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Traces referential on raw material from Foz do Chapecó (Brazil)

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

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Disclaimer

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Abstract

Quite a few lithic use-wear referentials on raw materials from Brazil exist. To further develop use-wear analysis in the country and especially in the region of Foz do Chapecó, new referentials must be created to better understand trace formation on these specific raw materials.
This protocol aims to use pieces in a sequential experiment to observe the initial development of wear traces. Given the short duration of the experiment, we do not expect to fully characterize the worked materials. Instead, our goal is to have a better understanding of the use-wear aspect on these raw materials, enabling us to identify relevant traces on archaeological artifacts.

Before start

Numerous flakes were produced on a volcano-sedimentary material from Foz do Chapecó. We then selected four pieces that looked appropriate for the experiment in term of size, prehension and edge sharpness.

Documentation of the experimental flakes before use

1 Macroscopic and microscopic observation and documentation of the state of the flakes before use with naked eye, with a camera

Equipment	
iPhone XR	NAME
Phone camera	TYPE
Apple	BRAND
1	SKU

and a Dino-lite microscope.

Equipment	
Dino-Lite edge AM45152ZTL	NAME
Digital Microscop	TYPE
Dino-Lite	BRAND
3	SKU

Equipment

Dino-Lite AM7915MZTL	NAME
Digital microscop	TYPE
Dino-Lite	BRAND
4	SKU

Equipment

Dino-liteAM7515MT4A	NAME
Digital microscop	TYPE
Dino-lite	BRAND
5	SKU

2 Casting of the used experimental raw flakes after washing to keep record of the raw surface.

Equipment

Provil Novo silicone	NAME
Cartridge refill, light set	TYPE
Heraeus	BRAND
2	SKU

Sequential experiment : first session of use of the experimental flakes

3 Session of scraping with two flakes on soaked reed and with two other flakes on fresh bone for 5,000 strokes each (document the time, the motion, the experimenter).

Documentation of the experimental flakes after use and before washing

4 Macroscopic and microscopic observation and documentation of the used experimental raw flakes before washing with naked eye, a camera and a Dino-lite microscope.

Washing of the used experimental flakes

5 Wash for 20 minutes in an ultrasound tank 15m

Equipment

Ultrasonic cleaner USC100T	NAME
Ultrasonic tank	TYPE
VWR	BRAND
6	SKU

in a neutral soap solution diluted in distilled water (2%) to remove the residues.

Documentation of the used experimental flakes after washing

6 Macroscopic and microscopic observation and documentation of the used experimental raw flakes after washing with naked eye, a camera and a Dino-lite microscope.

7 Casting of the used experimental raw flakes after washing to keep record of the state development of the traces.

Sequential experiment : second session of use of the experimental flake

8 Session of scraping with one flake on soaked reed for 5000 strokes each (document the time, the motion, the experimenter).

Documentation of the experimental flake after use and before washing

9 Macroscopic and microscopic observation and documentation of the used experimental raw flakes with naked eye, with a camera and a Dino-lite microscope.

Washing of the used experimental raw flakes

10 Wash for 20 minutes in an ultrasound tank in a neutral soap solution diluted in distilled water (2%) to remove the residues. 15m

Documentation of the experimental flakes after washing

11 Macroscopic and microscopic observation and documentation of the used experimental raw flakes after washing with naked eye, a camera and a Dino-lite microscope.