

# Standardized Protocol Collecting Bat Guano in Summer Colonies

## Abbreviated Procedure

The objective of this protocol is to improve our knowledge of what bats eat by collecting their guano (feces). Bats do not fully digest the insects they consume, and small fragments are released into their feces. Molecular analysis of the guano's contents provides insight into bat nutrition. The information can be used to identify insect groups whose populations may increase as a result of reduced bat densities.

Bat feces are segmented and longer and more friable than mouse droppings, which are the size of a grain of rice, dark and pointed at both ends and become hard and brittle over time. Often, the feces are attached to the outside walls where bats enter (Figure 1).

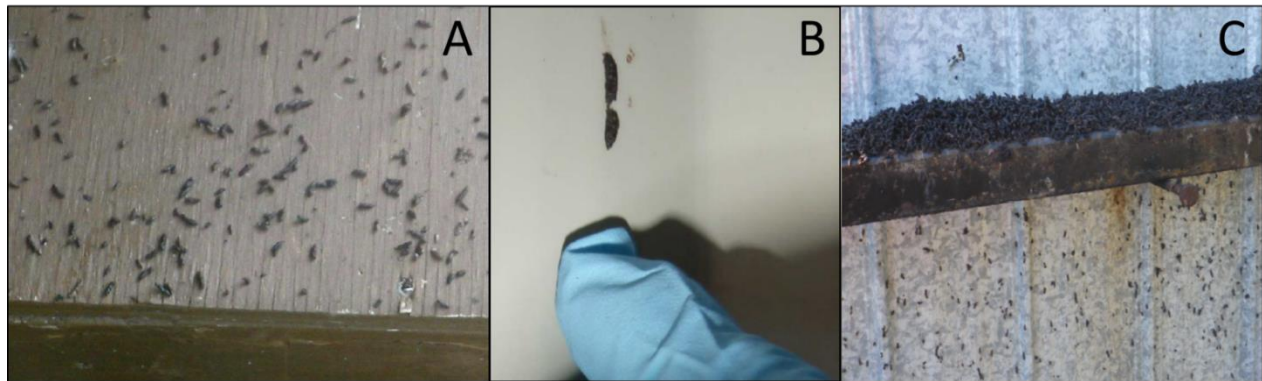


Figure 1. A) Guano on the wall at the entrance to a colony B) What bat guano looks like  
C) Build-up of guano

### To collect guano:

1. Place a sheet of plastic on the ground below the exit of the maternity colony. The plastic sheet will make it easy to collect the fresh guano that falls there when the bats leave or enter the maternity colony.
2. Collect about 10 pieces of guano using disposable gloves and pincers.
3. Put the guano in watertight vials or jars and cover with 95% ethanol.

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### Abbreviated Procedure (cont.)

4. Fill out one label for each sample collected:
  - Bat guano
  - Colony's unique identifier number (same code as *Neighbourhood Bat Watch*)
  - Date collected
  - Location collected (full street address or GPS coordinates, if available)
  - Administrative region (e.g., Mauricie, Montérégie, Abitibi-Témiscamingue, etc.)
  - Name of person collecting the sample

#### To store the samples:

1. Put the vials/jars containing the guano in an airtight bag and place in the freezer. It is important that samples remain frozen at all times, so provide a cooler, with ice or ice packs, for transport.
2. Before sending the samples, it is recommended that you contact Direction régionale de la gestion de la faune at Ministère de l'Environnement, de la Lutte contre les changements climatiques, de la Faune et des Parcs (MELCCFP) to coordinate the shipment with the person in charge at Faune et Parcs in Québec City.

#### IMPORTANT

When bat guano is collected outdoors or in a well-ventilated area, there is no danger to human health. On the other hand, collecting guano in a confined space (attic, closet) can pose a disease risk to humans. The guano may contain a fungus (*Histoplasma capsulatum*) that can lead to histoplasmosis, an infectious disease caused by inhaling fungal spores. When collecting guano in an enclosed area, wear an N-100 high-efficiency particulate respirator approved by the National Institute for Occupational Safety and Health. For more information on this disease and how to clean up the guano, go to:

<https://batwatch.ca/>

#### IMPORTANT

Bats usually defecate before entering the maternity colony. It is preferable to harvest the feces after counting, since the guano must be fresh for testing.

**Environnement,  
Lutte contre  
les changements  
climatiques,  
Faune et Parcs**

**Québec** 