



Smithsonian
National Museum of Natural History

Zoë Keliher
NTSB – Sr. Aircraft Accident Investigator
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8 March 2023

Feather Lab # 20208.19

Dear Ms Keliher,

The Smithsonian Institution's Feather Identification Lab received 10 bags of samples for examination on 8 February 2023. The samples were associated with a crash investigation that occurred in Columbia, California in Sept 2022. Samples from all bags were submitted for DNA analysis and no bird DNA was detected in any of the samples. Human DNA (*Homo sapiens*) was detected in sample #6. All samples were also examined microscopically with the following results:

Bag 1. R nose: microscopic partial pennaceous feather barb – unidentified bird

Bag 2. Wheel pant:

microscopic partial downy barbule – consistent with waterfowl, undetermined species

microscopic partial downy barbule – consistent with perching bird, undetermined species

microscopic partial downy barbule – tip of barbule only, unidentified bird

Bag 3. Cockpit gauges: no feather found in microscopic exam

Bag 4. R lower wing: microscopic partial downy barbule – consistent with waterfowl, undetermined species

Bag 5. L canard: no feather found in microscopic exam

Bag 6. Plexi & sidewall: no feather found in microscopic exam

human DNA in sample

Bag 7. L wing: no feather found in microscopic exam

Bag 8. Bottom fuselage tail: microscopic partial downy barbule, unidentified bird

Bag 9. Plexi wreck: no feather found in microscopic exam

Bag 10. R canard: microscopic partial downy barbule, unidentified bird

While samples #1, 2, 4 and 8 contain microscopic traces of feather, some of the feather fragments are not from the same avian taxonomic groups (see photos below). For example, one feather fragment in sample #2 is consistent with waterfowl, but another feather fragment in the same sample is consistent with 'perching bird'.

If you have any questions, please call.

Good luck with this investigation.

Sincerely,

A black rectangular redaction box covering the signature of Carla J. Dove.

Carla J. Dove, Ph.D.
Feather Identification Lab
Smithsonian Institution
NHB E-600, MRC 116

A black rectangular redaction box covering the contact information, likely a phone number.

Photographs of microscopic feather fragments from Sample #2



Microscopic characters consistent with waterfowl.



Microscopic characters consistent with perching bird.