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Swabbing scats for DNA sampling - field protocol

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Protocol status: Working
We use this protocol and it's working

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Abstract

This protocol describes how to swab mammal scats in the field, for DNA sampling. Swabs are air-dryed for storage in the field and transport to the laboratory.

Materials

MATERIALS

Gloves

PBS

sterile cotton swabs

Cotton swabs should be sterile and individually packed, with each swab in its own collection tube, e.g. cotton swabs from COPAN for Interpath Services P/L Melbourne Australia

1 X PBS should be aliquoted into 2ml tubes: one tube should be sufficient for swabbing 20+ scats. Prepare several spare tubes of PBS in case of contamination in the field.

1 Before touching the scat:

- photograph the scat
- assign a sample number
- record GPS coordinates
- record any other required field data

2 Swab the scat before otherwise moving or disturbing it.

> Note
>
> Wear clean gloves for every sample. Change gloves as often as needed to avoid contamination.

3 Select a clean, unused swab and check that the paper seal is undamaged to ensure the swab is sterile (discard the swab if the seal is damaged).

4 Record the sample number and all other details on the swab tube label. Ensure the writing is clear and legible and will not smudge or wash off easily.

5 Twist the swab to break the seal and carefully remove the swab from its case. Take care not to touch any part of the swab that was inside the collection tube and do not allow the swab to touch anything else that may contaminate it.

6 If the scat still retains obvious moisture, there is no need to pre-moisten the swab. Proceed to step 8.

7 If the scat is dry (older scats), pre-moisten the swab before use:

- Immediately after opening the swab, open a 2ml tube of 1 x PBS
- Briefly dip the swab into the PBS solution – you just need to moisten the outside of the swab, it should not be saturated or soaked for a long time
- Immediately close the tube of PBS to avoid contaminating it

Note

ONLY dip clean swabs into the PBS solution – if the swab has touched ANYTHING (your hands, the ground, the scat...) do not dip it into the tube! Otherwise you risk cross-contamination of other swabs later on.

8 Swab the scat comprehensively by rolling the tip of the swab across the surface of the scat several times. Make sure you sample from each scat pellet and from the ends and middle of the scat.

Note

NB see this EcoGene video on YouTube for a demonstration of a similar procedure (swabbing starts at 1 min 38 secs): https://www.youtube.com/watch?v=A7WFnoIttUA

9 Briefly allow the swab to air dry – take care not to touch the swab against anything that may contaminate it while it dries.

10 Place the swab back into its container and ensure it has properly closed. Swab containers can be stored in a box or bag during the field trip. They should be kept dry and out of direct sunlight. Store used swabs separately from unused swabs.

11 In the lab, extract DNA from swabs as soon as possible, or else store swabs in dry conditions below 4°C (freeze if possible) to inhibit growth of micro-organisms.