

Guano Collection for Genetics Protocol (Adapted from Northern Arizona University, College of Engineering, Forestry and Natural Sciences, School of Forestry and Center for Microbial Genetics and Genomics)

Required Materials:

- RNAlater™ solution (available upon request)
- 15mL conical tubes (mass collection) or 1.5mL tube (single species (1-3 pellets))
- Nitrile gloves for sample collection
- Permanent marker for labeling
- Extra Ziploc bags (quart or gallon)
- Trash bag/bin for storing discarded gloves and contaminated
- Cooler with ice for sample storage in the field (if possible)
- Tweezers (optional)

Avoid cross-contamination between samples:

- Use new gloves, tweezers, scoops when collecting a new sample or moving to a new site
 - Do not set collection equipment down on any non-sterile surfaces
 - Use Ziplock bags to separate samples from different sites
- ***Please report any potential cross-contamination that could have occurred*****

Sampling Protocol

1. Open tube, making sure the cap does not touch anything. Either hold the cap between two unused fingers or have another gloved person hold it. Avoid setting it down.
2. With clean gloves on, collect the **fresh** looking guano and place in the 15mL (or 1.5ml) tube. Freshly deposited guano contains the highest quantities of target DNA. **Carefully search for fresh guano deposits for collection.**
3. Fill tube with 1 part guano to 5 or more parts RNAlater. Do not overfill tube.
4. Close tube tightly.
5. Invert the tube several times to submerge all contents with RNAlater solution and to test its seal for shipment.
6. Clearly write a unique label with a permanent marker on the tube. If there are multiple replicates from the same sample, ensure that all samples are given a replicate ID (A, B, C or 1, 2, 3, etc.).
7. Place tubes from same collection location within a ziplock.
8. Store collections in a sample cooler if possible OR immediately refrigerate upon returning from field sampling.
9. Fill out the [sample submission form](#) and follow the mailing instructions listed in the Shipping Protocol found at genidaqs.com

If collecting wing punches:

1. While wearing gloves, use sterile tweezers to transfer wing punch to the 1.5mL tube.
2. Ensure that the tissue is submerged in the RNAlater™ (1 part tissue to 5 or more parts RNAlater™).
3. Place only one tissue per tube.
4. Use new gloves/tweezers between each sample. Tweezers can be cleaned with 10%bleach and rinsed with DNA-free water between samples.
5. Ice samples in the field if possible.