

The Dragonfly Project field protocol: collecting, identifying and preserving dragonfly larva

Materials

Field sheet Nets-D-nets or dip nets Clean, new white dishpans ('tub') or ice cube trays Powder-free Nitrile gloves (blue or purple color) Clean, new plastic spoons Brand new zipper-seal bags (30 small size + 5 large size) Sharpie marker (fine point, not ultra-fine) and pencil/pen	Plastic ruler with mm scale (clear is best) ID tags for outer bags (pre-printed with ID codes) Field ID flashcards Cooler with ice Trash bag Optional: hand lens, GPS, camera, clipboard
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It is easy to contaminate samples with mercury because it is all around us: in our hair, in soil, in leaves, etc. Follow this protocol to minimize the risk of contamination. Do not touch the dragonfly larva ('larva' or 'samples') with anything except a clean plastic spoon or powder-free nitrile glove (blue or purple).

Protocol

Before going into your stream/pond:

- 1. Start field sheet—enter all of the initial information about field site.
- 2. Look for likely habitats for larva.
- 3. Rinse nets and tubs and/or ice cube trays with the stream/pond water.
- 4. Partially fill your tubs and/or ice cube trays with stream/pond water.

Likely habitats: edges of stream and pond, near plants (on the edge or in the water) or logs, or in silt/sand/gravel bottoms.

Collecting:

Start downstream (in stream) or at one end of sampling site (in pond).

- 1. Jab nets against the bottom and side of the likely habitats then sweep the net up through the water and toward you.
- 2. Empty net contents into tub. Or, look in net for larva and, using a clean plastic spoon or nitrile-gloved hands, scoop larva from net into tub (pour rest of the net contents back into water away from your sampling area).

If you are not finding larva after several jabs move to another location in your site.

Bagging:

There are two jobs: Dirty Hands and Clean Hands. Dirty Hands person is in charge of sample bags. Clean Hands person will pick up and place larva in sample bags.

- 1. Clean Hands puts on nitrile glove (one gloved hand is enough).
- 2. Clean Hands uses gloved hand or clean plastic spoon to scoop out one larva from tub. Dirty Hands opens a small-sized zipper bag, not touching the bag inside of the zipper.
- 3. Clean Hands places larva inside the bag then seals bag. Do not open bag again.
- 4. Dirty Hands uses plastic ruler, held to outside of zipper bag, to measure body length of larva. Measure from front of head to end of tail.
- 5. ID your larva using the field flashcards or other ID aid.
- 6. Dirty Hands fills out tag for the bagged individual and slips tag and inner bag into an outer (small) zipper bag. Dirty Hands seals outer bag. Sample tags have a pre-printed ID code. Use these codes if you need to refer to a particular sample in your notes.
- 7. Swish spoon or gloved hand in pond water (in the tub) between samples.

Once glove is on: Clean Hands touches nothing with gloved hand except the sample or any pre-cleaned supplies. If spoon or gloved hand touches anything besides water or larva discard spoon or glove and start with a fresh one.

Repeat steps 1 through 7 until 20 larva are bagged.
Gently return stream/pond water and extra animals to the sampling site.

Field preserving larva for sample submission:

- 1. Select 20 individual larvae to be submitted from your site.
- 2. Look at collected samples. Choose at least three individuals in each dragonfly family. Place double-bagged samples to be submitted for analysis into one or more of the larger zipper bags for storage and safety.
- 3. Place label with site name in large outer bag. Put in cooler with ice.

Leave no trace! Inspect your sampling area, pick up and pack out all trash.

If you only have one individual from a family do not submit that one. Try to select individuals that are greater than 15 mm.