

**MUSEU D'HISTÒRIA
DE BARCELONA (MUHBA)**
Plaça del Rei, s/n.
08002 Barcelona
Tel.: 93 256 21 00
Fax: 93 315 09 57
museuhistoria@bcn.cat
www.museuhistoria.bcn.cat/quarhis

13
quarhis

QUADERNS D'ARQUEOLOGIA I HISTÒRIA DE LA CIUTAT DE BARCELONA

| BARKENO | BARCINO | BARCINONA |
| BARŠALŪNA | BARCELONA |

quarhis

ÈPOCA II · ANY 2017 · N.13 · ISSN 1699-793X
256 PÀGINES · BARCELONA

A

Pau Verrié

Alberto López Mullor

In Memoriam

Editor:
Museu d'Història de
Barcelona (MUHBA)
Institut de Cultura
Ajuntament de Barcelona

Director MUHBA:
Joan Roca i Albert

Direcció Quarhis:
Julia Beltrán de Heredia

Secretària de redacció:
Vanessa Triay

Consell de redacció:
Xavier Aquilué (MAC)
Julia Beltrán de
Heredia (MUHBA)
Josep Guitart (UAB)
Josep M. Gurt (UB)
Albert López (DiBa)
Magí Miret (GC)
Carme Miró (ICUB)
Miquel Molist (UAB)
Isabel Rodà (UAB)

Avaluadors externs:
Luis Caballero Zoreda
Carmen Fernández Ochoa
Sauro Gelichi
Jean Guyon
Simon Keay
Bernat Martí
Lucy Vallauri
Desiderio Vaquerizo
Giuliano Volpe

**Altres avaluadors
2012-2017:**
Carmen Aranegui Gascó
José Beltrán Fortes
Gian Pietro Brogiolo
Francesc Burjachs
Claudio Capelli
Carlo Ebanista
Albert García Espuche
Carmen Guiral Pelegrín
Sonia Gutiérrez Lloret

Alberto León Muñoz
Assumpció Malgosa
i Morera
Pedro Mateos Cruz
Josep Maria Nolla Brufau
Lauro Olmo Enciso
Josep Maria Palet Martínez
Antonio Pizzo
Juan Antonio Quirós
Castillo
Santiago Riera Mora
Jacques Thiriot
Josep Maria Vila
Carabassa

Control gràfic:
Emili Revilla

Disseny gràfic:
PFP
(Quim Pintó,
Montse Fabregat)

Realització:
Edicions Hipòtesi, SL

Impressió:
Índice Arts Gràfiques, SL

Imatges de la coberta:
Battista Agnese, 1544.
Biblioteca Nacional de
España, Fondo Res. 176
(4-5).

Imatges contracoberta:
Emili Revilla

ISSN
1699-793X

Dipòsit legal
B-9715-2005

© dels textos els autors
© de l'edició

**Museu d'Història
de Barcelona**
Institut de Cultura,
Ajuntament de Barcelona
Plaça del Rei, s/n
08002 Barcelona
Tel.: 93 256 21 00
Fax: 93 315 09 57
www.museuhistoria.bcn.
cat/quarhis

QUADERNS D'ARQUEOLOGIA I HISTÒRIA DE LA CIUTAT DE BARCELONA

| BARKENO | BARCINO | BARCINONA |
| BARŠALŪNA | BARCELONA |

quarhis

ÈPOCA II·ANY 2017·NÚM.13·ISSN 1699-793X
184 PÀGINES · BARCELONA



**Ajuntament
de Barcelona**

SUMARI

SUMARIO

SUMMARY

SOMMAIRE

8-9	IN MEMORIAM EN RECORD DE PAU VERRIÉ, HISTORIADOR I ARQUEÒLEG ANNA M. ADROER ALBERTO LÓPEZ MULLOR JULIA BELTRÁN DE HEREDIA BERCERO
12	DE LA MEDITERRÀNIA A L'ATLÀNTIC, VIA BORDIGHERA. A TALL DE PRESENTACIÓ JOAN ROCA I ALBERT
13	EDITORIAL JULIA BELTRÁN DE HEREDIA BERCERO
16-67	LA CERÀMICA SOTA LA LUPA CERÀMICA, TECNOLOGIA I TRANSFERÈNCIES. ELS CENTRES PRODUCTORS DEL PROJECTE <i>TECNOLONIAL</i> MARISOL MADRID I FERNÁNDEZ I CRISTINA FERNÁNDEZ DE MARCOS GARCÍA I CRISTINA P. BARRACHINA I JULIA BELTRÁN DE HEREDIA BERCERO I SERGIO ESCRIBANO-RUIZ I JAVIER G. IÑÁÑEZ I SAMANTHA G. FERRER I ROBERTA DI FEBO I FERNANDO DE AMORES CARREDANO I JAUME BUXEDA I GARRIGÓS
70-89	NOTES I ESTUDIS L'ASSENTAMENT DE LA PLAÇA DE LA GARDUNYA A INICIS DEL II MIL·LENNI: NOVES DADES SOBRE LES OCUPACIONS DE L'EDAT DEL BRONZE INICIAL AL PLA DE BARCELONA ALBERT VELASCO ARTIGURES I NOEMÍ TERRATS JIMÉNEZ I ANNA GÓMEZ BACH I MIQUEL MOLIST MONTAÑA
90-111	NUEVOS DATOS SOBRE LAS PINTURAS DEL AULA O SALA DE RECEPCIÓN DEL OBISPO DEL PRIMER GRUPO EPISCOPAL DE BARCELONA, SIGLOS V-VI CARMEN GUIRAL PELEGRÍN I JULIA BELTRÁN DE HEREDIA BERCERO I LÍDIA FONT I PAGÈS
112-135	LOS CONTACTOS COMERCIALES EN BARCELONA A TRAVÉS DE LA CERÁMICA: ORIENTE (SIRIA, EGIPTO E IRÁN) Y EL NORTE DE ÁFRICA, SIGLOS XIII-XV JULIA BELTRÁN DE HEREDIA BERCERO I NÚRIA MIRÓ I ALAIX
138-139	NOTICIARI PROJECTE PREHISTÒRIA AL PLA DE BARCELONA
140-141	PRIMERS PAGESOS/BCN. LA GRAN INNOVACIÓ 7.500 ANYS
142-144	<i>FICTA VITRO LAPIS</i> : LAS IMITACIONES DE PIEDRAS EN VIDRIO EN LA HISPANIA ROMANA
145-146	SOCIAL AND CULTURAL DETERMINANTS OF COMMUNITY WELFARE IN THE WESTERN ROMAN EMPIRE: ANALYSIS AND INTERPRETATION OF VITAMIN D DEFICIENCY
147-148	ARCHAEOLOGICAL AUTOMATIC INTERPRETATION AND DOCUMENTATION OF CERAMICS — ARCHAIDE (693548). AVENÇOS DE LA PRIMERA ANUALITAT
149-151	FRANCISCA PALLARÉS I LA BARCELONA ROMANA. EN RECONeixEMENT D'UNA TRAJECTÒRIA
153-155	BIBLIOGRAFIA PUBLICADA SOBRE ARQUEOLOGIA DE BARCELONA
157-160	TEXTOS EN CATALÀ. SÍNTESI
161-163	TEXTOS EN CASTELLANO. SÍNTEISIS
165-169	ENGLISH TEXT. SUMMARY
171-175	TEXTES EN FRANÇAIS. RÉSUMÉ
177-181	NORMES DE PRESENTACIÓ D'ORIGINALS A QUARHIS

NOTICIARI

TECHNICAL DESCRIPTION

- Social and Cultural Determinants of Community Welfare in the Western Roman Empire: Analysis and Interpretation of Vitamin D Deficiency, is a project using recent developments in paleopathology to learn more about life for individuals living across the Roman Empire. Led by Professor Megan Brickley of McMaster University, Canada the SSHRC funded project brought together a team of specialists from Canada and the UK.

Principal investigator

- Dr. Megan Brickley, Tier One Canada Research Chair in the Bioarchaeology of Human Disease, Department of Anthropology, McMaster University, Hamilton, Canada.

Research Team

- Dr. Tracy Prowse, Department of Anthropology, McMaster University, Hamilton, Canada.
- Dr. Michele George, Department of Classics, McMaster University, Hamilton, Canada.
- Dr. Simon Mays, Historic England, Fort Cumberland, Portsmouth, Hampshire, UK.

Period of realization

- 1st April 2013 – 31st March 2018.

Funding

- Social Science and Humanities Research Council of Canada, Insight Grant 435-2013-1006.

Symptoms of vitamin D deficiency in the Roman era are identified in the medical writings of Soranus of Ephesus and Galen (both 2nd c. CE), but the extent of the problem has never before been pursued. This project represents the first large-scale study of vitamin D deficiency in diverse Roman populations throughout Western Europe. In healthy humans vitamin D is synthesised in the skin when it is exposed to natural light - UVB radiation (Jones 2000) - with higher levels available at lower latitudes (closer to the equator). It can also be acquired from a small number of dietary sources. Prior to the widespread atmospheric pollution of the Industrial Revolution, time spent indoors, clothing, and to a lesser extent diet would have been the major determinants of individual vitamin D status (Henderson, 2005; Meltzer, 2007). Adequate levels are required for the formation and maintenance of healthy bones, and severe vitamin D deficiency results in skeletal

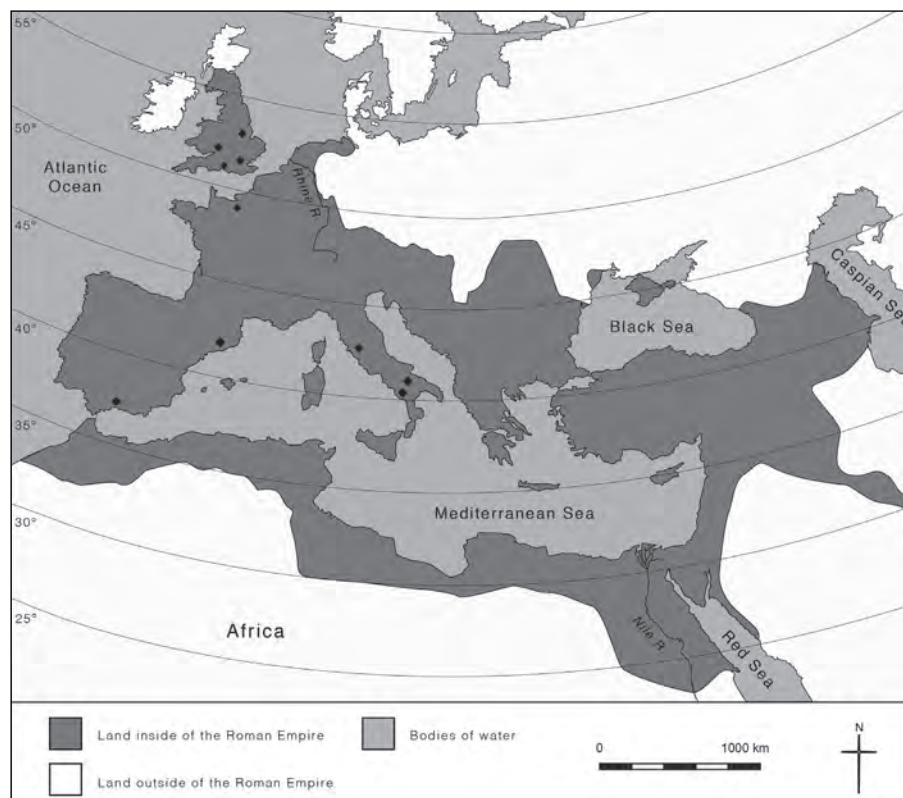


Figure 1

Location of sites used in the project on vitamin D deficiency in the Roman Empire. Some markers indicate the location of multiple sites. [© Copyright Megan Brickley]

deformity. The term rickets is often used for pathological changes in juveniles, while in paleopathology changes in adults are known as osteomalacia. An assessment of vitamin D deficiency can provide information about a number of important aspects of Roman life, such as attitudes to health, child-care practices, and inequalities based on gender, status, and age. Through the integration of skeletal and funerary evidence, this project offers new insights into the health of Roman populations from diverse geographic contexts, and contributes to emerging debates about the causes and consequences of vitamin D deficiency through time.

Recording of collections of archaeological human remains, associated artifacts and contextual information was undertaken between January 2014 and July 2016. With the assistance of a team of nine students, data was gathered from 3530 skeletons. Recent developments in paleopathological analysis of vitamin

D deficiency by the team members were used (Mays *et alii*, 2006; Brickley *et alii* 2007). The sample was derived from 15 Roman settlements of various sizes, from small villas and farmsteads to major urban centres, from a range of latitudes between 37°N-53°N across the UK, France, Italy and Spain (fig. 1). Included in the sample were archaeological skeletons from four sites curated by MUHBA Museu d'Història de Barcelona: Vila de Madrid, Santa Caterina, Drassanes and Carrer Ample I. Individuals buried at these sites would have lived in Barcino, the port city established in 14BC by the Emperor Augustus that went on to become Barcelona (located at 41°N). Recording of the MUHBA collections was undertaken in the summer of 2015 by McMaster graduate students Sarah Timmins and Lisa Semchuk with Tracy Prowse accompanying the students at the start of their recording and Megan Brickley visiting towards the end of the research trip to review the possible cases of vitamin

D deficiency identified. Clear cases of vitamin D deficiency were found in the skeletal material recorded in the MUHBA collections and included an active case of rickets in a 1-1.5-year-old child from Vila de Madrid (fig. 2) and a possible case of deficiency in a young adult female from Santa Caterina. There was also an individual who probably had recovered from childhood rickets buried at Carrer Ample I. Analysis of the data gathered is currently at a relatively early stage, but it is apparent that although latitude is the strongest factor in the occurrence of vitamin D deficiency, there are likely to be some cultural determinants of deficiency. Simon Mays is leading the statistical analysis and work is currently underway on classifying the sites analysed in terms of access to outdoor space and the range of craft and industrial work that would have been undertaken in shaded or indoor settings. Relatively high prevalences of deficiency were found, for example, in individuals buried at Isola Sacra, Italy, another port city located at 41°N. Even at the early stage of analysis it is apparent that age-at-death is the key determinant of whether evidence of vitamin D deficiency will be found during skeletal analysis. Rapid skeletal growth during infancy and early childhood is the main reason that rickets is most often seen clinically in these age groups. Recent clinical work in Europe has demonstrated that although cases of rickets are most frequently reported in younger children, levels of deficiency measured by serum 25(OH)D levels are in fact highest in girls aged 11-18 years (Spiro, Buttriss, 2014: 328). Skeletal changes linked to vitamin D deficiency develop most slowly in adults where growth has ceased; structurally weak bone formed in states of deficiency accumulates slowly as the skeleton remodels (older areas of bone are removed and replaced gradually). The lowest prevalence of deficiency was found in adult individuals. The project will be written up in the summer of 2017 and age-at-death of individuals relative to whether they had an active or healed case of deficiency will be explored to allow the long-term health consequences of deficiency to be considered. The information produced by the current project will go a long way to enabling researchers to access 'the everyday' of lives in the past.



Figure 2

Anterior bowing of the left and right femur (thigh bone) of an infant from Vila de Madrid, aged 1-1.5 years old at death. Bowing is caused by softening of the bone due to an accumulation of osteoid the organic precursor to bone.

[© Copyright Megan Brickley]

REFERENCES

- BRICKLEY, M.; MAYS, S.; IVES, R. 2007. "An Investigation of Skeletal Indicators of Vitamin D Deficiency in Adults: Effective Markers for Interpreting Past Living Conditions and Pollution Levels in 18th and 19th Century Birmingham, England". *American Journal of Physical Anthropology*, 132. pp. 67-79.
- HENDERSON, A. 2005. "Vitamin D and the breastfed infant". *Journal of Obstetric, Gynecologic and Neonatal Nursing*, 34. pp. 367-372.
- JONES, G. 2000. "Vitamin D". In KIPLE, K. F.; ORNELAS, K. C. 2000. *The Cambridge World History of Food*. Cambridge University Press: Cambridge. pp. 763-768.
- MAYS, S.; BRICKLEY, M.; IVES, R. 2006. "Skeletal manifestations of rickets in infants and young children in an historic population from England". *American Journal of Physical Anthropology*, 129. pp. 362-374.
- MELTZER, M. 2007. "Vitamin D deficiency: cultural influence and physician responsibility". *Arthritis and Rheumatism*, 57. pp. 1107-1108.
- SPIRO A.; BUTTRISS J. L. 2014. "Vitamin D: an overview of vitamin D status and intake in Europe". *Nutrition Bulletin*. pp. 322-350.