Protocol for sampling rhinoceros horn for DNA

Materials provided

- New 5mm drill bits (1 per horn)
- Labelled sterile sample vials (1 per horn)
- Tamper-proof evidence bag (up to 5 samples per bag)

Materials required

- Drill
- Disposable gloves (e.g. latex / nitrile) – fresh pair per horn
- Clean A4 paper

Sampling Method

1. Put on a fresh pair of gloves holding by the cuff edges

Note – please take care not to touch the outside of the gloves too much with your bare hands.

2. Lay out a clean sheet of paper on a stable surface.

3. Open the new 5mm drill bit and apply to your drill, following the manufacturer's instructions for safety.

4. Start to drill into the central base of the horn and slowly drill out the surface layer (see **Fig. A**).

Note – Sampling from the centre of the base is ideal, however, if the horn is mounted, a side sample can be taken.

5. Discard the sheet of paper with the surface layer of material and lay out a new clean sheet of paper.

Fig. A

6. Drill VERY slowly but with force, pausing frequently, using the same hole to sample material from inside the horn (see **Figures B and C**).

Note – if you can smell burning hair, the drill speed is too fast.

Fig. B


Fig. C

7. When sufficient material has been collected (approximately 1-2 grams, see **Fig. C**), carefully curl the sheet of paper and tip the contents into the labelled sample vial (see **Fig. D**).

8. The contents should look like **Fig. E**. Close the labelled sample vial tightly.

Fig. D

Fig. E

9. Repeat steps 1-9 for each horn to be sampled. Use a new drill bit for each sample to avoid cross-contamination.

10. Complete details on tamper proof evidence bag (see **Fig. F**) as shown in **Fig. G**. Only complete sections highlighted in **Fig. G**.

11. Place the horn samples in the tamper proof evidence bag (max of 5 per bag).

12. Seal the tamper proof evidence bag by first folding back the orange strip (see **Fig. H**), then removing the blue strip to reveal the (extremely) sticky surface (see **Fig. I**) and finally smoothing the air out of the bag while folding the orange tab back up (see **Figures J & K**).

Fig. F

Fig. G

Fig. H

Fig. I


Fig. J

Fig. K

13. Package up the sealed evidence bags with the submission form(s) and sample agreement. Ensure there is sufficient padding to prevent the sample vials from breaking in transit. Then follow the guidance on the document titled "*Sampling and submission guidance for rhinoceros DNA database*".

14. OPTIONAL: If you would like to fill the hole left by the sampling procedure, please discuss with your conservators the most appropriate material to fill the specimen.