Supplementary Table 1. Specifications table (Detailed overview of the study design)

Subject	Phytolith research
Specific subject areas	Archaeology Ecology Geochemistry Methodology (related to phytoliths) Palaeoecology Palaeontology Plant physiology
Specific subject glossary	
FAIR	FAIR stands for Findable, Accessible, Interoperable and Reusable. These principles aim to make data available whenever it is possible.
Metadata	Data which describes and gives context to other data.
Morphometry	Phytolith analysis based on measurements of size and shape.
Multiplicity	Multiplicity refers to a plant that can produce a variety of phytolith morphotypes.
Phytolith morphotype	A type of phytolith whose shape is diagnostic to various taxonomic levels. The pictures of those phytoliths are the most published.
Phytolith nomenclature	A system of conventions and rules to name the phytolith morphotype and the phytolith. Two phytolith nomenclatures exist ICPN 1.0 (Madella *et al.* 2005) and ICPN 2.0 (Neumann *et al.* 2019)
README file	A README file is a text file that aims at describing a project in terms of methodologies and key information about data collection and analysis. It can be used to provide a well-described metadata.
Redundancy	Redundancy refers to the same phytolith morphotype which is commonly produced by several plants.
Dataset description	This dataset contains information collected from 100 phytolith papers - 50 selected from European studies and 50 selected from South American studies, over a 5 year publication time period (2016-2020).

Data format	Primary and secondary data
Type of data	Qualitative data
Full description of the repository files	- FAIR assessment final documents - FAIR assessment data categories table.pdf - README files - README file for European dataset.pdf - README file for South American dataset.pdf - Data collection forms - FAIR Phytoliths Data Assessment Form – Europe.pdf - FAIR Phytoliths Data Assessment – South America.pdf - Observations made during the data assessment according to the set of questions table.pdf - Specifications table (Detailed overview of the study design.pdf *Roadoi* R package (version 0.7.2) *roadoi* R package_Europe.csv *roadoi* DOI R package_South_America.csv *roadoi* DOI R package_Europe_code.md *roadoi* DOI R package_South_America_code.md - Data dictionary for FAIR Phytoliths FAIR assessment.csv - FAIR assessment trial - Data collection methodology development document.pdf - Data collection form for trial.pdf - Table summarising how the FAIR principles were linked to a practical set of questions shaped specifically for phytolith research.pdf - Data-raw - contains the two raw datasets for Europe and South America as csv files. - Data-search

	○ contains csv files of the searches conducted using publish or perish to get the list of relevant articles. ● Data saturation ○ Saturation and representativity of data collected. pdf
How data were acquired	Data were collected by six assessors in total (Emma Karoune, Carla Lancelotti, Juan José García-Granero, Javier Ruiz-Pérez, Marco Madella, Céline Kerfant). A trial of FAIR variables was conducted on five articles to check the criteria relevance by five assessors while the main data collection was carried out by four assessors. Access to the literature was carried out using *Publish or Perish* software (*Harzing, A.W. (2007) Publish or Perish, available*) to conduct two searches using the decided criteria ('phytoliths' and 'Europe' or 'South America') to produce a static list of papers. The first 100 articles selected from these lists using the inclusion criteria ('primary data', 'phytoliths' and 'Europe' or 'South America') were assessed on the basis of the availability and format of data and metadata presented. The R package *roadoi* (version 0.7.2) was used to transparently assess the accessibility of the articles. The languages of most of the studies are English and Spanish.
Open science tools used	*Publish or Perish* software (*Harzing, A.W. (2007) Publish or Perish, available)* - https://harzing.com/resources/publish-or-perish *roadoi* R package (version 0.7.2) - Ropensci/roadoi https://cran.r-project.org/web/packages/roadoi/roadoi.pdf GitHub and Zenodo repositories
Data availability	GitHub repository GitHub - open-phytoliths/FAIR-assessment-data-paper-documentation: DATA PAPER Zenodo DOI - Data is available under the Creative Commons Attribution 4.0 International licence