



NATIONAL
MUSEUM *of*
NATURAL
HISTORY

24 May 2019
Tim Monville
National Transportation Safety Board
[REDACTED]
Ashburn, VA [REDACTED]
[REDACTED]

RE: NTSB # ERA19FA170
Feather Lab # 190516.8
FAA 2019-5-15-153353

Dear Mr. Monville,

The Smithsonian Institution's Feather Identification Lab received two shipments of material from the above referenced event. The first shipment, received on 16 May 2019, consisted of 10 bags (listed below) of debris, swipes and feathers. The second shipment (#11), received on 22 May 2019 was a nearly complete bird carcass of a Black Vulture (*Coragyps atratus*).

The initial 10 samples were submitted for mtDNA analysis, examined with microscopy, and whole feathers or feather fragments were matched to museum specimens (see photos).

Identification results for each labeled bag are listed below:

1. Black Vulture - Piece H, Zone 1 – microscopic feather
2. Black Vulture - Piece H, Zone 2 – microscopic feather
3. Black Vulture - Piece H, Zone 3 – DNA, microscopic feather
4. Black Vulture - Bag of wing and body feathers – no DNA in sample; microscopic feather, whole feather (see photo)
5. No DNA and no feather in sample - Glare shield, Top, Fuselage Station 60
6. *Homo sapiens* - Fuselage station 125- DNA; no feather found in sample
7. Black Vulture - Part G, Life vest exterior – microscopic feather; no DNA
8. Black Vulture and *Homo sapiens* - Piece H, Headrest back, Velcro area – microscopic feather; DNA
9. Black Vulture and *Homo sapiens* - Item I, Life vest exterior – DNA; microscopic feather
10. *Homo sapiens* – no feather in sample - Fuselage Station N=167 – DNA ; microscopy
11. Whole bird carcass – Black Vulture (shipment received 22 May 2019).

The Black Vulture carcass consisted of a large chunk of bird weighing 1610 grams. The average weight of Black Vulture is 2,000 grams. The head of the Black Vulture was complete and intact and did not show any signs of trauma; the skull was not cracked. One complete leg and one leg without a foot was attached to the carcass but most of the lower body and tail was missing. Both wings were attached to the carcass but some feathers were missing. The neck was detached from the head. From the examination of the carcass, it appears that the majority of the blunt force to the bird was in the breast and lower body areas of the bird.

If you have any questions, please let me know. Good luck with this investigation.

Sincerely,



Carla Dove, Ph.D.
Feather Identification Lab

Washington, DC 



Photos:



Feather samples (Bag #4) at blue arrows from ERA19FA170 compared to museum specimens of Black Vulture.



Near complete carcass of Black Vulture (above) showing intact head and trauma to mid and lower body areas.