avoid any bubbles
3. Gently shake the dish back and forth or use tweezers to distribute animals - try to avoid overlap among animals and other objects as much as possible
4. Put the dish into the scanner (in the center). Wait for ~40s so animals sediment.
5. Scanning process
   a. Create scanning preview and choose scanning frame fitting the Petri dish outer contour (use slightly smaller frame for 9 cm dishes); press “Zoom”
   b. Press “Scan”, choose picture format JPEG (*.jpg), select the correct folder.
   c. Name the file according to the sample code on the label.
6. Wait until the scanning process is finished. ***In case multiple scans are taken from the same sample, proceed with step 3.
7. While the scanning process is running, prepare the next sample.
8. Check the image, put the next dish in the scanner, put the old sample back.