

PHYTOLITHS, STARCH GRAINS AND ANDEAN CROPS

The input of the diversity from America to Archaeobotanical research



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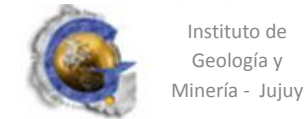
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² Museo Argentino de Ciencias Naturales “Bernardino Rivadavia” (MACN CONICET), GBIF Argentina, Sistema Nacional de Datos Biológicos (SNDB-MinCyT)

12th International Meeting
for Phytolith Research



INECOA



Archaeobotanical study of the pre-Hispanic South Andean Culinary Heritage and its associated practices. The **Quebrada de Humahuaca** as study case

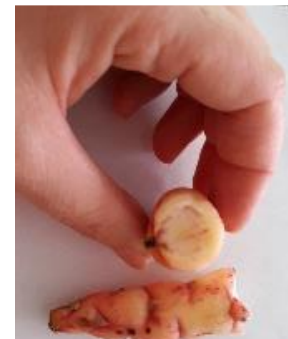


Andean crops

Legumes-pods



Andean Cereals



Roots- tubers- rizomes



Herbarium JUA Subcollections

Ethnoarchaeological
Herbaria



Collection
sample

Parts of Andean
Crops

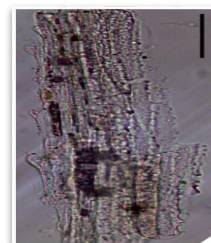


Food of Andean
Crops

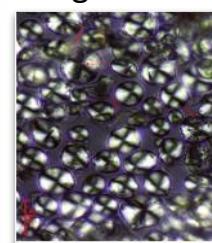


Histological
collections

Phytoliths
Si + Ca



Starch
grains



South-Central Andes Culinary Heritage Digital Database

South-Central Andes Culinary Heritage Digital Database

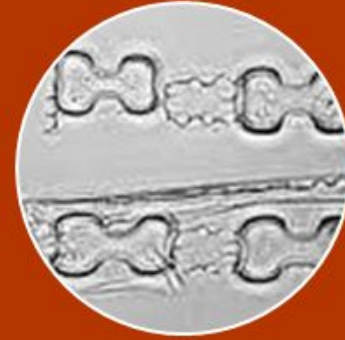


Biodiversity
Information
Standards
T D W G

Section I:
Darwin Core



Section II:
Starch grains



Section III:
Phytoliths

South-Central Andes Culinary Heritage Digital Database

Biodiversity
Information
Standards
TDWG

Section I: Darwin Core

occurrenceStatus
footprintWKT individualCount footprintSRS waterBody
namePublishedInID associatedMedia occurrenceDetails order
scientificNameID associatedReferences verbatimTaxonRank verbatimElevation
continent taxonConceptID higherClassification taxonID verbatimLocality recordedBy
lifeStage catalogNumber minimumElevationInMeters stateProvince verbatimCoordinates
namePublishedInpreviousIdentifications acceptedNameUsageID parentNameUsage
nameAccordingTo country maximumDepthInMeters higherGeographyID countryCode
class subgenus verbatimCoordinateSystem behavior scientificNameAuthorship associatedOccurrences
taxonRank locationAccordingTo georeferenceVerificationStatus locationID county originalNameUsageID
infraspecificEpithet minimumDistanceAboveSurfaceInMeters georeferenceRemarks coordinatePrecision
sex maximumDistanceAboveSurfaceInMeters acceptedNameUsage island coordinateUncertaintyInMeters
individualID maximumElevationInMeters georeferenceSources scientificName minimumDepthInMeters
verbatimLatitude reproductiveCondition originalNameUsage locality associatedSequences specificEpithet
decimalLongitude otherCatalogNumbers associatedTaxa nameAccordingToID parentNameUsageID
georeferenceProtocol footprintSpatialFit family higherGeography
locationRemarks pointRadiusSpatialFit kingdom georeferencedBy nomenclaturalStatus taxonomicStatus
geodeticDatum verbatimLongitude establishmentMeans occurrenceRemarks
disposition nomenclaturalCode decimalLatitude vernacularName municipality
verbatimSRS verbatimDepth preparations phylum genus occurrenceID islandGroup
recordNumber

South-Central Andes Culinary Heritage Digital Database



Section II: Starch grains



The FARM

Planting New Ideas in Fertile Ground

The International Code for Starch Nomenclature

Please cite as: ICSN 2011, The International Code for Starch Nomenclature, (insert URL), accessed (insert date you viewed the page).

Terms are noted with their original sources, and definitions may have been modified by the conference participants to be more useful in archaeobotanical contexts. Uncited terms were coined and/or decided upon by the participants in the Internet Conference for Starch Nomenclature. Participants are listed at the foot of this page.

ICSN

Basic Terminology

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Taphonomy in the kitchen: culinary practices and processing residues of native tuberous plants of the south-central Andes

María del Pilar Babot, Julia Lund and Adriana Valeria Olmos

Received 20 August 2013. Accepted 14 February 2014

ABSTRACT

We present comparative material for the identification of culinary residues of cooked tubers of *Solanum* sp., *Oxalis tuberosa* and *Ullucus tuberosus*. We use a broad concept of taphonomy that includes the study of plant modifications resulting from the preparation of food, in this case the boiling and cooking *al rescoldo* of fresh tubers. We undertake a number of controlled cooking experiments and compare the results with fresh samples. We discuss morphological and optical modifications of tissue fragments and intracellular particles resulting from our cooking experiments. Finally, we discuss the possibility of recognizing cooking techniques from microscopic analysis of tuber remains.

Keywords: Taphonomy; Culinary techniques; Plant processing; Starch; Tubers.

South-Central Andes Culinary Heritage Digital Database



Section III: Phytoliths

Annals of Botany 124: 189–199, 2019
doi: 10.1093/aob/mez064, available online at www.academic.oup.com/aob

ANNALS OF
BOTANY
Founded 1847

RESEARCH IN CONTEXT

International Code for Phytolith Nomenclature (ICPN) 2.0

International Committee for Phytolith Taxonomy (ICPT) (Katharina Neumann¹, Caroline A. E. Strömberg², Terry Ball³, Rosa Maria Albert^{4,5}, Luc Vrydaghs⁶ and Linda Scott Cummings⁷)

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- Techniques (Modes of transformation)
- Agents
- Physico-chemical Processes and Results
- Morphological and optical modifications
- Taphonomic effects

Pilar Babot, María del
LA COCINA, EL TALLER Y EL RITUAL: EXPLORANDO LAS TRAYECTORIAS DEL
PROCESAMIENTO VEGETAL EN EL NOROESTE ARGENTINO
Darwiniana, Vol. 47, Núm. 1, 2009, pp. 7-30
Instituto de Botánica Darwinion (IBODA)
Argentina

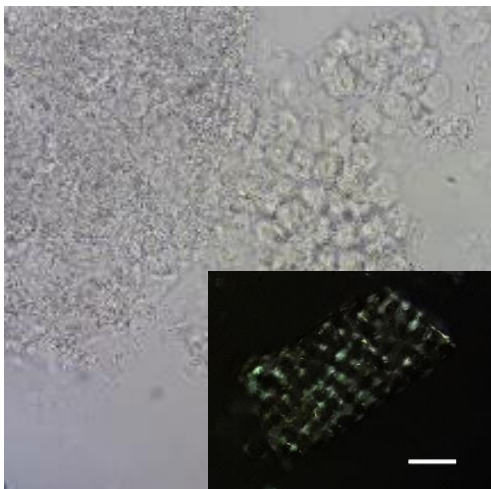
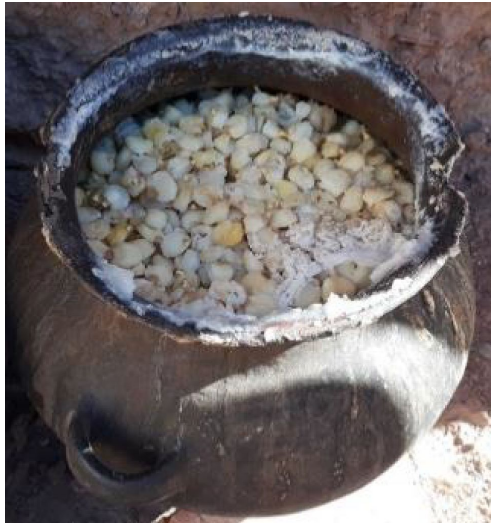
Disponible en: <http://redalyc.uaemex.mx/src/inicio/ArtPdfRed.jsp?iCve=66912085001>

 DARWINIANA
INSTITUTO DE BOTÁNICA DARWINION

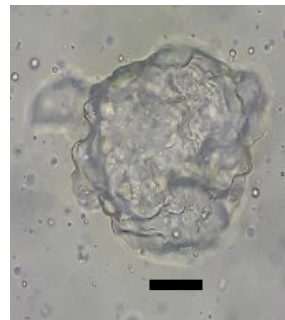
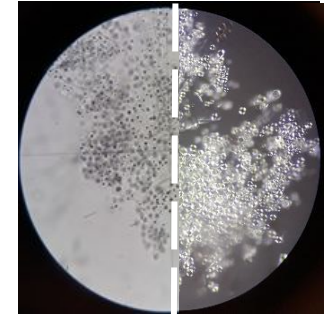
Darwiniana
ISSN (Versión impresa): 0011-6793
rpozner@darwin.edu.ar
Instituto de Botánica Darwinion (IBODA)
Argentina

Traditional Andean Food samples (I)

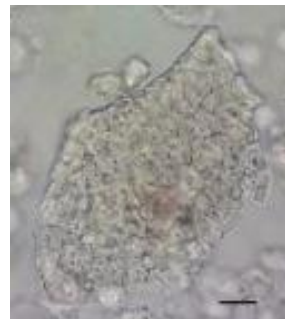
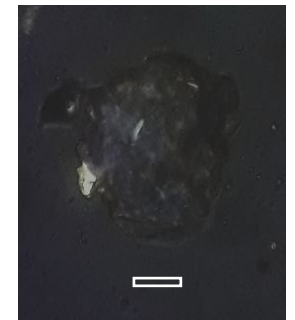
MOTE: CORN boiled
with ash/lime



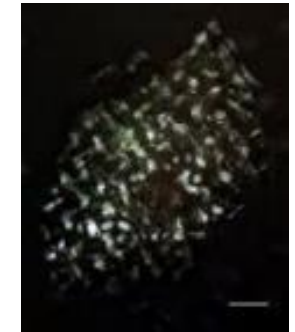
TOASTED CORN



CHILCAN CORN DESSERT



**CHICHA MORADA
(KULLI CORN)**

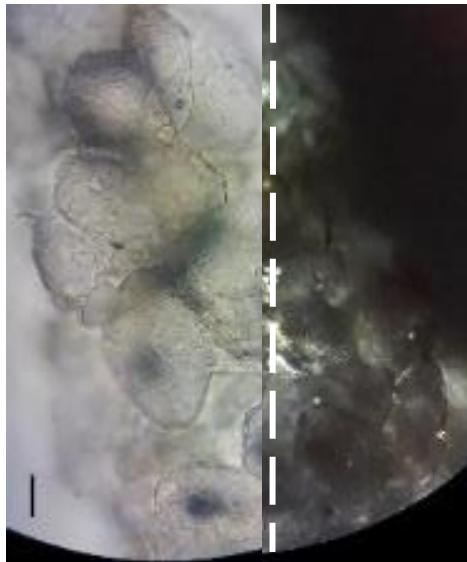


Traditional Andean Food samples (II)

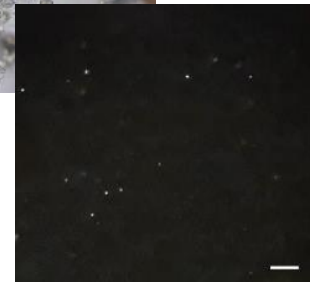
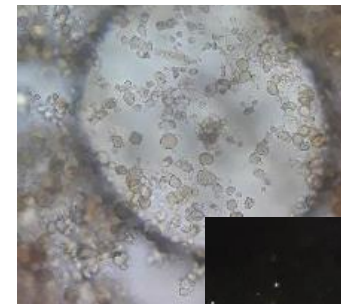
Boiled Andean POTATOES



QUINOA Stew



Peanuts CHICHA



Final Words and Future Agenda

South- Central Andes Culinary Heritage



Their description and registration allows us not only to catalog them in the JUA Herbarium heritage, but to enhance, visibility, safeguarding and management of South- Central Andes Culinary Heritage.

Final Words and Future Agenda

Repository, Portal, Network and Projects

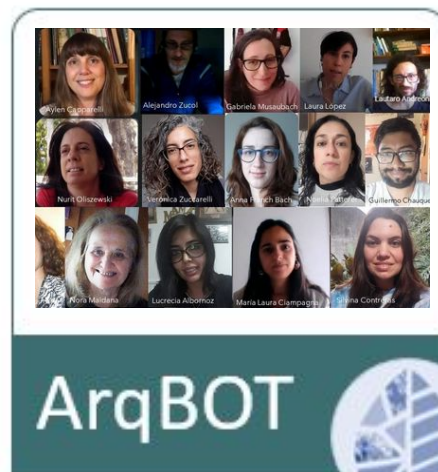
[Digital Repository of the Digital Archaeological Program](#)



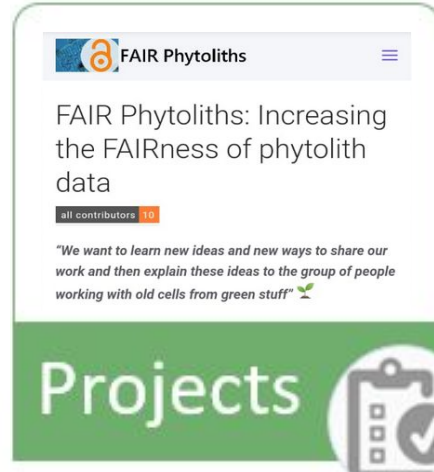
[Global Biodiversity Information Facility](#)



Interdisciplinary Net of Researchers Oriented to Archaeobotanical Studies



To participate in projects like:
<https://open-phytoliths.github.io/FAIR-phytoliths/>



Acknowledgments

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Toconás-Venencia Family

Celestina Ávalos and Family

María Martínez and Estela Flores

Casilda Girón. Member of Aboriginal Community Villa Perchel,
Tilcara, Jujuy, Argentina

JUA Herbarium, Faculty of Agronomical Sciences. UNJu

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Thank you very much!



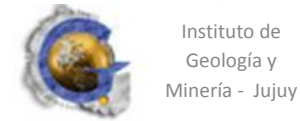
12th International Meeting
for Phytolith Research



EAA
2021 Kiel, 6-11 Sept.
Widening Horizons



INECOA



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plos@macn.gov.ar



Paisajes-Materialidades del Sector Centro-Sur de la Quebrada de Humahuaca