Snarge and Feathers: Identifying birdstrikes

Jim Whatton

Smithsonian Institution Feather Identification Lab

Smithsonian Feather Identification Lab

National Museum of Natural History
Division of Birds

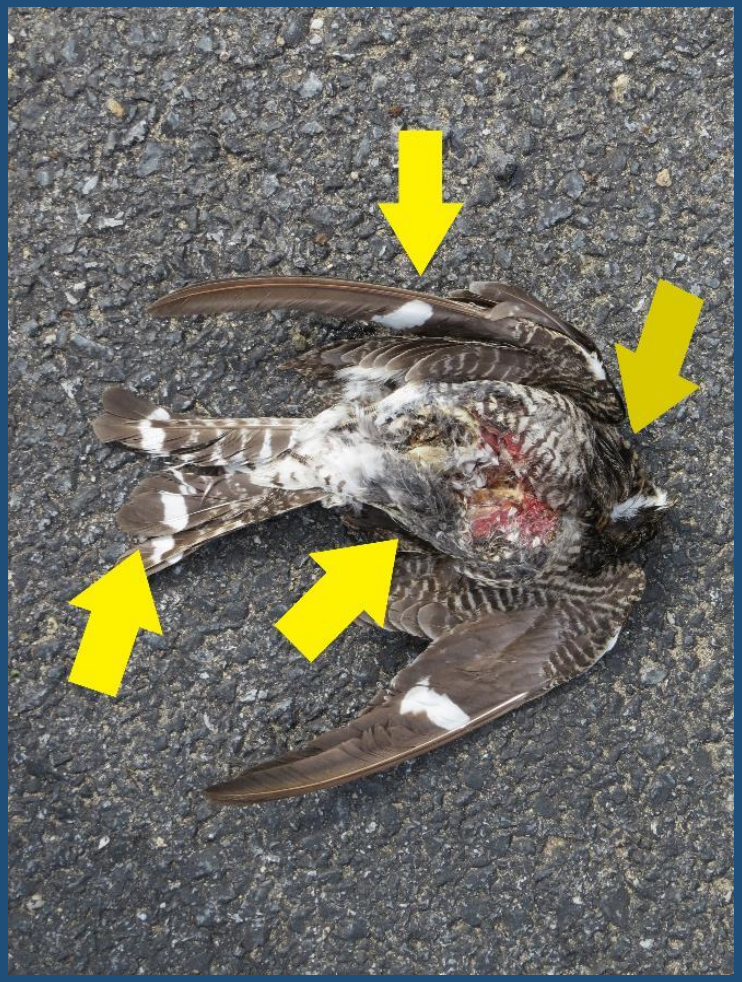
The Covid Year

- 7803 cases & 9298 identifications, a 16% decrease from FY19

- Smithsonian closed to visitors and staff Mar-2020
- Increase of turnaround time in 2020 (10 days)
  - Back to about average in 2021 (7 days)
  - Still within typical 5-10 Business days when factoring for weekends
- Altered LAB schedule for DNA work.

Birdstrike collection

Whole/partial carcass



Snarge/blood smear

Collecting Multiple impacts

- Up to 30% of all strikes received
- 44% of multiple impact >1 species
- Collect different impact points separately and label the bags
- If in doubt treat as possible multiple impact.

Online reporting

Create Report

Please file an online report or ensure one is filed

- AFSAS/RMI for Air Force, Navy, & Marines
- FAA wildlife strike database for Civil aviation

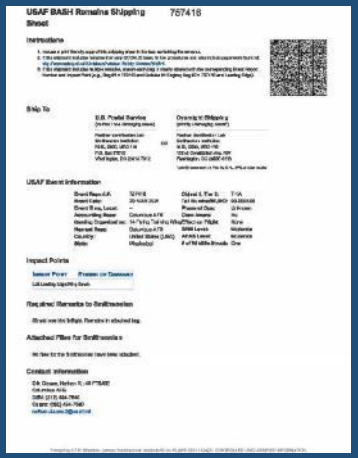
Print

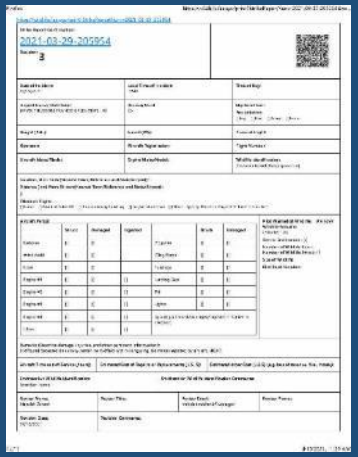
Print BASH Shipping Sheet or Wildlife Strike Report form

- Ensure the **QR barcode** at top right corner prints

Contact info

Make sure contact info is in report and you are set up for auto-notifications when identification is complete





FAA/Civil aviation : https://wildlife.faa.gov/home
USAF/USN/USMC: https://afsas.safety.af.mil/Home.do

Two address dilemma

US Postal Service

Smithsonian Institution
Feather Identification Lab
E-600, MRC 116
PO Box 37012
Washington, D.C. 20013-7012

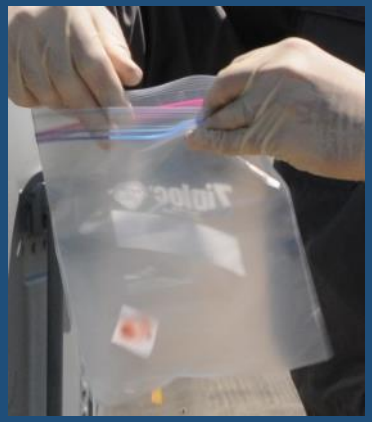
Courier / Shipping
(FedEx, UPS, DHL, etc)

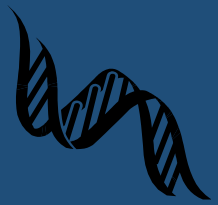
Smithsonian Institution
Feather Identification Lab
E-600, MRC 116
10th & Constitution Ave., NW
Washington, D.C. 20560

**US Postal Service mail sent to street address is irradiated

We recommend sending all damaging/high profile via a trackable service, preferably an overnight courier.

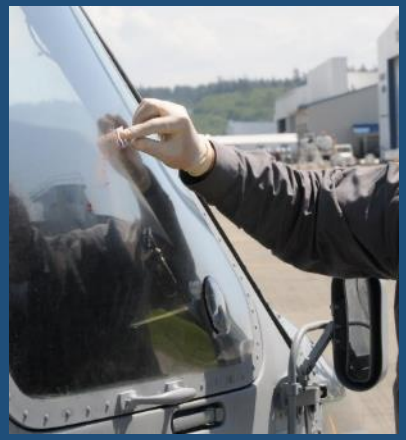
BIRDSTRIKE IDENTIFICATION



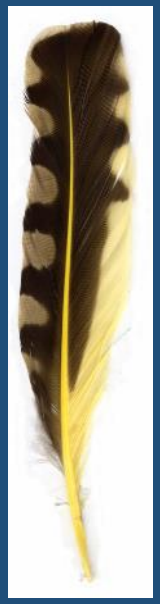


DNA

Feather Microstructure



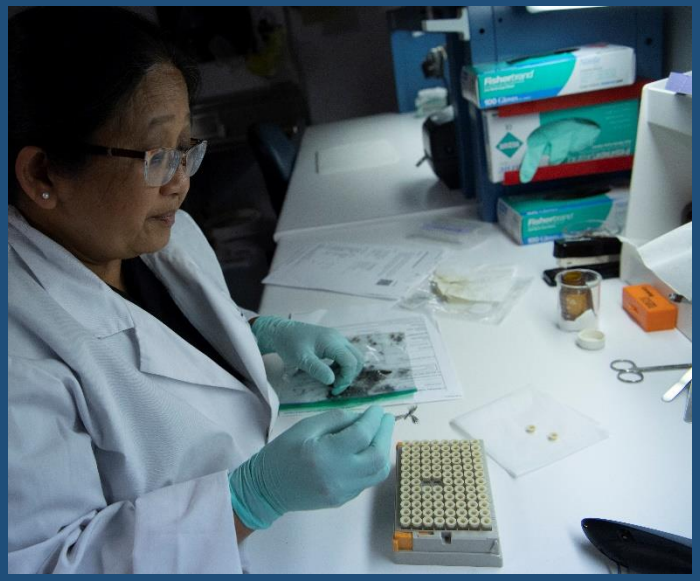
Whole Feather Analysis



Northern Flicker

American Kestrel

DNA Analysis



Faridah sampling for DNA

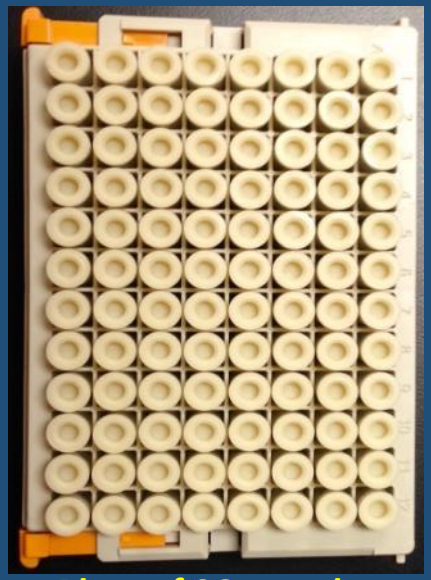
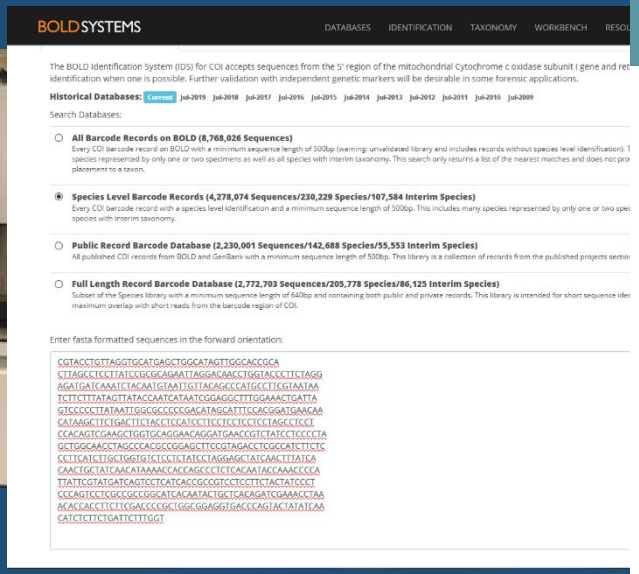
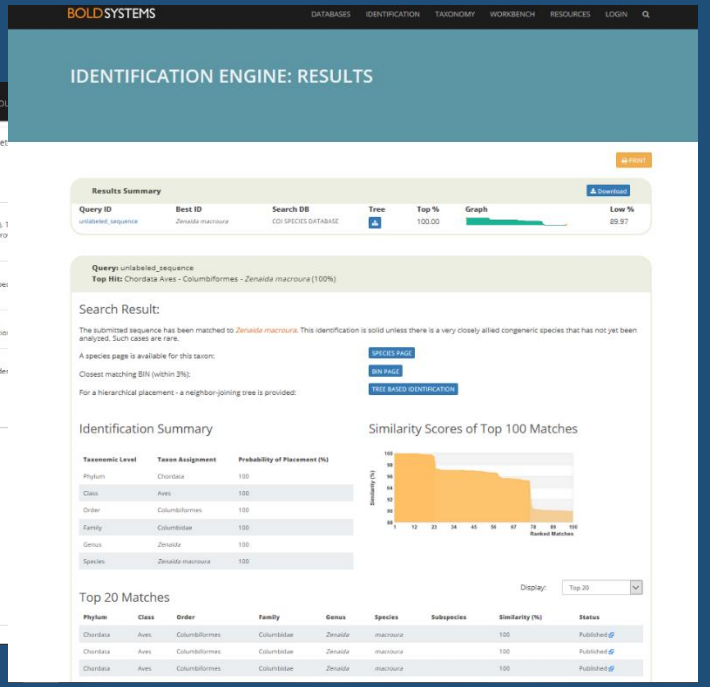


Plate of 96 samples

GenePrep extraction maching (ANG 2014)

Sequencer

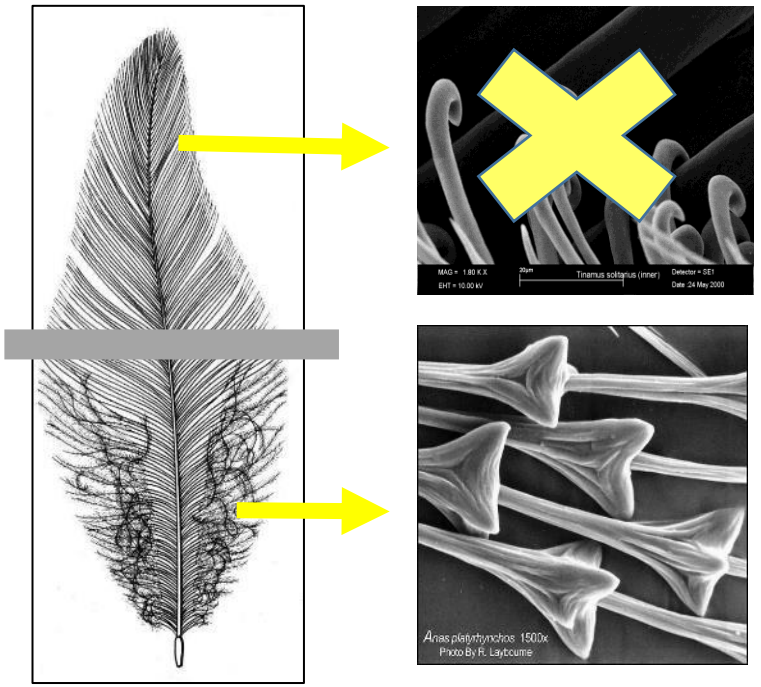




Microscopic Analysis

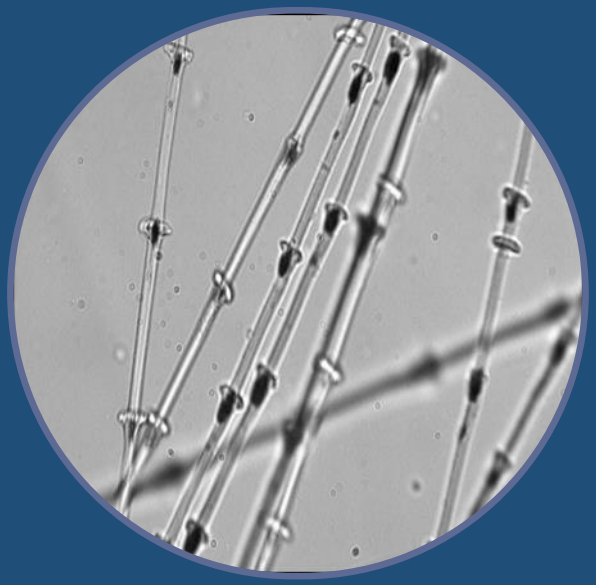
Pennaceous

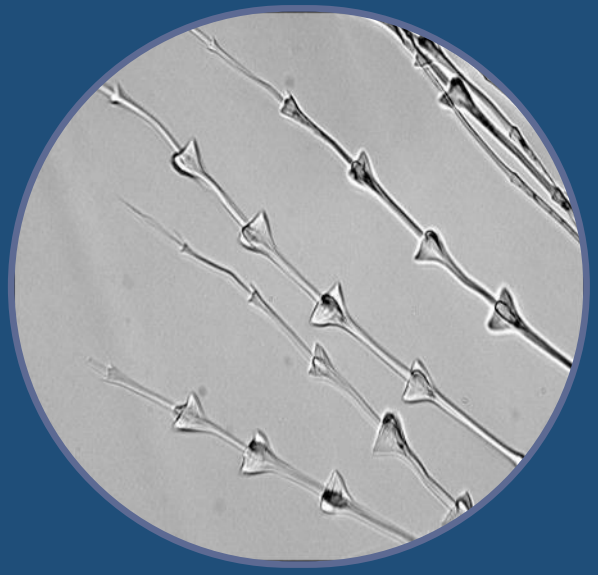
Plumulaceous



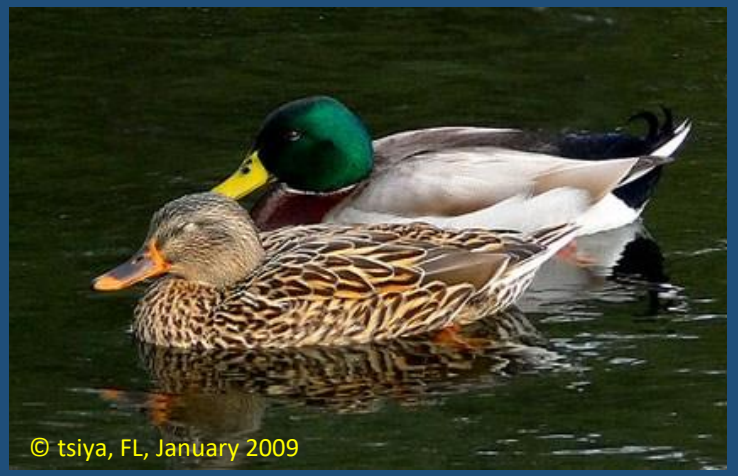
Pluck don’t cut feathers

Microscopic Analysis





Northern Bobwhite



Mallard

Collecting birdstrikes tips

Whole/ partial carcass found

- Pluck a variety of feathers including
  - wing, tail, breast, back, any feathers with color or pattern
- Do not cut feathers
- Limit amount of ‘chunks’ of tissue
- Don’t send entire/partial carcass

Snarge/blood smear

- Scrape off all snarge if possible
- Use alcohol
  - Never use water, bleach, or cleansers
- Include feathers if available
- Limit amount of ‘chunks’ of tissue

-If both whole feathers and snarge are available, collect both.

-Let sample dry before sealing in a bag.

-If extremely damaging or high profile strike, collect all available evidence.

-Each impact point on an aircraft and each carcass should be treated as a separate sample.

Photo Identifications

- Feather Lab can conduct photo identifications of whole carcasses
  - Mostly done for military cases since SI has to enter all wildlife ids
- Characters of a good photo:
  - Full frame, in focus, no obstructions
  - Scale bar
  - Multiple angles
- Upload file in the BASH tab of AFSAS/RMI
- Save carcass in freezer until you get identification or request for additional remains.

Birdstrike references

- **Bird Strikes: How to Collect, Ship Remains, and Have Bird Remains Identified**
  -a USDA/Smithsonian production
  - YouTube/Google 'birdstrike collecting video'
  - Download - http://www.faa.gov/airports/airport_safety/wildlife/smithsonian/

- FAA Wildlife: https://wildlife.faa.gov/home
- AFSAS/RMI: https://afsas.safety.af.mil/Home.do
- Birdstrike Committee USA: http://www.birdstrike.org/

- Feather Lab contact info
  - General phone number - 202-633-0801
  - Carla Dove, dovec@si.edu
  - Marcy Heacker, heackerm@si.edu
  - Jim Whatton, whattonj@si.edu
  - Faridah Dahlan, dahlanno@si.edu
  - Sarah Luttrell, luttrells@si.edu