FAIR Phytoliths - FAIR Assessment data categories - final

	Category name	Codes	Explanation
	1.Data collector name	Drop down list of all data collectors names	
General	2.Journal name	Full name of journal - drop down list	Add any extra journal names before filling in the rest of the sheet
	3.Reference APA	Download full APA ref	Use google scholar to get citation
	4.Year	Year - drop down list	(first published online)
	5.Period/Date	Open text box Archaeology or palaeoecological studies - date range/period given Modern - for other studies - plant science, reference collection, methodology	Enter information given in text - often found in abstract.
	6.Type of study	Archaeological Geochemical Ecology Methodological - modern reference Methodological - morphometric Methodological - ethnographic Methodological - extraction method Methodological - isotopes	Select the main focus of the paper

		Methodological - taphonomy Methodological - radiocarbon Palaeoecology Palaeontology Plant Physiology	
	7. Geographic location of study material	Use Geonames for country name (https://www.geonames.org/)	If it is more than one country it needs to have a comma between
Article access questions	8. Open access/oa_status Changed to oa_status from unpaywall check - link to meaning of term used these terms apart from one journal that is diamond (this was not in their terms)	Green Gold Hybrid Bronze Diamond	Using roadoi R package to search all DOI's at the end of data collection for first 100 articles. Use unpaywall to check for existence of green open access (just to include open repositories) Not including Research gate or Academia
	9. Journal type	Open Hybrid Closed	
	10. What repository for green access article	Arxiv Bioarxiv EarthArXiv EcoEvoRxiv F1000 research Figshare OSF Preprints Palaeorxiv PeerJ Preprints Preprints.org University or Institution repository	From roadoi R package

		WikiJournal Preprints Zenodo None-gold = gold open access (also includes the few bronze oa articles) None-diamond None-not-oa = not open access	
	11. Is it in a signed up repository?	Research gate Academia	We collected some data for this but decided not to use in analysis.
Methods	12. Processing method communication	Summary of method Full protocol in the text/supplementary Full protocol in repository One reference to specific protocol One reference generic ref/Multiple reference	One ref for specific protocol = Horrocks 2005; Katz *et al.* 2010; Lombardo *et al.* 2016; Madella *et al.* 1998; Jenkins and Rosen 2007; Horrocks et al. One generic ref - Piperno 2006; Pearsall 2015
	13. Is counting method replicable?	Yes No Not applicable	Yes = would I be able to replicate exactly what was done on the same slide? How many phytoliths counted? Number phytoliths per slide? Single celled and multicelled? Does it include unidentified in the count? Morphometric method included? Not applicable - if there is no phytolith morphotype counting done in the study.

	14. Instruments used described	Yes No	Must have magnification Needs the type of microscope (SEM, transmitted light, digital, etc) Does not need actual microscope name details
	15. Nomenclature-stated	ICPN 1.0 ICPN 2.0 MU Phytolith Classification System Bertoli 2013 Zucol & Brea 2005 Not specified/not clear	Not specified/not clear - includes those that have no morphotype counts but do have other types of data.
	16. Have they used the nomenclature fully ICPN 1.0 or ICPN 2.0? (no adaptations or the adaptations are fully described)	Yes No Not used	Not used = not used ICPN 1.0 or 2.0 Things to check: ICPN 1.0 - Bilobate is not used (using dumbbells instead), fan-shaped used instead of bulliform. ICPN 2.0 - Look for use of Globular spheroids,Elongates echinate/dentate/ entire, blocky, acute bulbous
Data questions	17. Data location	No data Data in text of article Data in supplementary Data in repository with DOI Data in repository without DOI	
	18. Repository data - what	ADS	ADS = Archaeological data service

	repository	Code Ocean Dataverse Dryad Zenodo Figshare GitHub Mendeley Neotoma Open Context Open Science Framework Pangaea tDAR None	
	19. Data type	Raw counts Raw counts + processing weights Presence/absence Relative presence/percentages Mean or range Summary data - plant groupings Unclear what is presented/provided No data provided in a table - only graph No data provided	
	20. Data format	No data In text of article .pdf .doc .xslx .csv	
	21. Data availability statement	None Data on request All data included Dataset link to repository with DOI	If statement does not relate to data then put none. Data on request = from authors,

		Data paper with DOI	organisation or third party. All data included = all data is within article or supplementary files.
	22. Data license	Data not available = not in repository No license CC-0 CC BY	Only data licenses for data in repositories.
	23. Pictures/photos of identifications	None Only significant ones All	Check morphotypes in the table/graph/data and then check no of photos
	24. Statistical software used	None stated SPSS C2 PAST Excel Google sheets CANOCO R Python	Other software packages can be added
	25. Other comments	Free text box to add any extra comments	

References:

Extraction methods:

Horrocks, M., 2005 A combined procedure for recovering phytoliths and starch residues from soils, sedimentary deposits and similar materials,

Journal of Archaeological Science, 32/8, Pages 1169-1175, https://doi.org/10.1016/j.jas.2005.02.014.

Jenkins, E., and A. Rosen. 2007. “The Phytoliths.” In *The Early Prehistory of Wadi Faynan, Southern Jordan; Archaeological Survey of Wadis Faynan, Ghuwayr and al-Bustan and Evaluation of the Pre-Pottery Neolithic A Site of WF16. Council for British Research in the Levant and Oxbow*, edited by B. Finlayson and S. Mithen, 429–436. London.

Ofir Katz, Dan Cabanes, Stephen Weiner, Aren M. Maeir, Elisabetta Boaretto, Ruth Shahack-Gross,
Rapid phytolith extraction for analysis of phytolith concentrations and assemblages during an excavation: an application at Tell es-Safi/Gath, Israel, Journal of Archaeological Science, Volume 37, Issue 7, 2010,Pages 1557-1563, ISSN 0305-4403,
https://doi.org/10.1016/j.jas.2010.01.016.

Lombardo, U., Ruiz-Pérez, J. and Madella, M. 2016. Sonication improves the efficiency, efficacy and safety of phytolith extraction, Review of Palaeobotany and Palynology, 235, Pages 1-5, https://doi.org/10.1016/j.revpalbo.2016.09.008.

Madella, M., Powers-Jones, A.H., and Jones, M.K. 1998. A simple method of extraction of opal phytoliths from sediments using a non-toxic heavy liquid. Journal of Archaeological Science, 25, 801-803.

Other nomenclatures:

Bertoldi de Pomar, H. (2013). ENSAYO DE CLASIFICACION MORFOLOGICA DE LOS SILICOFITOLITOS. Ameghiniana, 8(3-4), 317-328

Zucol, Alejandro Fabián; Brea, Mariana; Sistemática de fitolitos, pautas para un sistema clasificatorio. Un caso en estudio en la Formación Alvear (Pleistoceno inferior), Entre Ríos, Argentina; Asociacion Paleontologica Argentina; Ameghiniana; 42; 4; 12-2005; 685-704.