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BRIDGING DISCIPLINES: HUMANITIES IN THE SCIENCE LAB

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VAKGROEP ARCHEOLOGIE

BRIDGING DISCIPLINES: HUMANITIES IN THE SCIENCE LAB

GASC
Ghent Archaeological Science Center

Isabelle De Groote, Koen Deforce, Sibrecht Reniere

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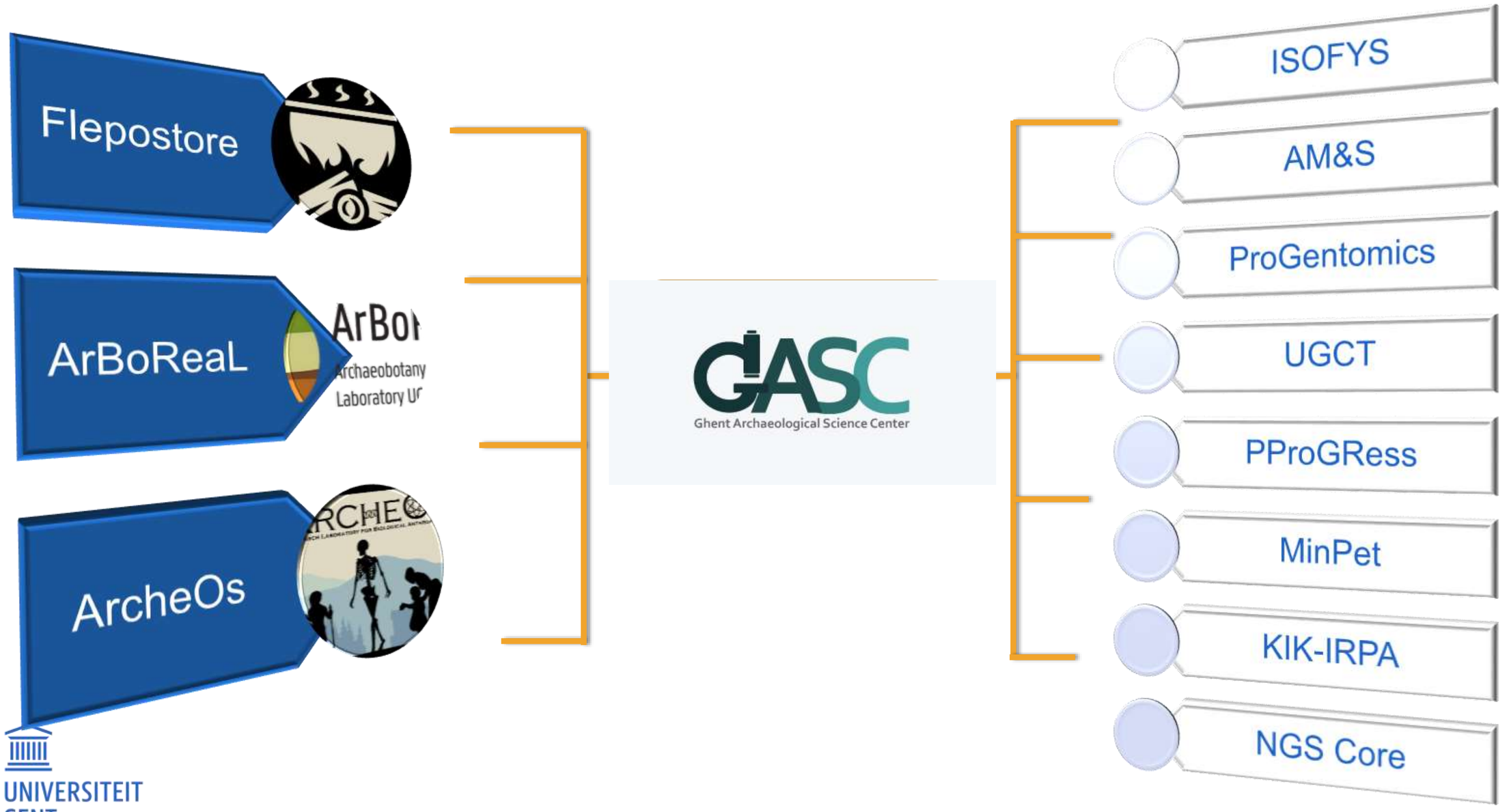
Flepostore
ArBoReaL
ArBo
Archaeobotany
Laboratory Ur
ArcheOs
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GASC
Ghent Archaeological Science Center
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ProGentomics
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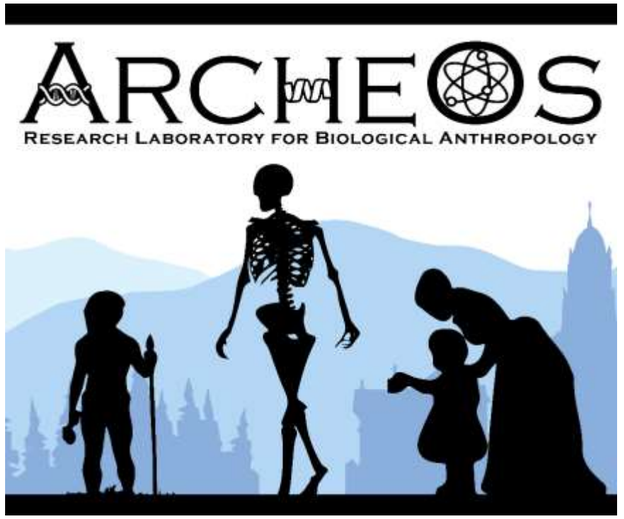

ArBoReal

Archaeobotany Research Laboratory UGent

Flepostore

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ARCHEOS

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ARCHEOS

RESEARCH LABORATORY FOR BIOLOGICAL ANTHROPOLOGY

BIOLOGICAL ANTHROPOLOGY

- **Paleoanthropology** fossil evidence for human evolution
- **Human Biology** interdisciplinary field of biology, biological anthropology, nutrition, and medicine
- **Primatology** study of non-human primate behavior, morphology and genetics.
- **Human behavioural ecology** study of behavioural adaptations from an evolutionary and ecological perspective.
- **Bioarchaeology** study of past human cultures through the study of skeletal remains.
- **Paleopathology** study of diseases in ancient times.
- **Evolutionary psychology** seeks to identify which human psychological traits are evolved adaptations.
- **Evolutionary biology** the study of the evolutionary processes such as natural selection, common ancestry, and speciation.

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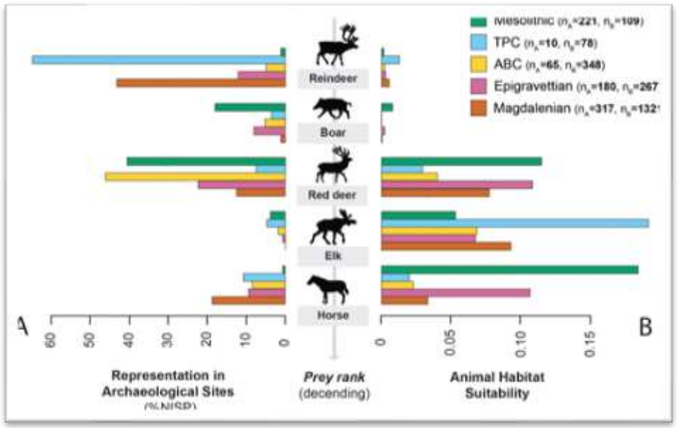
BIOARCHAEOLOGY

Bioarchaeology (**osteoarchaeology**, **osteology**) in Europe describes the study of biological remains from archaeological sites. In the United States it is the scientific study of human remains from archaeological sites.

The term was minted by British archaeologist Grahame Clark who, in 1972, defined it as the study of animal and human bones from archaeological sites. Jane Buikstra came up with the current US definition in 1977. Human remains can inform about health, lifestyle, diet, mortality and physique of the past. Although Clark used it to describe just human remains and animal remains, increasingly archaeologists include botanical remains.



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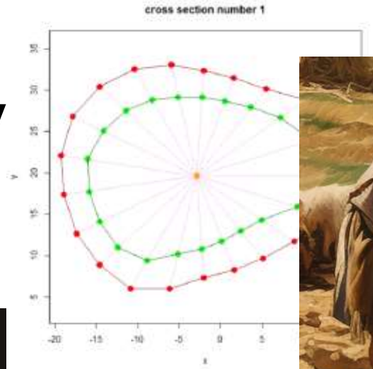
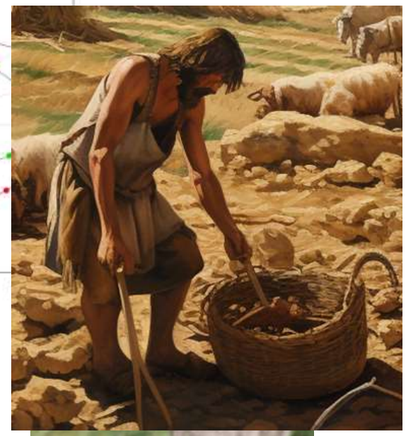
OSTEOLOGICAL ANALYSIS

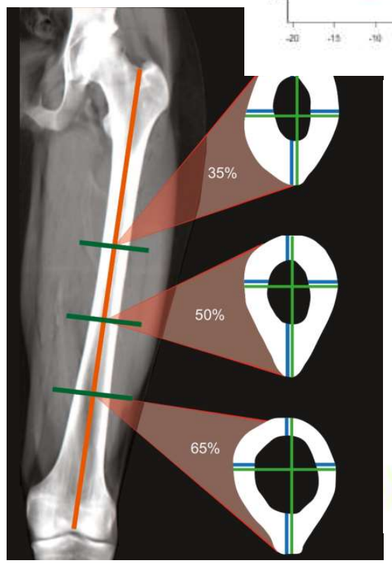
Identification: Species, age, sex, size, pathologies

Adaptations

Activity

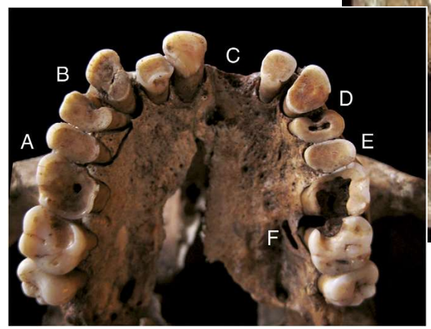






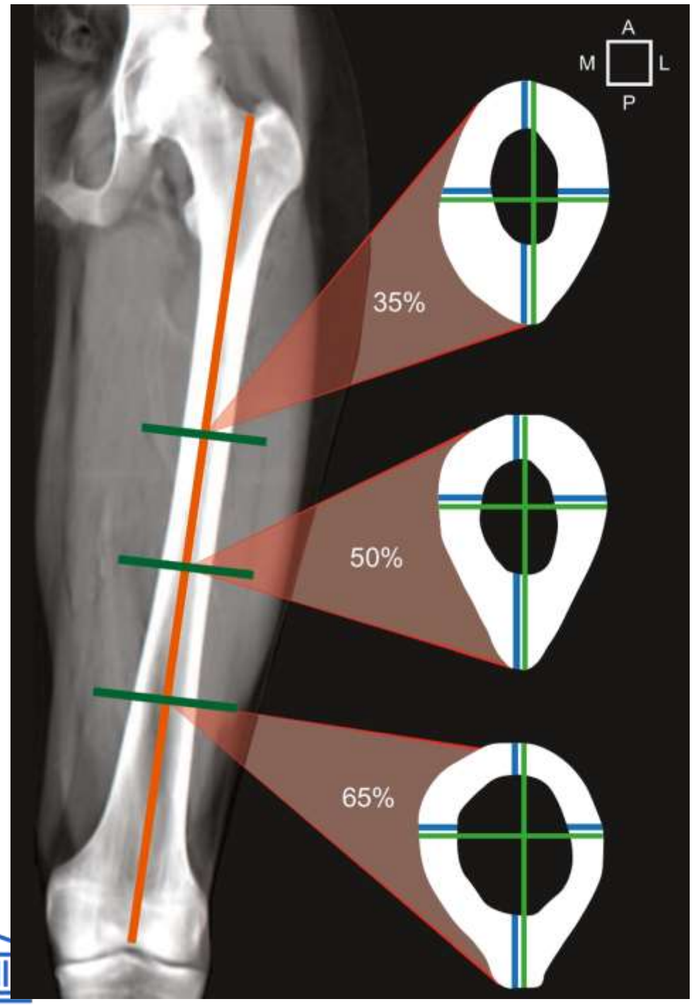
Health

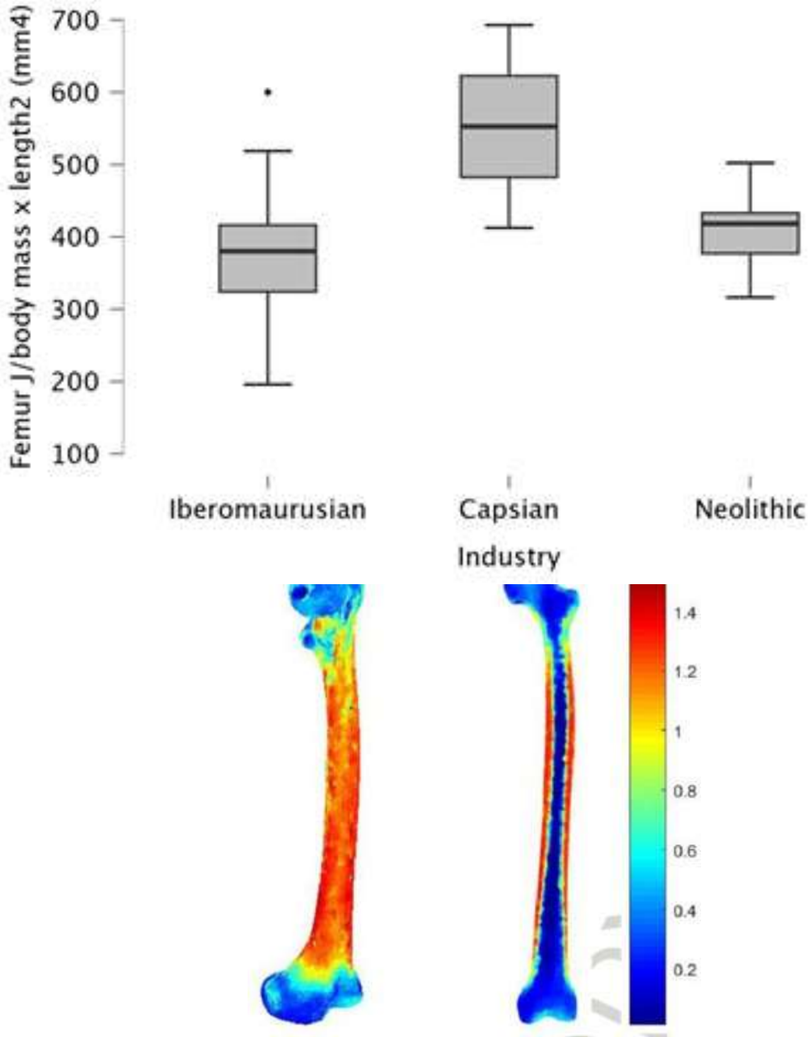
Behaviour



ACTIVITY

Voorbeeld: PhD Glauke Wylin





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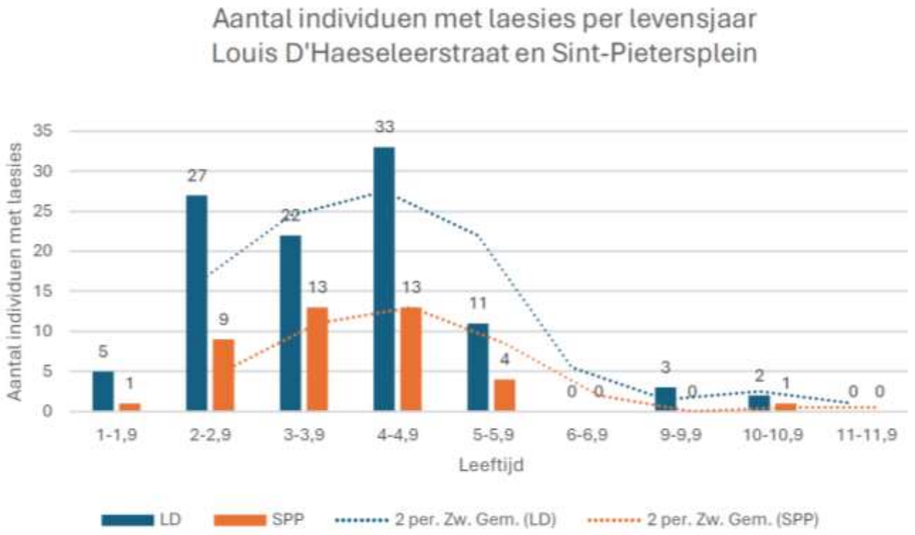
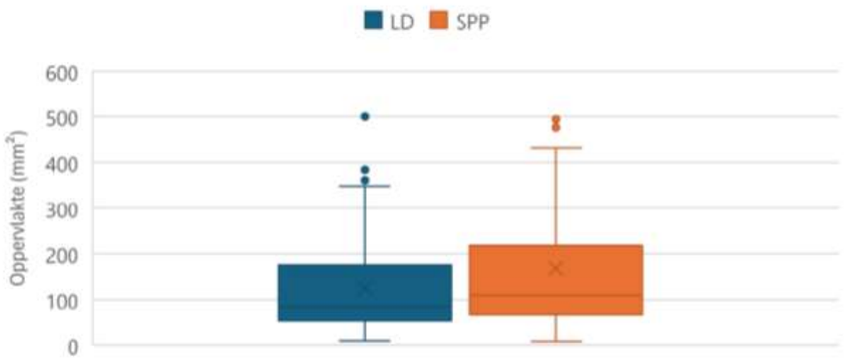
HEALTH



Figuur 33 Aantal individuen met laesies per levensjaar van beide sites, N_{Totaal}=73, $N_{AalstLD}$=23, $N_{GentSPP}$=50.



Figuur 42 Boxplot van de oppervlaktes (mm²) van cribra orbitalia-laesies per site, $N_{OogholtesTotaal}$=80, $N_{AalstLDOogholtes}$=52, $N_{GentSPPOogholtes}$=28.

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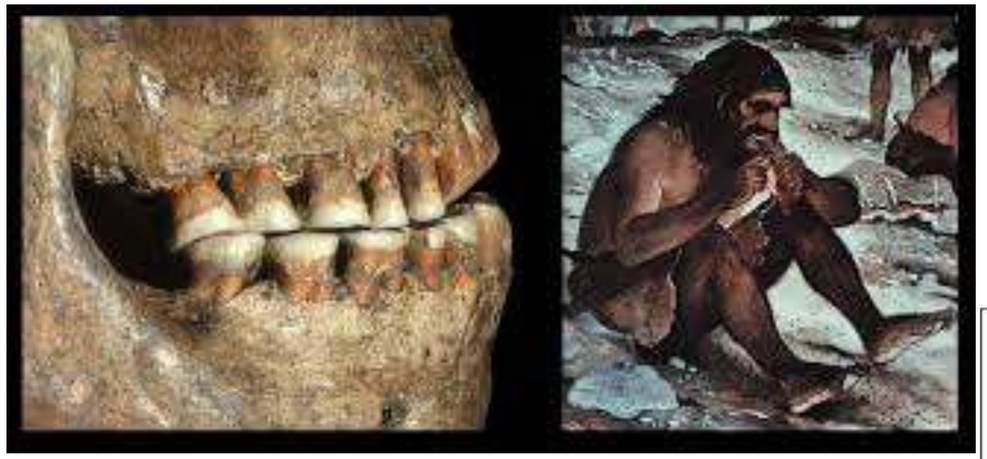
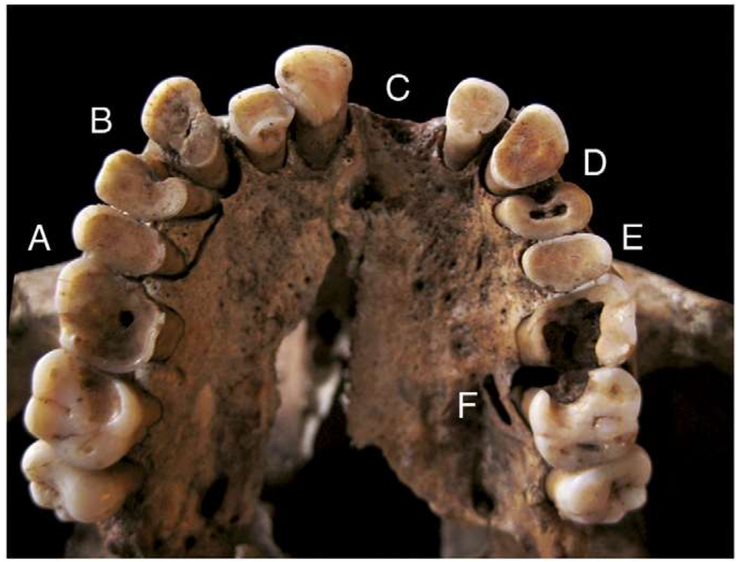
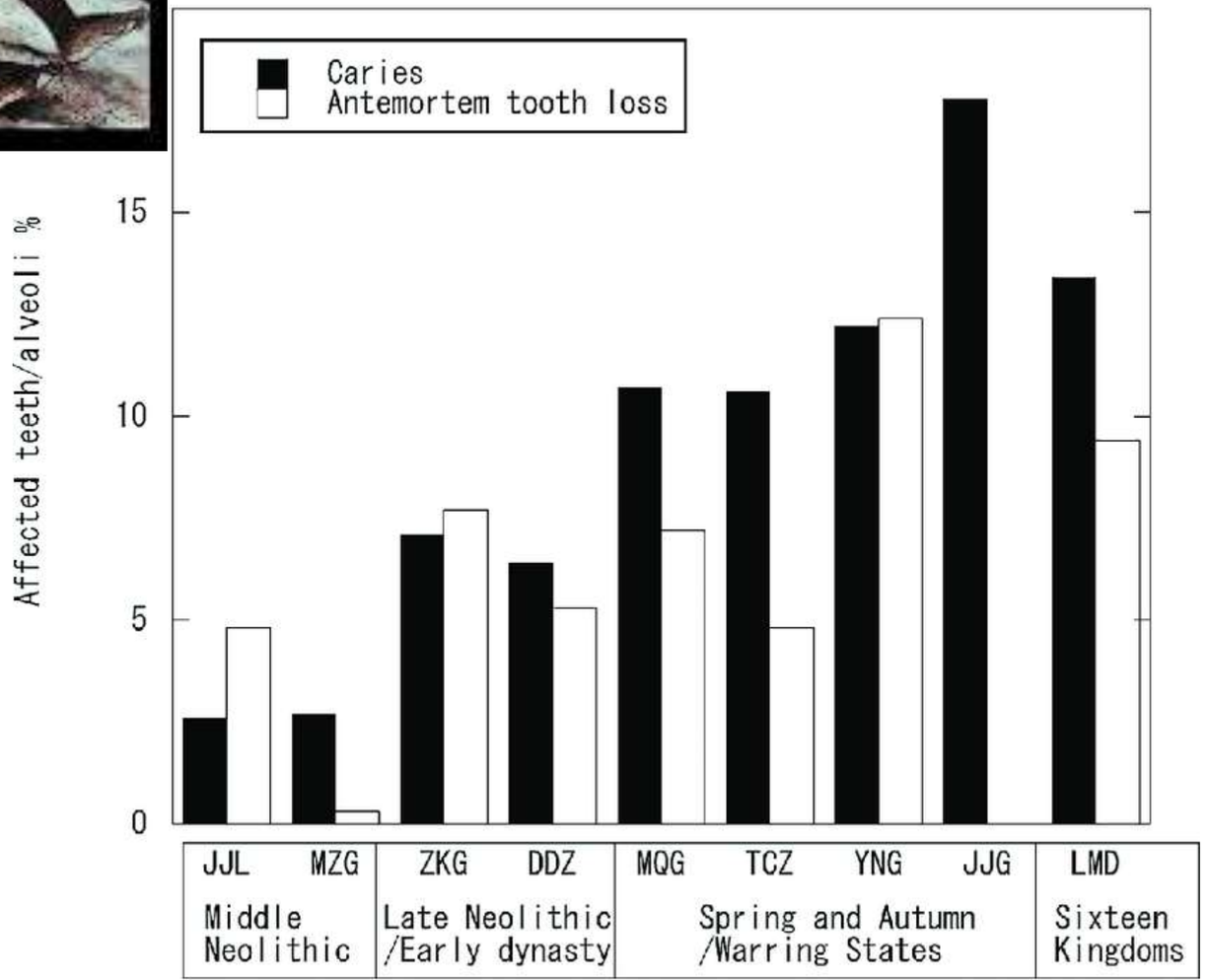
BEHAVIOUR





51.2% exhibited carious lesions



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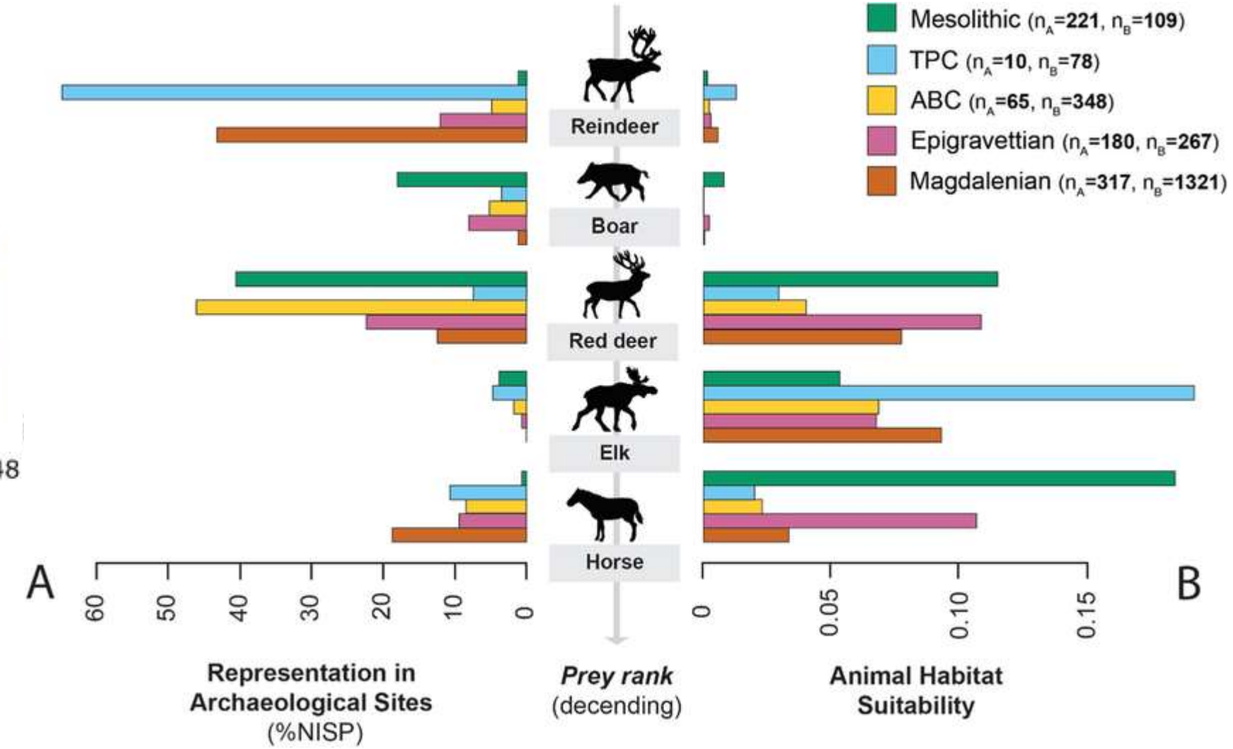
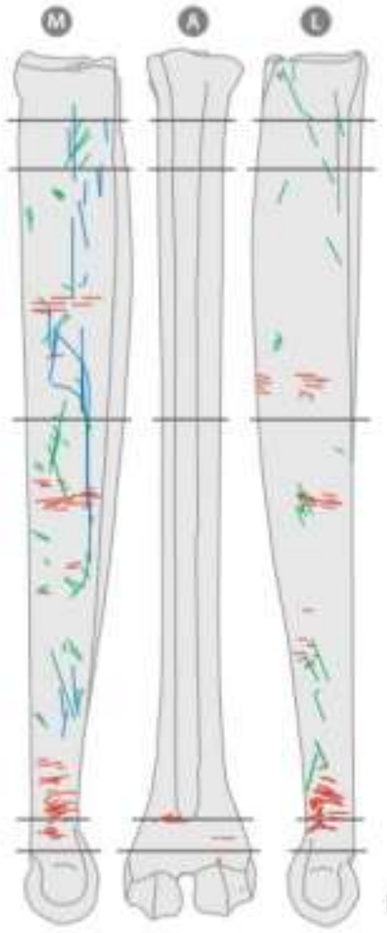
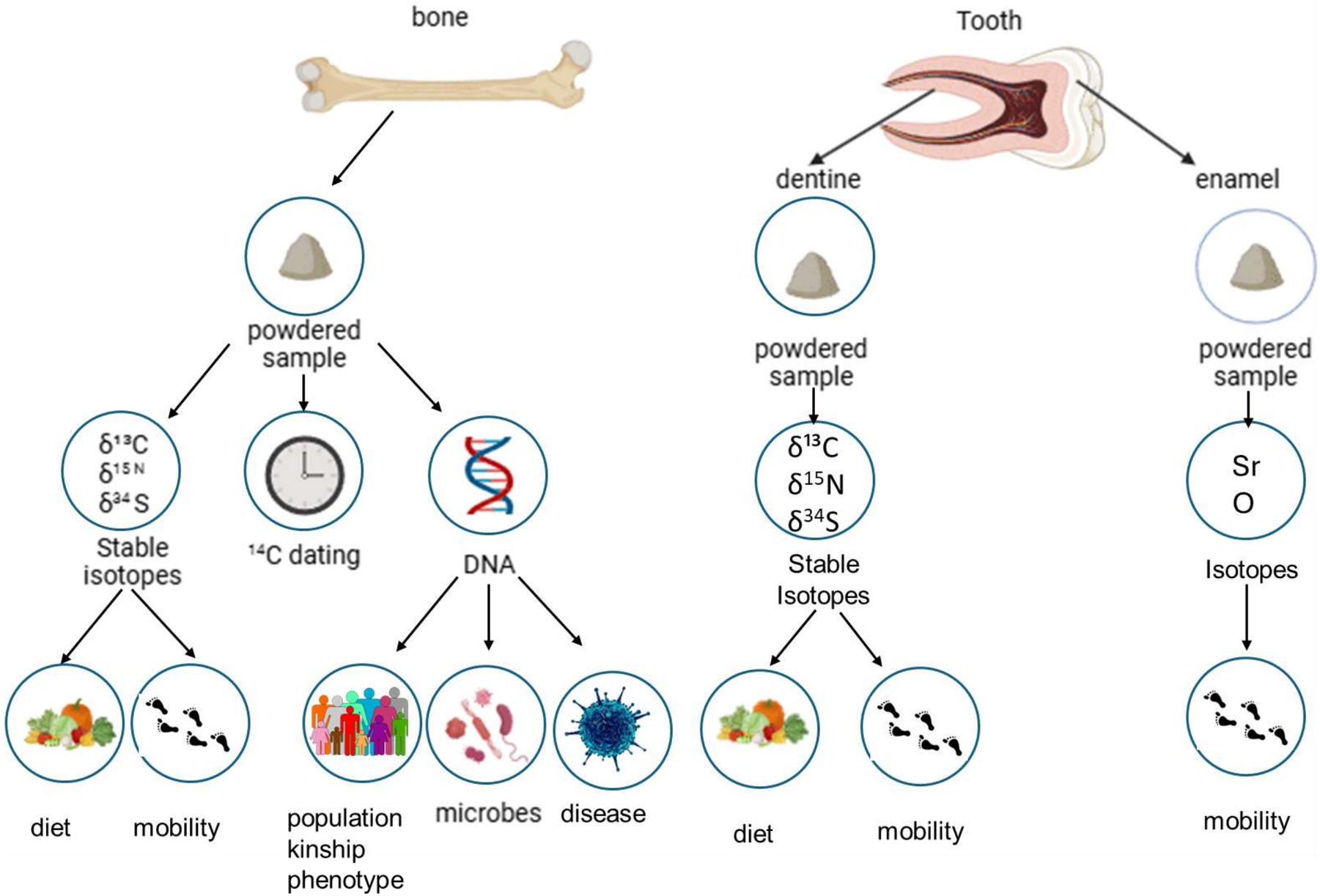
ZOOARCHAEOLOGY

Archaeozoologists study animal remains to understand relationships between humans and animals, including diet, the environment, technology, and the role of animals in economic and social systems.





CHEMICAL AND BIOMOLECULAR ANALYSES



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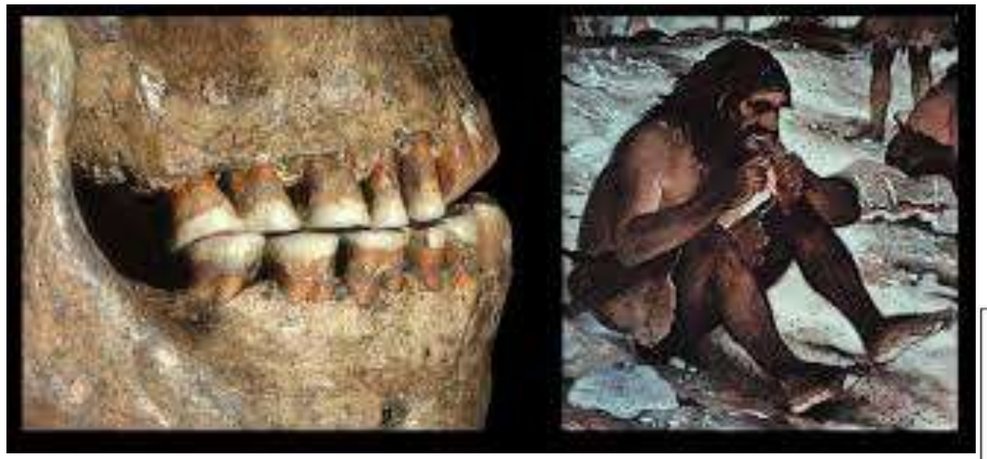

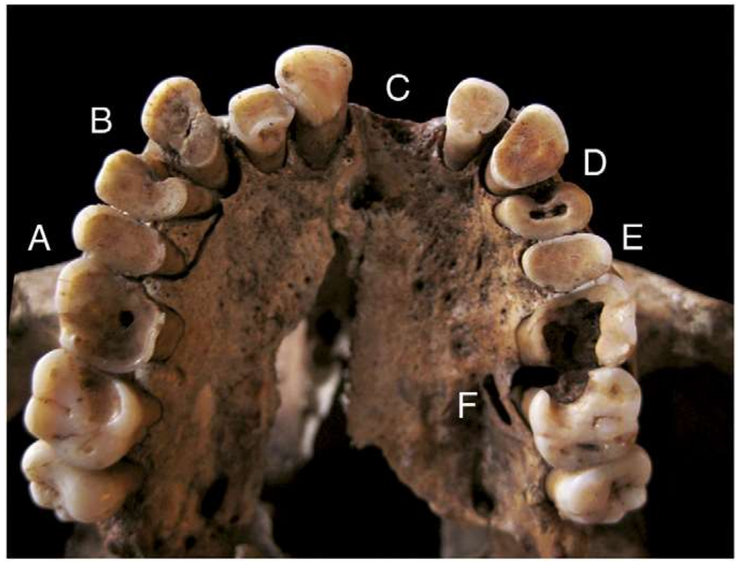

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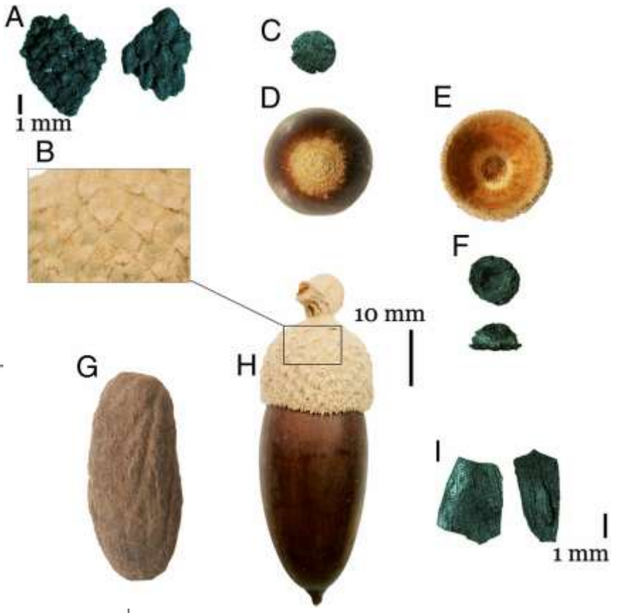

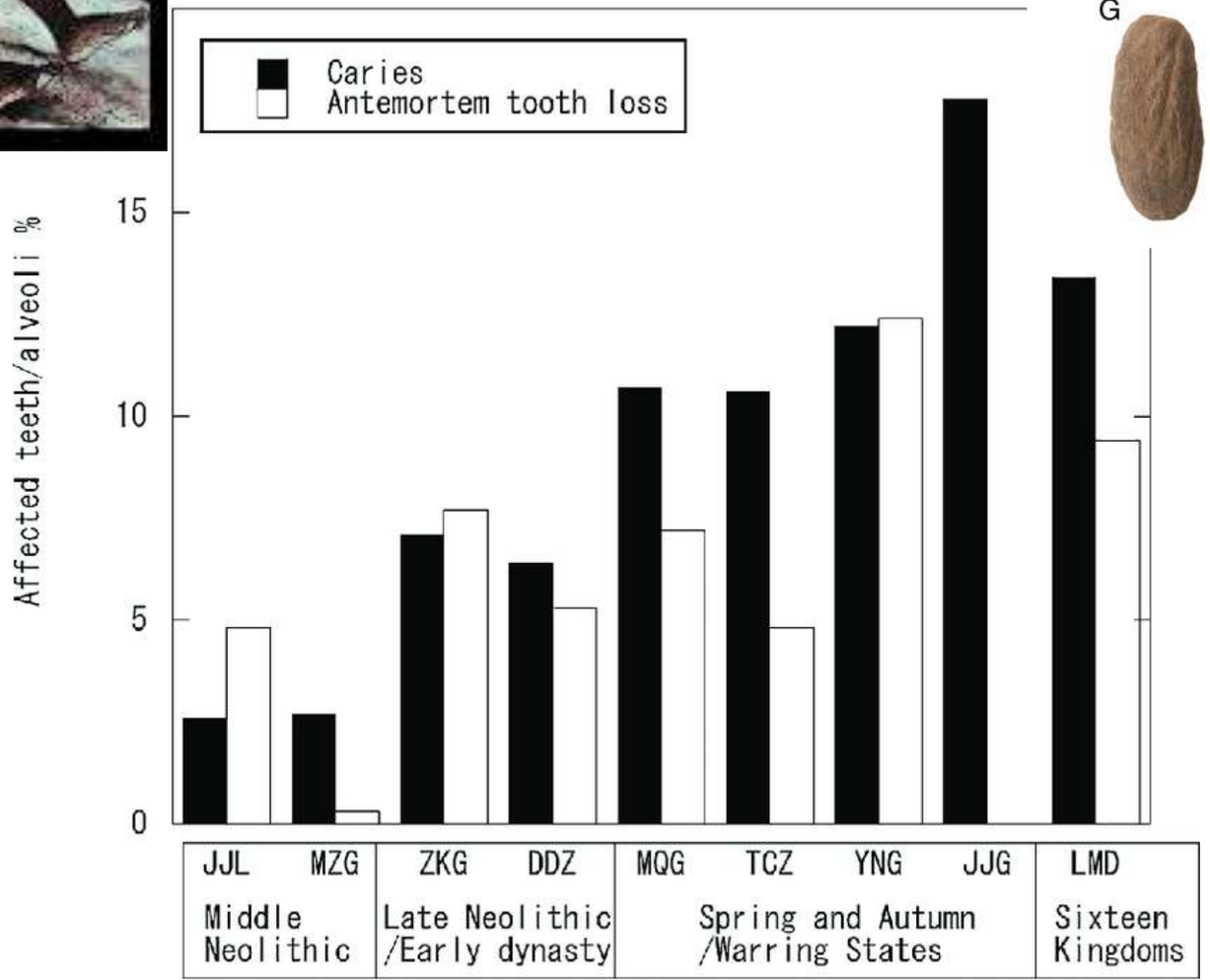

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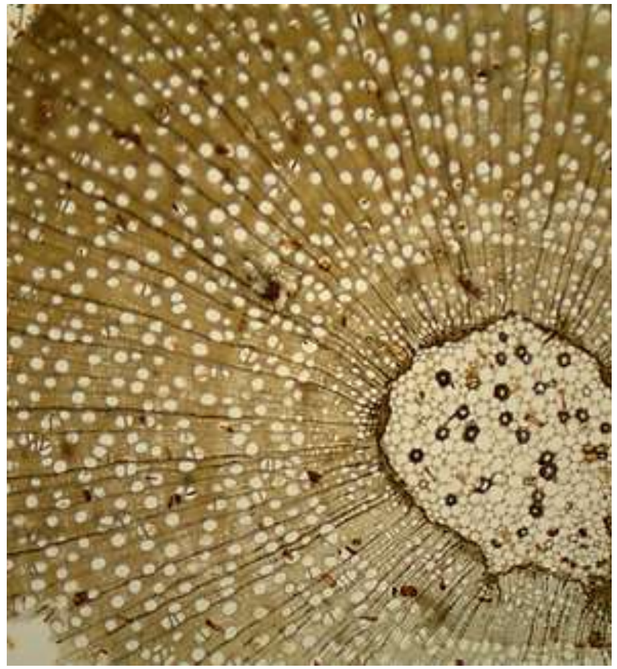
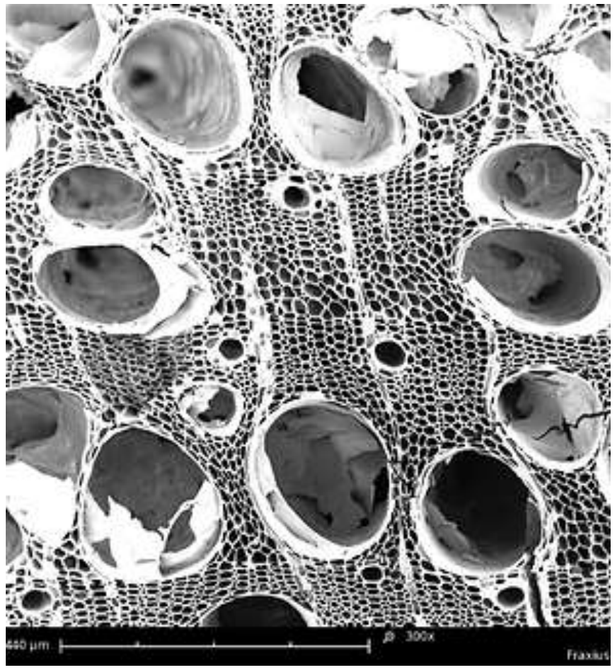
THE STUDY OF PAST HUMAN BEHAVIOR AND ENVIRONMENT BASED ON BOTANICAL REMAINS





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THE STUDY OF PAST HUMAN BEHAVIOR AND ENVIRONMENT BASED ON BOTANICAL REMAINS

and some other small things …

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Natural sedimentary archives

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LEAP - LEARNING FROM THE PAST (BRAIN 2.0)

Belgian Science Policy Office
belspo

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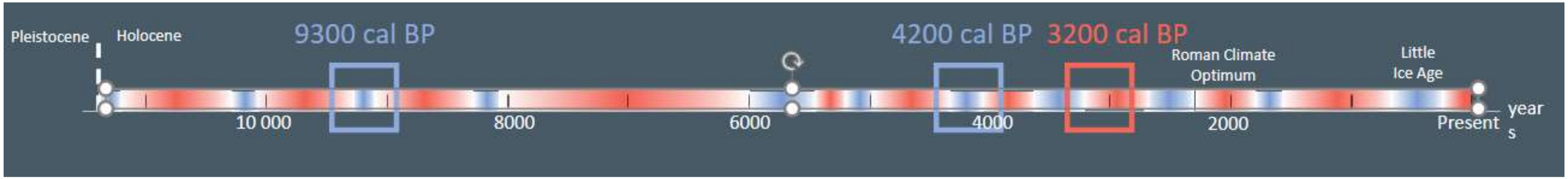

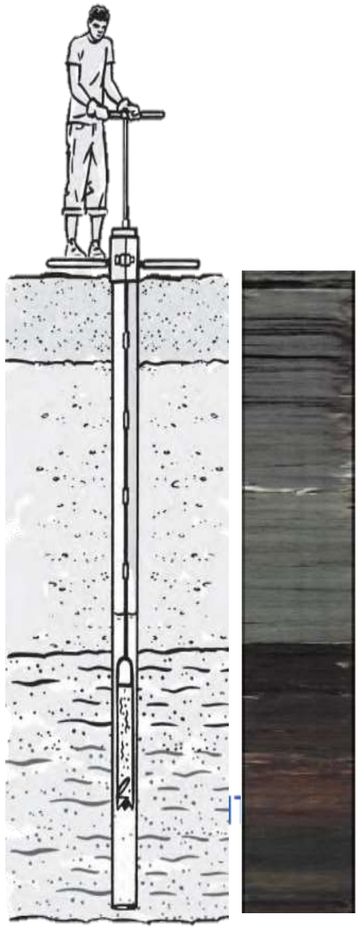

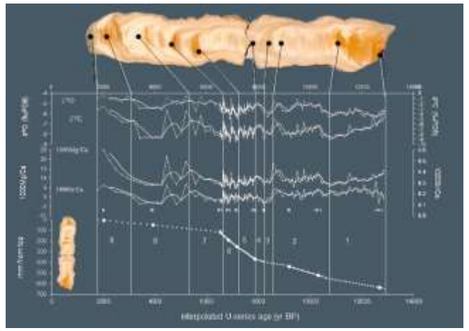

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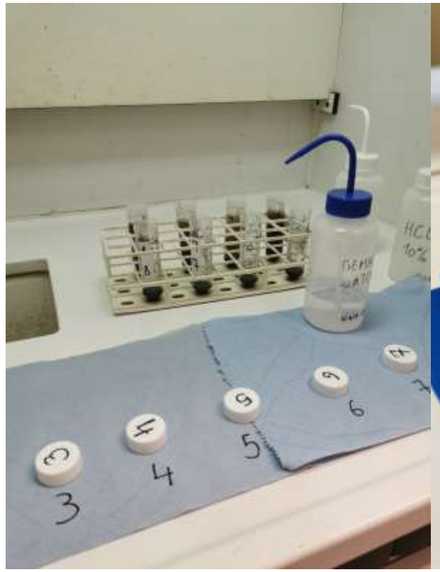
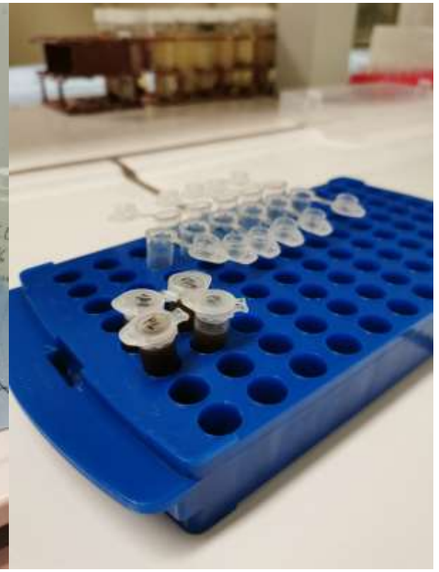
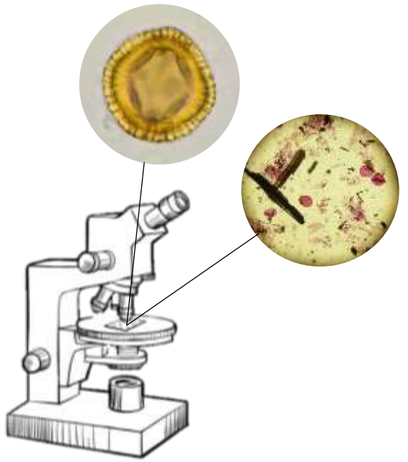
IRPA KIK







Plant remains from archaeological structures

(© Yannick De Smet; Hoorne et al. 2021)

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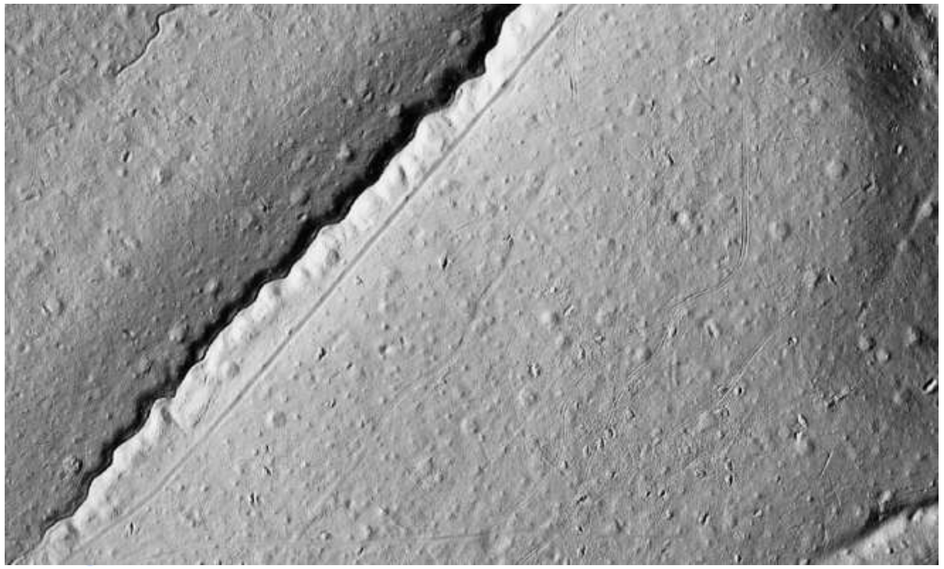
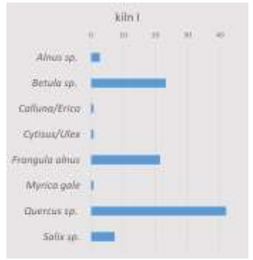
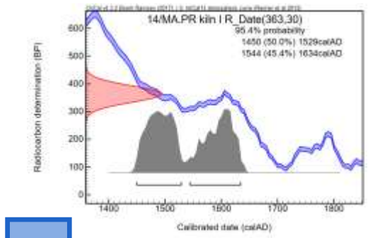
Plant remains from archaeological structures

Google Earth, Maredsous, (B)

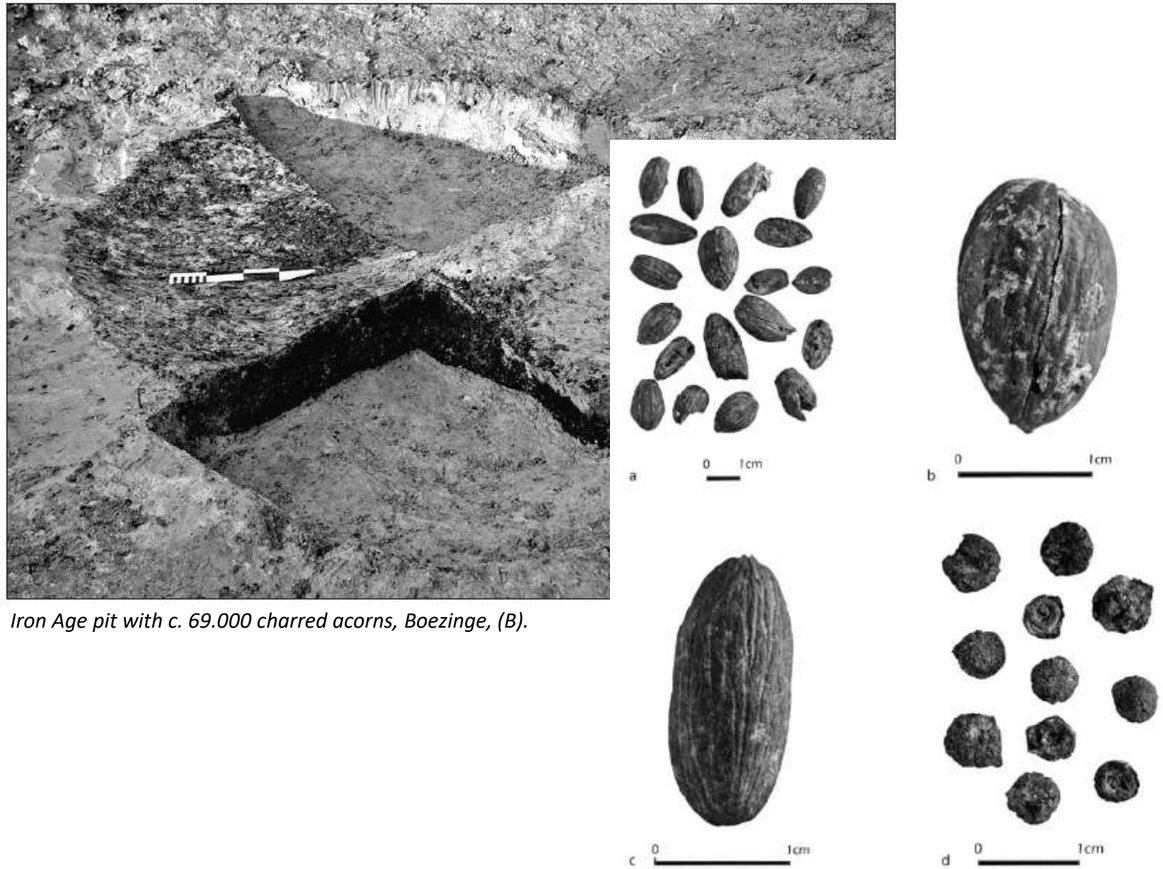


Lidar image, Sonian Forest, C-Belgium



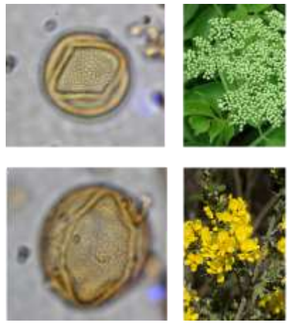


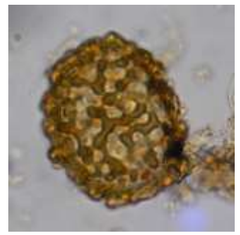
Changing dietary habits through time



Iron Age pit with c. 69.000 charred acorns, Boezinge, (B).

Medieval cesspit, Raversijde(B)





Ascaris sp.

Trichuris sp.

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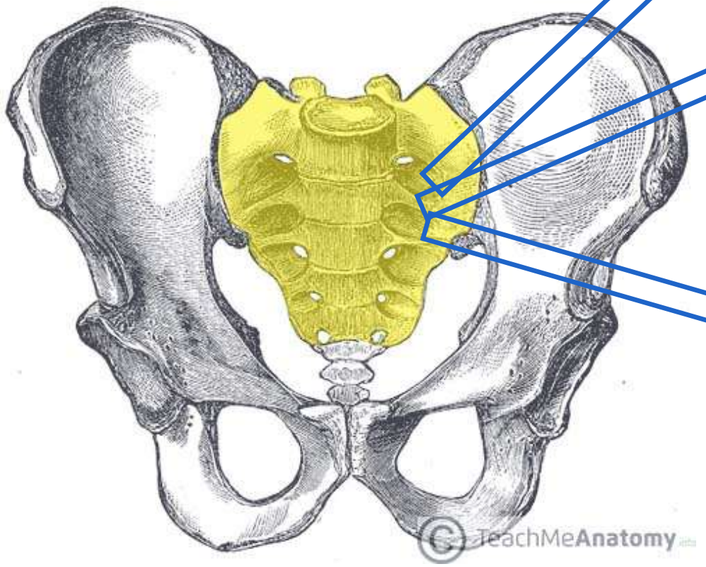
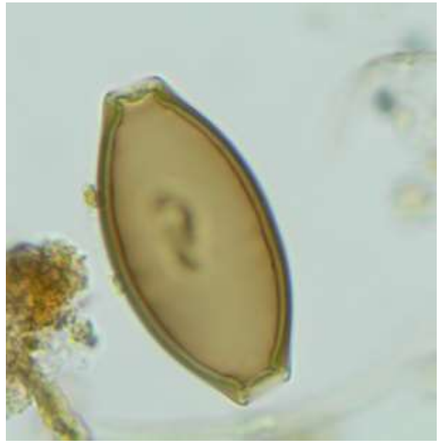
Inhumation graves

Ghent - Sint-Baafs cathedral (crypt) – 13th-14th c.





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DEPARTMENT ARCHAEOLOGY
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DEPARTMENT GEOLOGY
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GEOLOGIE

FLEPOSTORE

Flemish Pottery and Stone Reference collection

flepostore.ugent.be

dr. S. Reniere, dr. R. Dreesen, Prof. W. De Clercq, Prof. Ph. Crombé, Prof. V. Cnudde, dr. Florian Buyse, dr. D. Taelman, dr. H. Vandendriessche & Prof. T. De Kock

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PROGRESS
Pore-scale Processes in Geomaterials



GEOMATERIALS: STONE & CERAMICS

Prehistory

Pre-industrial



DIAGNOSTIC SOURCE MATERIALS

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Ledesto

Hand specimen pictures (macro & binocular)

Thin section pictures

Find location

Classification | Find location / Provenance | Hand specimen | Micro | Sample info | References | Cite this page

Natural color	fresh surface: pale yellow to greenish yellow; pale to light grey when slightly weathered
Aged color	ochre-like to brown
Components	consists of a quartz fraction together with other detrital glauconite grains and carbonate allochems with a calcite matrix/cement; varying cementation degree; characteristic macrofossils are Nummulites variolarius and Ditrupa strangulata (tubular fossils); cast of Turritella gastropod
Texture	siliclastic composition is dominated by a bimodal quartz population (up to 40 vol.%) of subangular very fine sand supplemented with rounded medium sized sand
Structure	layered with fossil-rich horizons (lumachelle layers)
Weathering	when exposed to the atmosphere, an ochre-like patina is formed (oxidation of glauconite and iron rich carbonates); gypsum crust formation (not applicable for this sample)
Diagnostic features	characteristic macrofossils; ochre-like patina; bimodal quartz grain size distribution (some quartz granules of up to 1-3 mm)
Additional information	pictures show dry and whet surfaces

DETAIL

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Ledesto

Hand specimen pictures (macro & binocular)

Thin section pictures

Find location

Classification | Find location / Provenance | Hand specimen | Micro | Sample info | References | Cite this page

Natural color	fresh surface: pale yellow to greenish yellow; pale to light grey when slightly weathered
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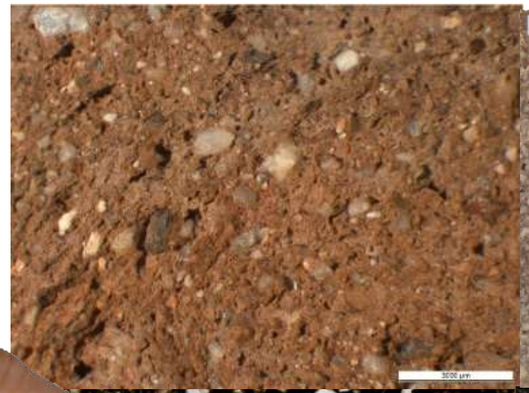

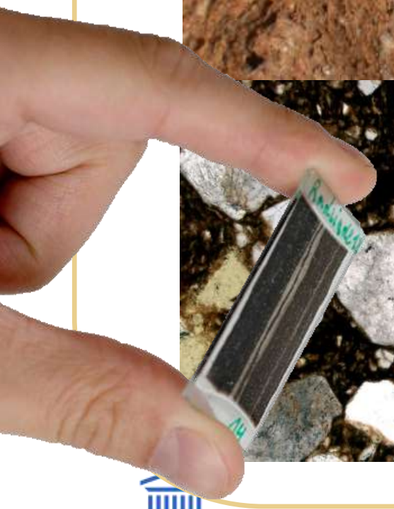

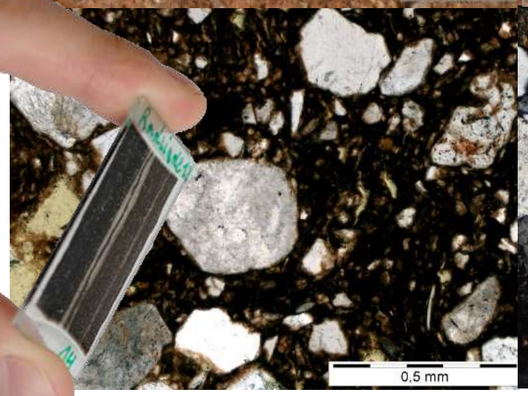

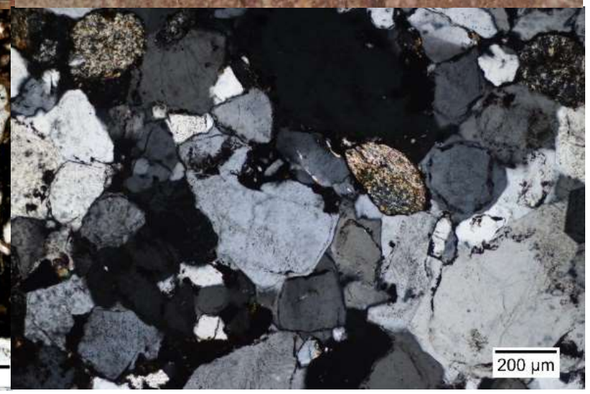

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- Total samples: n=356
- 34 Pottery production sites
- 15 countries
- 10 different rock types

Find location

Project in numbers

→ Ceramic samples: 144

→ Rock samples: 193

→ Thin sections: 410

→ References: 127

Granite (FI.11.0004)

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Hand specimen pictures (macro & binocular)

Thin section picture

No images available.

Find location

Classification | Find location / Provenance | Hand specimen | Micro | Sample info | References | Cite this page

Rock determination	Igneous rock > Intrusive > Felsic (i) > Granite
Chronostratigraphy	Precambrian
Lithostratigraphy	
Rock name	Rapakivi granite
Rock synonyms	
Additional information	

article

Two odd ones out : Mediterranean ballast stones and Italian maritime connections in the Medieval Bruges' harbor system

Wim De Clercq, Devi Taelman, Fabrizio Antonelli, Antonino Briguglio, Dante de Ruijsscher and 6 more

(2022) JOURNAL OF MARITIME ARCHAEOLOGY

View online

article

Ballasting the Hanse : Baltoscandian erratic cobbles in the Later Medieval port landscape of Bruges

Wim De Clercq, Roland Dreesen, Jan Dumolyn, Ward Leloup, Jan Trachet

(2017) EUROPEAN JOURNAL OF ARCHAEOLOGY

View online

Roman - Common reduced ware (5.RE.BE.0001)

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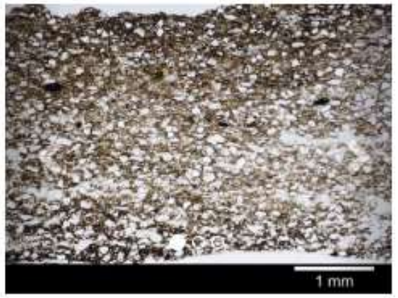
Hand specimen pictures (macro & binocular)

Thin section pictures



Find location

Classification | Find location / Provenance | Hand specimen | Micro | Sample info | References | Cite this page

Category	Common reduced ware (Roman)
Fabric name	Gallo-Belgic ware imitation: Terra Nigra-like fabric
Chronology	Roman > Middle Roman > Flavian period (69-96 CE)
Dating method(-s)	typology
Potters' mark	No
Additional information	determined types: Holwerda 27 (Deru P48), Holwerda 30 & Holwerda 26; radio carbon date on a charcoal fragment doesn't match with the typological aspects of the pottery (old wood effect); local imitation of Gallo-Belgic Terra Nigra

Ceramic petrography analysis of Gallo-Belgic ware imitation from Sint-Maria-Oudenhove

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FACULTEIT LETTEREN EN WIJSBEGEERTE

VAKGROEP ARCHEOLOGIE

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