

Arsenic Spot Tests for Detection in Taxidermy Collections

In taxidermy collections, arsenic is well known for the arsenical soap, a revolutionary preservative invented by the French Jean-Baptiste Bécœur in the middle of 18th century.

This arsenic paste was applied inside the skin to preserve it from biodeterioration and the attack of insects.

The likely presence of arsenic in taxidermy collections presents the question of how to detect this toxic compound.

2-Spot Test



Cotton swab rolled on a specimen for Arsenic Spot Test (MNHN, Paris)

Spot test is a quick and easy technique to detect the presence of arsenic in collections.



Colours according to the concentration of arsenic present on the cotton swab. Arsenic Test Paper (Macherey-Nagel)

We examined the **Weber's test**, based on the Gutzeit method (1920's) and the **Arsenic Test Paper** sold by Macherey-Nagel.

1-Detect to Protect



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First, it is necessary to inspect the specimens looking for the presence of the characteristic white dust, normally found at the base of hairs and feathers, around eyes, in or at the base of the ears, around the mouth or bill, and on the foot pads.



White powder around eyes, 19th century Bird (MNHN, Paris)

In addition, it is necessary to test specimens for arsenic, since the absence of white powder **DOES NOT** mean the absence of arsenic.

3-Management of a Poison

Any contaminated specimens known, or suspected, should never be handled without appropriated protection (nitrile gloves, lab coat, protective smock or apron, respirator).

Specimens testing positive for arsenic must have "Arsenic contaminated" written clearly on its label and in the item's museum catalog, and should be stored separately whenever is possible.



Museum skin tag suggesting the presence of arsenic

Warning Specimens testing *negative* may still contain arsenic. These objects should be inspected and tested every 2-3 years, as arsenic may migrate from the interior of the specimen



Smithsonian Center
for Materials Research and Education

Fernando Marte
Amandine Péquignot
David von Endt

fernando.marte@unsam.edu.ar/vonendtd@si.edu