PALEOPATHOLOGY NEWSLETTER

Number 204, December 2023

PPA Board of Directors

Letter from the Editor

Dear PPA Members,

December days are already upon us!
I hope everyone is looking forward to a nice and relaxing break! It always seems like just when you are ready, there are so many more things to do! This newsletter has a wintery theme, and while not everyone gets to enjoy snow, I actually do miss it here in Florida. ☺

We are delighted to present the winner of our 50th anniversary logo competition – by Rebecca Pitt (see above). The entrants were all noteworthy and the results show a close competition among all. Thank you to all the participants. Incredible work! Thank you to all the members who voted to support this logo competition.

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Associate Editors

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This newsletter also brings the PAMinSA (Bolivia 2023) student award winner Daniela Guevara's presentation which can be read below (p. 11). We always support our students, and this is a great way to illustrate the great work that they do.

Please check out our on-going webinars on topics relevant to paleopathology (p. 7). We are excited to offer these webinars in different languages to serve the diversity of our membership. All recordings of our previous 2022 PPA Webinar series are available on the 'Members Only' Page. The upcoming December Webinar has a new date! Hope to "see" you there!

I am looking forward to contributions from members about what the **50th anniversary** of our organization and meetings means to them and their experiences over the years. Please consider writing a short reflection about the impact that the PPA has had on your career and approach to science and education. I'd like to collect these for the March 2024 issue, so there is some time. Let me know if you have any questions or ideas that you would like to run by me.

With kind regards,

J. Marla Toyne,
PPA Newsletter Editor

Letter from the President

As the year draws to a close its time to reflect on these eventful few months for the PPA and to look forward to 2024. Since my last letter, the Board have been very busy working on your behalf, and you have been very busy voting! Thank you!

By the time you read this, the elections for our new President-Elect and Treasurer will have closed. The Association thrives on the dedication of its voluntary members of the Executive, and once again we have some exceptional candidates for these positions. More opportunities will follow – so please consider joining us and making a difference. We are a friendly bunch, and our on-line meetings across the globe span a (very) early morning coffee, a lunch time cup of tea and a (much needed) end of day gin and tonic (or insert favorite beverage here). Despite the challenging time zones, we have achieved much since March.

Firstly, and perhaps most importantly, the membership has now voted to approve the inclusion of a *Statement of Ethical Principles* into our bylaws. This is now available on our website here. I am sure you agree that this is long overdue – and it has been wonderful to have your overwhelming support for this initiative.

As we look ahead to 2024, the abstracts for the **PPA Annual Conference** in Los Angeles, CA (March 18-20) have been submitted, and preparations for our special 50th Anniversary meeting are underway. This includes a special Anniversary logo. Thank you to everyone who submitted their designs, all would have been a wonderful reflection of the event (well, perhaps not mine) and it was a close thing - the winning logo (with 31% of the vote) will be on all our materials at the conference, and throughout 2024. Preparations are also being made for the much anticipated 24th European Meeting in Leiden in August, so keep an eye on our website and on X for further details on how you can participate.

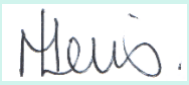
For our Student and Early Career members presenting at these events, I am delighted to inform you that Elsevier have offered to make any papers related to the conference prizes Open Access for 3 months if submitted to the IJPP – and have generously increased the Award for the annual Jane E. Buikstra (publication) award to $1000 USD with 6 months free Open Access for the winning contribution (check our website for details). I hope this will inspire you to not only present, but to publish your excellent research!

Our close relationship with the AABA Annual conference in North America is longstanding, and we are interested in how many of our members attend both events so we can plan for the future. With this in mind, we will be putting you to work once again by circulated a short questionnaire about this in the next few weeks. Thank you in advance for sparing the time to respond.

Finally, please remember to renew your PPA membership for 2024-5. For those of you, who like me are prone to forget when facing a large 'to do' pile, we have activated an automatic membership renewal system – which members are always free to opt out of by simply ticking the box on the membership page.

I wish you a very happy winter break and festive season and look forward to seeing you in March!

Best wishes



Mary Lewis
PPA President

Newly Elected Board of Directors Members! Welcome!

By: Mario Novak, PPA Secretary

*President-Elect Dr. Albert R. Zink

Institute for Mummy Studies, Eurac Research Bolzano, Italy

He has been a member of the Paleopathology Association since the 1990s and he considers regard it as his scientific home. As president, he will focus on maintaining the crucial role of these meetings in fostering connections among individuals from diverse academic backgrounds and supporting young academics. He is also committed to further expanding the Paleopathology Association's reach in North and South America, as well as in Europe. In his presidential role, he aims to advance paleopathological diagnostics through diverse analytical methods and elevated scientific standards. He is eager to contribute his extensive experience in leading scientific societies, including the German Society for Anthropology and the World Committee for Mummy Studies.

*Secretary Dr. Amy Anderson

She earned her PhD from the University of California Santa Barbara in 2022 and is currently on the job market. She stood for the position of Treasurer as a way to continue giving back to the professional organization that has provided a core community through the past decade of her development as a researcher. She plans to apply her data management skills to the task of keeping the funds fully accounted for and the operations of the Association running smoothly.

Thank you to everyone who voted!

PPA Member Awards and Accolades - Call for Submissions

Member achievements will be announced on the Paleopathology Association (PPA) website at fixed intervals, coinciding with the months of the Newsletter Issue (*i.e.*, March, June, September, December).

The following conditions apply:

- For awards to be included on the PPA website, the recipient must be a current PPA member.
- Listed awards include, among others, those from professional scientific organizations, university promotions to named chairs or distinguished professorships (not regular promotions), and honorary degrees.
- Submissions should be no longer than two sentences, and they must specify the recipient, award, awarding organization, date, and reason (if applicable, such as a book award).

Submissions will be reviewed and edited as needed. A select group of the Board of Directors (BoD), including the President and NL Editor, and one individual designated by the President, will decide on questionable cases. Announcements will be maintained on the PPA website for approximately one year.

Next deadline for News submissions: ***February 15th, 2024.***

A Career Advancement Opportunity!

Eve Cockburn Mentorship Award 2024 – FINAL Call for Nominations!

By Jorge Suby, Director at Large II (Awards)

The Paleopathology Association acknowledges with the Eve Cockburn Mentorship Award a senior member who has inspired us as a teacher, advisor, or counselor. We encourage you to nominate somebody who has consistently provided support, guidance, and strong direction to undergraduates and graduates.

A few things to consider in a candidate are:

- ✓ Helping students and colleagues select and work toward appropriate goals;
- ✓ Assisting in building social network connections, both with individuals and within organizations;
- ✓ Providing general advice with respect to professional development, especially in areas of future advancement (e.g., postgraduate and postdoctoral study, professional positions);

- ✓ Treating students and colleagues with respect, providing open communication lines, and gradually moving students into the role of colleague.

Candidates must be PPA members for at least ten years. The Award will be announced at the upcoming 51st Annual North American Meeting in Los Angeles (CA). To nominate a candidate, please email a letter of support for nomination that gives a narrative to Jorge Suby, Director-At-Large-Awards, email: jasuby@conicet.gov.ar .

Further information is available at https://paleopathology-association.wildapricot.org/Awards

All materials must be submitted by January 31st, 2024.

Congratulations to **Rebecca Pitt** (University of Reading), the designer of our 50th anniversary logo! There were 4 entrants with excellent design styles, and it was a close competition.

Recent Meetings

Check out the new CABA/ACAB logos!!

The **Canadian Association for Biological Anthropology / l'Association canadienne d'anthropologie biologique** recently held our **50th** (in-person) annual meeting in Winnipeg, Manitoba. The on-site organizers of Drs. Rob Hoppa, Julia Gamble, Stacie Burke, Linda Larcombe, and a fantastic team of student volunteers, put on an informative and engaging event at the historic Fort Gary Hotel. There was excellent turnout with nearly 170 participants, over 85% of whom attended in-person. Innovative and important research was presented via 95 program contributions, over half of which were by students. A highlight of the event was a wonderful banquet dinner that included remarks from honored guests and founding CABA-ACAB members, Drs. Chris Meiklejohn and Emőke Szathmáry, and a cake that featured our new logos. Next year will be our 51st annual meeting, hosted by Western University, London, Ontario, and we hope to see many of you there!

Picture caption: CABA-ACAB President, Andrea Waters-Rist, with the winner of our logo competition, Elijah Pigeon of Trent University, beside the 50th anniversary cake featuring our new logos.

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Homines, Funera, Astra – 8th Edition: Funerary Spaces and Burials from Prehistory to the Middle Ages

October 9-12th, 2023, Alba Iulia, Romania

Hosted by: Department of History, Archaeology and Museology of "1 Decembrie 1918" University, Alba Iulia / "Vasile Pârvan" Institute of Archaeology, Bucharest / "Francisc I. Rainer" Institute of Anthropology, Bucharest

By: J. Marla Toyne

This conference, while intimate and focused on mortuary archaeology, included a significant number of osteological and paleopathological papers. It was graciously organized by Mihai Gligor, Raluca Kogălniceanu, and Andrei D. Soficaru in beautiful Alba Iulia, Transylvania. A wide range of international collaborators including many students representing 8 different countries covered research on cranial modification, degenerative joint disease, juvenile remains, and of course, tuberculosis.

I was fortunate enough to be able to attend this year, joining PPA Secretary Mario Novak, plus several other colleagues in a road trip from Croatia through Hungary to Romania. Let's just say it was interesting when we crossed the border with a Canadian, a Croatian, and a Serbian in the car… You can likely finish the joke…

Our hosts made the evenings very enjoyable with great conversations and we were introduced as well to a range of lovely Romanian wines. This conference is held every 2 years in Alba Iulia and I definitely would like to attend again and hope many more members can join us!

Meeting venue at "1 Decembrie 1918" University and evening event at a Cuimbrud winery.

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News from the *Meeting on Porous Skeletal Lesions*

On the 7th and 8th of July 2023, the *International Meeting on Porous Skeletal Lesions: Achievements and Future Directions (PSLMeet https://www.uc.pt/events/pslmeet2023/)* took place at the Department of Life Sciences, University of Coimbra.

The reception to this in-person meeting far exceeded our best expectations (Figure 1). There were eighty-six attendees from Argentina, Australia, Canada, Chile, Denmark, France, Germany, Italy, Netherlands, Poland, Portugal, Serbia, South Africa, Spain, the United Kingdom, and the United States of America. Brazil and Kazakhstan were represented by students at Portuguese universities.

Figure 1. Participants during the opening session.

The PSLMeet was planned because of the renewed interest in the study of bone porosity in human skeletal remains and due to the lack of consensus on its etiology and interpretation. Thus, the objectives of this meeting were to discuss the stock of theoretical, methodological, and terminological concepts and boost current and future research.

To fulfill these aims, the meeting was structured as follows:

A. Five keynote lectures – Researchers with recent and highly significant works on the meeting topics were invited to contribute with keynote lectures. These five excellent contributions were structural for the scientific program:

- *Porotic skeletal lesions: Potential and problems in Paleopathology* - Megan Brickley
- *Porotic phenomena in Paleopathology: A holistic view from Medicine* - Manuel Polo-Cerdá
- *Now and then: Porous cranial lesions in New Mexico* - Lexi O'Donnell
- *Complex connections? The correlation and association of different porous skeletal lesions* - Rachel Schats
- *Issues in the assessment of porotic hyperostosis and cribra orbitalia in human skeletal remains: The need for a standardized data collection procedure* - Natascia Rinaldo.

B. Call for presentations - To allow other researchers to present their studies, a call was opened: 24 podiums and 16 posters were presented (Figure 2). The high quality and diversity of these highly significant works helped to understand the hypotheses that are being put forward and what has been done recently on this topic. The individuals' chronological frame ranged from 6000 BP to the 20th century CE, including both archaeological cases and identified collections. Among these works was the podium presentation *Erythropoiesis and skeletal lesions: A clinical perspective* by Maria Letícia Ribeiro, a medical doctor whose aim was to review the physiopathology of the most common red blood cell disorders and bone marrow hyperplasia causing bone lesions.

Figure 2. Posters overview.

In addition to macroscopic observation, several works applied conventional radiology and/or computerized tomography, microCT, 3D-microCT, 3D modeling, radiogrammetry, histology, paleogenetics, isotopic analyses, x-ray fluorescence and/or paleoparasitological analyses to help in the interpretations and diagnosis.

Porosity and cribra were studied in relation to different conditions, for example, treponematosis, tuberculosis, sinusitis, malaria, parasitic infections, scurvy/nutritional diseases, rare diseases, hemoglobinopathies, osteoporosis, metal toxicity, and anemia - which, as discussed, is a designation that involves many different conditions. In some works, the authors could not reach a diagnosis, which happen quite often in paleopathological studies, while others urged scholars to be alert for the possible confusion between cribra and post-mortem changes or pseudopathology.

The abstracts of the works presented, as well as the PLSMeet program, were published as an e-book (Monge Calleja et al., 2023).

C. Hands-on workshop - As the identification and classification of cribra can raise doubts, attendees were asked to observe crania cranii, cribra orbitalia, cribra humeralis, and cribra femoralis in bones from non-adults and adults and assess its presence or absence (Figure 3). If cribra were considered present, their severity and healing should be evaluated according to Rinaldo et al. (2019) for cranial cribra and Mangas-Carrasco et al. (2021) for postcranial cribra. These methodological proposals were chosen because, in addition to explaining the evolution of lesions, they are well illustrated with photographic scales.

For example, small holes in an orbital roof were considered cribra orbitalia by 40% (26/65) of the participants and absent by 60% (39/65). When participants were asked to classify the severity and healing of the cranial and postcranial cribra, the grades chosen invariably ranged from 1 to 4 (the extremes of rating scales).

The results of these (anonymous) observations cannot be considered a reliable study for inter-observer error estimation since some observers were unfamiliar with cribra observation and/or with these methods. Also, there was a time constraint due to the large number of participants in the workshop. Nevertheless, results cannot be discarded and should serve as reflection.

Figure 3. Hands-on workshop.

D. Final lecture - To take stock of PSLMeet, only Jane Buikstra could be the invited speaker. In her extraordinary keynote lecture *Plugging the holes: What we have learned here and a way forward* an exhaustive assessment of the hypotheses and interpretations put forward by the researchers throughout the two intense days was made. Additionally, she also presented her thoughts and questions about porous skeletal lesions.

E. Plenary session - After the keynote lecture given by Jane Buikstra, the plenary session could not be the usual discussion of the studies presented. Instead, the only option was to think collectively about how we can move forward. Thus, during the Plenary session, those assembled made the following recommendations (also available at https://www.uc.pt/events/pslmeet2023/post-meeting/):

1. When reporting PSL, results of intraobserver error analysis (and interobserver if possible) should be presented.
2. Observations can be made with the naked eye, but magnification is also recommended. Please report magnification.
3. Quality of light is of the utmost importance.
4. Register all cribra forms, and consider the laterality;
5. A complete and precise description of the lesions must be presented and, when possible, complemented with colored pictures;
6. Information of N (total number of individuals in the sample), Y (number of observable individuals), n (number of individuals with cribra), and frequency (n/Y with %) must be presented;
7. Co-occurrence should be analyzed, taking into consideration the observable bone regions;
8. Data of non-adult and adult individuals should be analyzed separately;
9. Two levels of data interpretation, the "tree" (Individual, drilled down) and the "forest" (sample, population level).

Moreover, it was agreed that it is crucial that those present in the room should share with other colleagues the takeaways of this meeting. In order to try to answer some of the doubts and questions raised, three working groups were created:

Group 1: Terminology - Natascia Rinaldo, Ricardo Gomes, Jo Buckberry, Ana Luisa Santos and Nicoletta Zedda. This group could also deal with the assessment of cribra in the future;

Group 2: Protocols for micro-CT - Megan Brickley, Rachel Schats, Lexi O'Donnell, Brianne Morgan, Jo Buckberry, Amy Anderson;

Group 3: Pathophysiology (including pars basilaris) - Nivien Speith, Malandri Vlok, Emmanuele Petiti, Olalla Lopez-Costas.

These groups are working to ensure that more information on these topics will appear in 2024.

F. Prize presentation - Thirteen works ran for the student prize. Two podium presentations and one poster were distinguished:

- A macroscopic assessment of porosity and new bone formation on the inferior pars basilaris: Normal growth or an indicator of scurvy? Jack Eggington, Rebecca Pitt, Claire M. Hodson
- Nondestructive pXRF analysis of porous skeletal lesions: Interplay of sex, age, and cause of death Ricardo A.M.P. Gomes, Lídia Catarino, Ana Luísa Santos

- Distinguishing cribra orbitalia from other lesion and pseudopathologies in Medieval populations from Silves, Southern Portugal Ana González-Ruiz, Maria José Gonçalves, Ana Luísa Santos

G. Social Program - The social program began once the scientific program was finished. Participants moved to a viewpoint overlooking the Mondego River and made a toast - with Port wine or *Espumante* wine (Portuguese champagne) – listening to Fados de Coimbra played by students from the Fado and Guitar Group of the Fado Section of the Associação Académica de Coimbra (*Grupo de Fados e Guitarradas da Secção de Fado da Associação Académica de Coimbra*, SF/AAC, Figure 4).

Lulled by the sound of fado, we went to the social dinner where participants could taste some regional specialties, like bones (pork bones cooked with spices, Figure 5).

Figure 4. Participants listening to Fado.

Figure 5. Bones (*Ossos*), a regional dish.

Acknowledgments – The organizers sincerely thank the guest speakers, authors, attendees, and the volunteers. In the same way, we would like to acknowledge the members of the Scientific Committee, chairs of sessions, and the awards jury. Thanks are also due to FLAD (Luso-American

Development Foundation). To the University of Coimbra, Research Center for Anthropology and Health (CIAS), Department of Life Sciences, and its staff, Faculty of Science and Technology, UC Framework, and Rectory. To the cook and team at the Seminário Maior de Coimbra, and Baloiço Bar. To all those who supported us in the most varied ways. Without this group of people and institutions, it would not have been possible for us to hold this meeting.

By;
Ricardo A.M.P. Gomes
Álvaro M. Monge Calleja
Ana Luisa Santos

References

Mangas-Carrasco, E.; López-Costas, O. 2021. Porotic hyperostosis, cribra orbitalia, femoralis and humeralis in Medieval NW Spain. *Archaeological and Anthropological Sciences*, 13(10), 169. https://doi.org/10.1007/s12520-021-01432-y

Monge Calleja, A. M.; Santos, A. L.; Gomes, R.A.M.P. (Coord.). 2023. International Meeting on Porous Skeletal Lesions: Achievements and future directions. Program and Abstract Book. University of Coimbra, Research Centre in Anthropology and Health (CIAS). http://hdl.handle.net/10316/108791

Rinaldo, N., Zedda; N., Bramanti, B.; Rosa, I.; Gualdi-Russo, E. 2019. How reliable is the assessment of porotic hyperostosis and cribra orbitalia in skeletal human remains? A methodological approach for quantitative verification by means of a new evaluation form. *Archaeological and Anthropological Sciences*, 11: 3549-3559. https://doi.org/10.1007/s12520-019-00780-0

Future Meetings, Webinars, and Workshops

North America

December webinar - NEW DATE

Interacciones entre salud y medio-ambiente en comunidades cazadoras-recolectoras de Sudamerica

Interactions between health and environment in hunter-gatherer communities from South America

Ponentes/Speakers: Dr Bernardo Arriaza, Dra Mariana Fabra y Dr Gonzalo Figueiro

Fecha/Day: 19 Dec. 2023
Hora/Hour: 12pm EST, 2pm ART/CLT/UYT; 6pm CET
Idioma: This webinar will be in Spanish with English translation!
Regístrate aquí/ Register here.

Resumen:
El entorno físico y la disponibilidad de recursos son aspectos contextuales en la vida de las personas que pueden tener un impacto en la salud e influenciar el desarrollo de enfermedades. Para investigar esta relación, en este webinar, presentaremos los últimos resultados en la investigación sobre salud y enfermedad de poblaciones del Holoceno tardío en Chile, Argentina y Uruguay. Exploraremos las comunidades marítimas de la cultura Chinchorro en el norte de Chile, las comunidades que vivieron en la región serrana y las llanuras que circundan la laguna salada Mar Chiquita, en el noreste de la provincia de Córdoba, en Argentina y, finalmente, las comunidades que vivieron cerca de los ríos y la costa de Uruguay. En este webinar, también discutiremos las complejidades del análisis de restos humanos arqueológicos de Sudamérica, así como el potencial y las nuevas líneas de investigación que se están abriendo como resultado de los hallazgos recientes.

Summary:
Physical environments and availability of resources are contextual aspects of peoples' lives which can have an impact on their health and can influence the development of disease. To investigate this, in this webinar, we will present the latest research on health and disease of late Holocene populations from Chile, Argentina and Uruguay. We will explore the maritime communities from the Chinchorro culture in north Chile, the communities who lived in the hills and plains around the saline lake of Mar Chiquita in Cordoba, Argentina, and, finally, the communities who lived by the rivers and the coast of Uruguay. In this webinar, we will also discuss the complexities of analysing South American archaeological human remains, and the potential and new lines of research being opened by the recent findings.

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51st Annual North American Paleopathology Association Meetings (March 18-20th, 2024 – Los Angeles, California) https://paleopathology-association.wildapricot.org/page-18191 Hybrid format. Abstract submission is closed. Registration opening January 15th, 2024. Please register online. Preliminary program forthcoming.
For more information, please contact **ppa.vicepres@gmail.com**

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On March 23-26th, 2024, the **93rd Annual Meeting of the American Association of Biological Anthropologists** will take place in Los Angeles, California. The meeting will be hybrid and registration is currently open with a deadline of February 18th, 2024 for pre-registration prices. https://bioanth.org/meetings-and-webinars/93rd-annual-meeting-los-angeles-california-2024/

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Oceania & Pacific Rim

The **Australasian Society for Human Biology** (ASHB) is holding its 37th annual meeting in Brisbane, Australia from **Dec 11-13th 2023**. ASHB welcomes all who are interested in various aspects of human biology including medicine, anthropology, evolutionary biology, comparative anatomy, and primatology. This year's conference is hosted by Griffith University and features keynote speakers Professor Leslea Hlusko (CENIEH, UC Berkeley) and Dr. Amy Prendergast (U Melbourne). More information can be found at: https://www.australasianhumanbiology.com/conferences.html.

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Europe

The **24th European Paleopathology Meeting** will be held in Leiden, The Netherlands August 21-24th, 2024. More information coming soon!!

News from Members

Adult and Juvenile Osteology Laboratory Research Training Workshops:

Our 4-week long (each) intensive training programs, respectively the Adult Osteology Research Workshop and the Juvenile Osteology Research Workshop will train students, both undergraduate and graduate, to conduct osteological analyses and frame appropriate research questions. The combination of an exceptionally rich and well-preserved skeletal research collection, the intensive hands-on laboratory training, and relatively small research groups will ensure that each participant develops an extensive osteological skill set. The latter will comprise an in-depth knowledge of all bones in the human body, including landmarks, muscles attachments and articulations, determining sex and age, development and pathologies; an understanding of fundamental concepts related to the human dentition; how to obtain basic demographic data from skeletal populations; and how to conduct proper intensive research under laboratory conditions.

The Juvenile Osteology Workshop will further provide participants with an intensive review of juvenile osteology and an overview of the ways in which this kind of unique information is interpreted. During the Juvenile Osteology Workshop, participants will have the chance to study the growth and development of the human skeleton across various juvenile age cohorts, weaning and dietary stress, as well as reconstruction and interpretation of infant mortality.

These programs provide a unique opportunity to conduct extensive hands-on training and research on an exceptional osteological collection. The very high state of preservation has

allowed us to retrieve the skeletal remains of more than 2500 adult individuals and over 800 juveniles (ranging from pre-natal to sub-adult). Our research collections come from five archaeologically excavated medieval lost churches around the town of Odorheiu Secuiesc (Transylvania, Romania), as well as from our on-going medieval "Lost Church" excavation at Patakfalva (RO: Valeni), Harghita County, Romania.

Participants can register to one or both Osteology Workshops, or, in order to develop a wider array of bioarchaeological skills, combine an Osteology Workshop with a session of our Medieval Cemetery Funerary Excavation. Undergraduate and graduate academic credits can be acquired separately from University of South Florida (although it is not mandatory to register for credits to participate in our programs) – USF deadlines apply.

Program details:
Adult Osteology Research Laboratory Workshop Dates: June 9 - July 6, 2024
Juvenile Osteology Research Laboratory Workshop Dates: July 7 - August 3, 2024
Location: Odorheiu Secuiesc, Transylvania, Romania

Website: https://www.archaeotek-archaeology.org/osteology-laboratory-and-workshop
University of South Florida Brochure and Credit Application Page:
https://educationabroad.global.usf.edu/index.cfm?FuseAction=Programs.ViewProgramAngular&id=23628

Program Director / Instructor: Dr. Jonathan Bethard (University of South Florida)
Contact: Dr. Andre Gonciar at archaeology@archaeotek.org

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The South, West, and Wales Doctoral Training Partnership
solicits applications for:

CDA3 All that remains: reframing the importance of human cremations in understanding life in ancient Colchester – the original Romano-British capital

This position invites graduate student applications to work with museum specialists, bioarchaeologists and archaeological scientists to re-evaluate an understudied antiquarian collection of ca. 110 cremations to gain new insights into the impact of the Roman occupation of Britain, exploring issues around health, migration and burial practices.

For more information: South, West & Wales Doctoral Training Partnership

Member Contributions

It is a great honor to publish a contribution from our PAMinSA 2023 student awardee Daniela Guevara and her co-authors… Enjoy!!

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Metabolic stress and diet, a comparative case study in Mendoza (Argentina) during the final late Holocene

Daniela GUEVARA[1], Paula NOVELLINO[1], Candela ACOSTA[2], Augusto TESSONE[3], Gabriela DA PEÑA[1], Ramiro BARBERENA[4,5]

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ABSTRACT

Objective: Study the metabolic stress on the skeletal remains of two populations from Mendoza (Argentina) selected based on economic differences. Firstly, the hunter-gatherer population (A) from site B6 (2400-2200 years BP) in the eastern plains, which has an abundant intake of C_3 due to the presence of wild plants and animals. Secondly, population (B) from the Potrero Las Colonias site (650-500 years BP), in the highland Andean valleys, which has a predominant C_4 intake due to intensive maize agriculture.

Materials and Methods: We recorded the presence/absence, degree of severity and stage of healing status and severity of Porotic Hyperostosis (PH) and Cribra Orbitalia (CO).

Results: We record high percentages of PH for the farmer population B (88%) compared to population A (32%) and low percentages of CO in both samples. A severe degree of lesion and the presence of active healing was recorded only in the farmers, while mild degree of severity and mixed stages of healing prevail in the hunter-gatherers.

Discussion: The isotopic data shows different scenarios in terms of economic organization, which, together with the results presented above, allows the suggestion that the farmers (B) may have had deficient nutrition compared to the hunter-gatherers (A). This generated a greater exposure to systemic stress events (e.g. adverse climatic factors) and caused metabolic alterations contributing to the more frequent formation of lesions. Since this may have been due to larger risks associated to sedentary traditional farming in drylands compared to mobile hunter-gatherer organization, this discussion relates to global debates on diet and health during the transition to productive economies.

INTRODUCTION

The combination of bioarchaeological and biogeochemical analyses serves as an important tool for understanding human interaction with the socioecological environment, as well as for examining various life history events within a population, including diet and health.

This study presents a comparative analysis of cranial porotic lesions: cribra orbitalia (CO) and porotic hyperostosis (PH). CO is characterized by the presence of porosity, cribriform areas and pits of various sizes and distribution on the orbital roof (Aufderheide and Rodriguez-Martin, 1998; Lewis, 2018; Walker et al., 2009; Wapler et al., 2004). PH exhibits a similar macroscopic appearance but is found on the outer surface of the cranial vault (Walker et al., 2009).

Both lesions have been associated with various pathologies such as hereditary or acquired anaemia (Lewis, 2018). Some authors advise that different porotic lesions may not be related to the same type of anaemia as the coexistence of both conditions is rare and requires more precise diagnoses (Rivera and Mirazón Lahr, 2017). CO has also been associated with disorders such as dietary iron deficiency (Angel, 1964; Nathan and Haas, 1966; Mansegosa et al., 2018), malaria (Buckley and Tayles, 2003; Buckley, 2006; Gowland and Garnsey, 2010; Gowland and Western, 2012), parasitic infections (Bathurst, 2005; Djuric et al, 2008), folate deficiency and rickets (Ortner and Mays, 1998), vitamin B12 deficiency (Lewis, 2018), as well as lead poisoning and genetic anaemias such as thalassaemia and sickle cell anaemia (Aufderheide and Rodriguez-Martin, 1998). Remodeled and mild CO lesions may also be associated with scurvy (Brickley and Ives, 2006; Mays, 2014; Ortner et al., 2001; Walker et al., 2009). Similarly, several deficiencies may be associated with PH, such as hereditary or acquired anemia, congenital anomalies and chronic infections or toxicosis (Lewis, 2018; Walker et al., 2009). Other authors consider that porotic lesions may result from a variant of normal development without pathological implications (Cole and Waldron, 2019).

Although porotic lesions have been extensively studied worldwide (see Djuric et al., 2008; Armelagos et al., 2009; Barker, 1997; DeWitte, 2014; Djuric et al., 2008; Lewis, 2007), there are limited studies specific to this Andean region (Mansegosa et al., 2018; Novellino and Gil, 2007). The aim of this study is to document and compare porotic lesions in adult individuals from two archaeological populations from the north-central region of Mendoza, Argentina, for which dietary information is available through stable isotope analysis.

The source of the hunter-gatherer population (A) from Barranca's locality, Site B6, is located at 33°05'S, 68°44'W (760 m asl) in the Department of Maipú of Mendoza Province (Fig.1). This area has been the focus of mortuary excavations since the 1940s (Rusconi 1947, 1962; Novellino et al., 2013). The region is characterized by an arid climate with annual rainfall slightly above 200 mm, occurring mainly during the summer in relation to the Atlantic Anticyclone. Geomorphological reconstructions suggest that, for a significant portion of the Holocene, this ecosystem, currently lacking permanent water sources, might have undergone seasonal flooding, creating a wetland environment (Moreiras et al., 2013). From an anthropogenic standpoint, these surroundings likely served as nutrient concentration zones in the desert

(Yacobaccio, 1994), offerring access to diverse and concentrated resources such as carob forests, molles, fish and birds (Moreiras et al., 2013; Marsh et al., 2017; Prieto 1985).
Site B6 has three direct radiocarbon dates: 2450±60 (LP-3110, 2260±80 (LP-2387), 2450±60 (LP-3110), 2260±80 (LP-2387)), 2251±64 (AA-98707) and 2251±64 (AA-98707) (Novellino et al. 2013; Suby et al. 2018), with calibrated medians of 2219 and 2218 yrs. BP, respectively. It was excavated during archaeological rescue efforts from 2009 to 2013 by Novellino (2013). It consists of a primary burial of 34 adult and non-adult individuals deposited in the form of a fan (Fig. 2a).

Farmer population (B) was recovered from Uspallata (Fig.1), a longitudinal valley located in northwestern Mendoza (32°30'S, 69°20'W) between the Eastern Precordillera and the Western Cordillera Frontal. The valley is situated at 1900-2200 m asl, allowing for year-round human occupation, in contrast to the surrounding mountainous areas, which receive significant snowfall during the winter season (Capitanelli 1972).

Fig. 1: Geophraphic location of Uspallata Valley and Barrancas, Mendoza Argentina.

Within Uspallata, the farmer population (B) was recovered from Potrero Las Colonias. It was excavated by Carlos Rusconi in the 1940s (Rusconi 1947, 1962). It has three published radiocarbon dates that place it between 650-500 years BP (Gil et al., 2009; Barberena et al., 2020). It is an archaeological context of multiple burials with a minimum number of 124 individuals. The significant number of interred individuals, encompassing young children, contributes to unveiling the demographic makeup of the site, and represents a distinctive social group unique in the region. Strontium isotopes indicate that the sampled individuals did not reside in Uspallata during the last years of their lives, and hence can be considered migrants (Barberena et al., 2020; Guevara et al., 2022). Within the regional history, it is placed in a context of significant changes associated with population growth, technological changes (Bárcena, 2001), and increased circulation of goods through long-distance exchange networks (Cortegoso et al., 2019; Durán et al., 2020). Population growth in this period was potentially linked to a prolonged period of warm summer temperatures - the Medieval Climate Anomaly (Gil et al., 2014) - as well as a marked increase in maize consumption (Gil et al., 2014; García and Martínez Carretero, 2019; Barberena et al., 2020). This period was followed by the arrival of the Inca Empire around 1400 AD (Marsh et al., 2017; Durán et al., 2018) (Fig.2b).

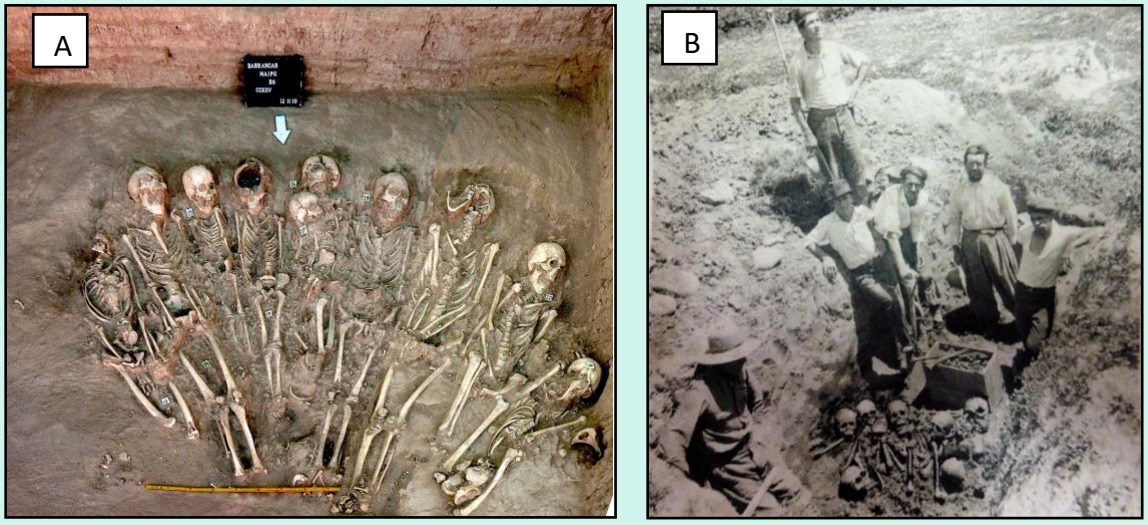

Fig2a: Photograph of site B6 (sample A). 2b: photograph of site PLC (sample B).

METHODOLOGY

The sample studied is housed in the bioarchaeology section of the Juan C. Moyano Museum in Mendoza, Argentina. The total sample consists of 54 skulls, 16 belonging to group A and 38 belonging to group B (both complete and semi-complete). For the purposes of analyzing PH, we specifically selected skulls with an integrity level exceeding 50%. In the case of CO analysis, our focus was on skulls featuring intact orbits. Additionally, for DEH analysis, only skulls with preserved maxillae and/or mandibles containing anterior dentition were taken into consideration. The assessment of skull integrity was conducted using the ascending scale established by Buikstra and Ubelaker (1994): Grade 1 (0-25%), Grade 2 (25-50%), Grade 3 (50-75%), and Grade 4 (75-100%).

A fundamental aspect in the study of porotic lesions is the method of recording as results are inconsistently expressed, making comparisons between populations difficult (Lewis, 2018). This study recorded lesions macroscopically on the skull, detailing their location, severity and condition. Location was classified following Buikstra and Ubelaker (1994), distinguishing between lesions in the orbits corresponding to CO, and in the cranial vault (frontal, occipital, parietal) adjacent to the sutures, in the center of the bone, or in both sectors corresponding to PH. Severity was assessed following the methodologies of Stuart-Macadam (1985), Nathan and Haas (1966), Knip (1971), Robledo et al. (1995), Schultz (2001) and Rinaldo et al. (2019), classifying each example as a) mild: small, scattered and isolated porotic lesions; b) moderate: cribriform lesions, larger, closer together, tending to cluster, with possible coalescence of cribriform lesions, although not expansive; c) severe: trabecular lesions with expansive changes, where the holes converge, the bony trabeculae form a network of variable thickness arranged irregularly parallel to each other, which may radiate from one or multiple centers. The stage of healing in PH and CO was recorded following recommendations of Salvadei et al. (2001) based on the definitions made by Mittler and Gerven (1994) and by scaled photos from Rinaldo et al. (2019). Healing was assigned to one of three stages according to the scale of Rinaldo et al. (2019): active – mixed – inactive, providing additional information on the level of activity of the lesion at the time of death.

The analysis of hypoplastic enamel defects (HED) followed the methodology of Larsen (1995) and Barrientos (1999). Crowns in a good state of preservation, free of calculus deposits and with slight tooth wear (Molnar, 1971; Smith, 1984), were observed with the naked eye and under oblique angle contrast light. Each hypoplasia line was located by determining its position with respect to the enamel-dentine junction at the neck of each tooth using a Stronger digital caliper with an accuracy of 0.01 mm. Observations were made on maxillary and mandibular central incisors, lateral incisors, and permanent canines, considering hypoplasias as linear and transverse depressions of the enamel, either continuous or discontinuous (Goodman et al., 1980). The frequencies of PH-CO and HED were analyzed per individual.

RESULTS

Of the skulls available for analysis, 15 (of 16) in group A and 25 (of 38) in group B were suitable for observing PH. For CO, 15 skulls from group A and 24 from group B were suitable for analysis. Finally, for DEH, 9 skulls from group A and 14 skulls from group B were suitable for analysis (Table 1).

Frequency of PH could be observed in 6 (37.5%) of 15 individuals from group A, while it was present in 22 (88%) of 25 individuals from group B. Only one individual (6%) from group A showed CO, as well as 3 (12.5%) out of 24 individuals from group B. Regarding DEH, 5 (55.5%) individuals from group A and 9 (64%) from group B had at least one hypoplastic line (Table 1).

Site	B6				PLC				
SKULLS	16	Pathology	cases	%	SKULLS	38	Pathology	cases	%
Suitable for PH	15	PH	6	**37.5%**	Suitable for PH	25	PH	22	**88%**
Suitable for CO	15	CO	1	**6%**	Suitable for CO	24	CO	3	**12.5%**
Suitable for DEH	9	HED	5	**55.5%**	Suitable for DEH	14	HED	9	**64%**

Table 1: Composition of the sample and prevalence of lesions. PH Porotic Hyperostosis, CO Cribra Orbitalia, HED Hypoplastic Enamel Defects in both groups.

In terms of severity and healing stage, in group A, 5 individuals had mild lesions, 1 had moderate lesions and none had severe lesions. None of the individuals exhibited active lesions at the time of death, only 3 individuals showed an inactive healing state, and 3 individuals showed a mixed state (Fig. 3). The most affected part of the skull was the parietals.

In group B, 11 individuals had mild lesions, 8 had moderate lesions and 3 exhibited severe lesions. In 6 individuals the lesions were active at the time of death, in 6 others they were inactive and in 10 cases a combination of active and inactive states was identified (Fig. 3). The occipital bone was the most affected, although in 6 cases both the parietal and frontal bones were affected along with the occipital bone.

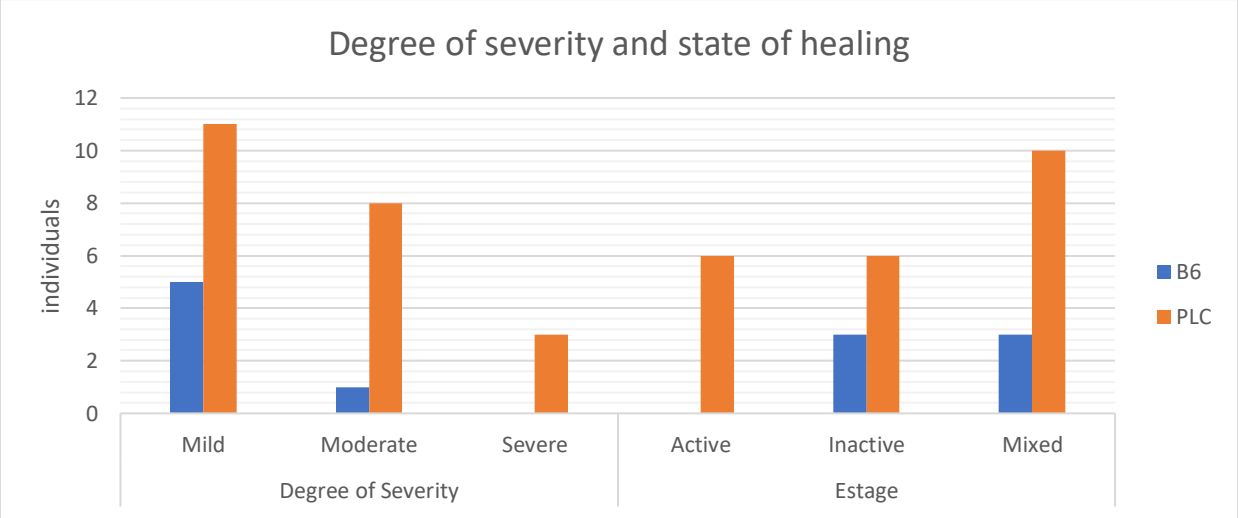

Fig. 3: Degree of severity and stage of healing in both samples.

DISCUSSION

Previous studies have shown that human groups with higher population density, less varied diets and high carbohydrate intake tend to show higher frequencies of porotic hyperostosis (PH) and cribra orbitalia (CO) (Blom et al., 2005; Buzon, 2006; Obertová and Thurzo, 2008; Palkovich, 1987; Stuart-Macadam and Kent, 1992). In addition, a relationship has been

established between hypoplastic enamel defects (HED) and populations experiencing increased exposure to disease, as well as restricted access to high quality and varied food resources (Goodman, Martinez and Chavez, 1991; Larsen and Hutchinson 1992).

By integrating the demographic, palaeographic and dietary data with the results obtained in this research on porotic lesions, we can observe that the hunter-gatherer sample (A) shows a low prevalence of PH-CO, with 90% of the cases being classified as mild and inactive. In contrast, the farmer group (B) shows a much higher prevalence of PH, with 5% of cases classified as severe and active at the time of death. Although CO is present, its incidence is low, suggesting a lack of co-occurrence between PH and CO in this sample.

The isotopic data reveal different scenarios in terms of economic organization, which, together with our results, allow postulating that the farmers (Group B) may have experienced a considerable nutritional deficit compared to hunter-gatherers (Group A). This deficit would have increased their vulnerability to systemic stress events, such as adverse climatic factors like the Medieval Climatic Anomaly (Gil et al., 2014), which in turn would have contributed to the formation of these lesions. In turn, this group of farmers did not reside in Uspallata during the last years of their lives, and therefore can be considered migrants. In addition, stable isotopes indicate a predominant consumption of C4 resources (Barberena et al., 2020; Guevara et al.,2022). This finding may relate to wider debates about diet and health during the transition to more productive economies.

While it is important to note that the small sample size limits the ability to draw definitive conclusions, we plan to include the non-adult population in our analysis in the future. In addition, we hope to extend the analysis by incorporating Cribra humeralis and femoralis to complement the results obtained.

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Fragments – Annotated Weblinks
News from the Virtual Field

Associate Editor: Natasa Sarkic

Fragments bring the summary of the news that has appeared in social media and portals that deal with the field of Paleopathology and Bioarchaeology. If you have suggestions or news to share, please email me – nsarkic@gmail.com.

1. Who started first: did *Homo naledi* buried their dead?

https://www.iflscience.com/homo-naledi-probably-didnt-bury-their-dead-or-make-rock-art-after-all-71526

Only a few months after dozens of platforms, including referential ones, such as National Geographic, published the amazing discovery that our mysterious relative - *Homo naledi* had buried their dead, we got another article published in the *Journal of Human Evolution* (November 2023) stating that there is no proof for that.

As you probably know, in the cave system named Rising Star in Africa more than 1,800 bone fragments, dated to between 335,000 and 241,000 years ago, were discovered. Turns out that the remains belong to an extinct hominin species, *Homo naledi*. Even back in 2015, the team investigating the cave raised the possibility of intentional burials, as the position and intactness of some skeletal remains suggested that the dead may have been carefully laid out on the floor of the chamber rather than tossed down the small chamber entrance. The team claimed that *Homo naledi* also lit fires and engraved abstract patterns and shapes onto the walls — complex

behaviors previously known only in larger-brained modern humans (*Homo sapiens*) and our close cousins.

The team rushed to publish their discovery and announced their controversial findings in a conference speech and three preprinted studies that weren't peer-reviewed. Additionally, a hit Netflix documentary featuring the discoveries, called "Unknown: Cave of Bones" (2023), dropped on July 17, less than a week after publishing.

Not long after, there were criticisms indicating that such complex behaviors could hardly have been possible in small hominids, that the bones are not in an anatomical position, that C^{14} dates are missing for the fireplaces, and that the carved symbols on the cave walls are probably just the result of weathering. However, the discussions about Rising Star cave are not over yet. Another external study by a different team addressing the claim of deliberate *H. naledi* burial is currently undergoing peer review.

This case arouses mixed feelings in me. On the one hand, the whole case is very exciting, and I am very glad that there are different opinions and debates, but on the other hand, in a world dominated by sensationalism and pseudoscience, rushing to present the news, without strong proof or peer-review, can bring us more harm than good.

2. Oldest evidence of an ovarian teratoma

https://www.sciencealert.com/scientists-find-a-tumor-made-of-teeth-in-the-pelvis-of-an-ancient-egyptian?fbclid=IwAR3BVFtYsl_2rLmIrqOz_uVS3e8k_Miu78LY9zfnhGQJ3VKC5DVh1RnXZzs

It is a popular opinion that tumors are a disease of the modern age. It is true, however, that tumors have always existed, but today we have diagnostic methods to detect them.

Among the numerous types of tumors discovered in the archaeological context, ovarian is one of the rarest and strangest. The one that was discovered in Egypt, during the excavation of Amarna (the city of the Pharaoh Akhenaten, established in 1345 BCE) firstly was mistaken for a fetus. It is a calcified clump of disorganized and fully formed tissues, such as bone and teeth, that measures 2–3 centimeters. It was found inside the pelvis of an 18 to 21 years old female, that was buried in the cemetery reserved for commoners.

She was buried with her hands positioned over her pelvis and wrapped in a way that was common for other non-elite Amarna cemeteries. However, she had more jewelry on her than other bodies nearby. It is difficult to say whether the position of her hand, as well as numerous jewelry, is proof that they were aware of her condition.

3. Medieval metal prothesis

https://arkeonews.net/archaeologists-found-a-medieval-skeleton-with-a-prosthetic-hand-in-freising-germany/?fbclid=IwAR3o8PFUO2Ck6Mqvs93HGHLQecT3_UiQHrFBHYXbB5ai4mr6eW32NstkKE

During rescue archaeological excavation, a grave near the Freising parish church of St. Georg (Freising, Germany) revealed a finding that was not that clearly recognizable at first, as the object was quite corroded and was mixed with some gauze-like textile. Surprisingly, X-rays revealed that the object was a prosthetic hand, made to replace the missing fingers of the left hand. Radiocarbon dating of the skeleton revealed that the prosthesis wearer – a man between 30 and 50 years old – must have died between 1450 and 1620 BCE.

His 4 fingers were amputated and replaced with a metal prosthesis, which was probably attached to his arm by leather stripes.

Although prosthesis has been known since Egyptian times, they were quite rare in archaeological records. As the article claims, there were only 50 Medieval and early modern time prostheses found up to now, so this represents a valuable finding especially in connection to human medical interventions that address disability.

Annotated Bibliography

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This section is for PPA members to submit recent references for publications on paleopathology that are found in less accessible journals and books (but not our mainstream outlets such as the *International Journal of Paleopathology, American Journal of Biological Anthropology, International Journal of Osteoarchaeology,* and *Bioarchaeology International*). We will include articles published in the 12-month period prior to the date of the corresponding newsletter.

The references can be in any language, and it would be very helpful if you could add a 1-2 sentence summary of the content in English. We will correct the English if this is not your first language.

Please send in the references for your recent articles, so they can be included in the bibliography.

Please be sure to submit them in the reference format of the *American Journal of Biological Anthropology*. Thank you!

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Special thanks are accorded to Francesco Galassi for contributing references to this Newsletter's Annotated Bibliography.

Batista-Goulart, L., Séguy, I., Tzortzis, S., & Quatrehomme, G. (2023). The effect of living conditions on the stature of men and women: the case of south-eastern France (18th, 19th and 20th centuries). *Bulletins et mémoires de la Société d'Anthropologie de Paris*, 35(2). https://doi.org/10.4000/bmsap.12214.

Bianucci, R., Donell, S., & Galassi, F. (2023). Anton Ludovico Antinori's rheumatological ailments: established facts or overinterpretation? *Rheumatology*, 62(10), e291–e292. https://doi.org/10.1093/rheumatology/kead170.
What is the level of evidence for rheumatological disease in Anton Ludovico Antinori? Was the evidence provided by the authors who studied the case sufficient? This note problematizes an earlier pathographic diagnosis.

Dağlı Gül, A., Karaöz Arıhan, S., & Arıhan, O. (2023). Example of digital exhibition in anthropology and medical education. *Journal of Visual Communication in Medicine*, 1–13. 10.1080/17453054.2023.2247448.

Damiani, E., Galassi, F., & Elice, M. (2023). Did Suetonius really call gout morbus dominorum? A philological and historico-medical reconstruction. *Clinical Rheumatology*, 42(11), 3153–3158. https://doi.org/10.1007/s10067-023-06688-4.
The article investigates the first use of the expression "morbus dominorum" (disease of the lords) with reference to gout. Through a multidisciplinary philological reassessment, it is demonstrated how the Roman author Suetonius never coined this expression.

Đukić, K., Šarkić, T., & Bracanović, Đ. (2023). Bioanthropological evidence of close combat: a case study of skeletal remains from Kosančićev Venac (Belgrade). In Miladinović-Radmilović, N., Vulović, D., & Vitezović, S. (Eds). *Bioarchaeology in the Balkans. Studies in anthropology and zooarchaeology*. Belgrade / Sremska Mitrovica: Srpsko arheološko društvo / Blago Sirmiuma, 57–67. https://www.researchgate.net/profile/Selena-Vitezovic/publication/373216568_BIOARHEOLOGIJA_NA_BALKANU_STUDIJE_IZ_ANTROPOLOGIJE_I_ZOOARHEOLOGIJE/links/64e091b3177c59041303ee4e/BIOARHEOLOGIJA-NA-BALKANU-STUDIJE-IZ-ANTROPOLOGIJE-I-ZOOARHEOLOGIJE.pdf#page=64.

Fu, J., Zhan, X., Qian, Y., Chen, H., Wan, Z., Yeh H.-Y., & Chen, L. (2023). Influence of living environments on maxillary sinusitis for the Chinese Loess Plateau residents during Shang and Western Zhou dynasties: evidence from Zaoshugounao site, Chunhua County, Shaanxi Province. *Quaternary Sciences*, 43(5), 1460–1470. https://doi.org/10.11928/j.issn.1001-7410.2023.05.23.

Galassi, F., Cossarizza, A., & Varotto, E. (2023). Superior vena cava syndrome and gynecomastia in antiquity: paleodermatologic considerations on aging in the past. *Clinics in Dermatology* 41(2), 309–311. https://doi.org/10.1016/j.clindermatol.2023.05.001.
Did superior vena cava syndrome exist in antiquity? Novel evidence is offered through the anatomical analysis of a famous statue.

Galassi, F., Habicht, M., & Varotto, E. (2023). The predictive power of palaeopathology. L*ancet Microbe*, 4(6), e391. https://doi.org/10.1016/S2666-5247(23)00060-5.
In this note, the limitations of retrospective diagnoses of infectious diseases are stressed, with reference to ancient Egypt, for the benefit of a broader readership of virology and microbiology experts.

Galassi, F., Habicht, M., Varotto, E., & Smith, D. (2023). Richard III's scoliosis revisited: a comment on the reliability of historical sources. *Spine*, 48(23), 1696–1697. https://doi.org/10.1097/BRS.0000000000004766.
This editorial reopens the case of King Richard III of England's skeletal identification by means of a historical source. The source is problematized by reassessing the original Latin and a novel interpretation is offered for a case that has fascinated many bioarchaeologists and historians around the world. Among the study's authors features renowned Cambridge University historian Dr David L. Smith (Selwyn College).

Galassi, F., Lippi, D., Zucchini, E., Bianucci, R., & Varotto, E. (2023). Palaeodermatological exposé on the historical case of Ferdinando II de' Medici (AD 1610–1670). *Journal of the European Academy of Dermatology and Venereology*, 1–4. https://doi.org/10.1111/jdv.19436.
In this paper the cutaneous diseases of Ferdinando II de' Medici of Florence are analyzed in detail.

Habicht, M., Varotto, E., Vaccarezza, M., Cossarizza, A., & Galassi, F. (2023). Kaspar Hauser, the Child of Europe: are smallpox vaccination scars the clue to a 2-century-old mystery? *Clinics in Dermatology*, 41(3), 463–465. https://doi.org/10.1016/j.clindermatol.2023.06.001.
This article uses the history of smallpox and smallpox vaccination to shed light on the historical conundrum represented by Kaspar Hauser's identity.

Malcherek, A. & Więckowski, W. (2023). Bioarchaeological investigation of WWI burials at Nowa Osuchowa, Poland. *Journal of Conflict Archaeology*. https://doi.org/10.1080/15740773.2023.2242407.

Milligan, C., Broehl, K., Hart, K., Reeves, V., Wells, K., & Bartelink, E. (2023). Paleopathology and nonspecific stress indicators at Point San Jose. In: Willey, P., Gavette, P., Bartelink, E., & Milligan, C. (Eds) *Archaeology and bioarchaeology of anatomical dissection at a nineteenth-century army hospital in San Francisco*. Gainesville, FL: University of Florida Press, 234–250.

Moraes, C., Habicht, M., Galassi, F., Varotto, E., & Beaini, T. (2023). Pharaoh Tutankhamun: a novel 3D digital facial approximation. *Italian Journal of Anatomy and Embryology*, 127(1), 13–22. https://doi.org/10.36253/ijae-14514.
A novel facial approximation is offered for Pharaoh Tutankhamun. The study made international headlines and was positively commented upon by celebrated Egyptologist Prof. Salima Ikram.

See articles in Supplement Issue of *Tuberculosis*:

Pálfi, G., Dutour, O., Hajdu, T., Sola, C., & Zink, A. (Eds) (2023). Paleopathology and evolution of tuberculosis conference proceedings from the 3rd International Congress on the Evolution and Paleoepidemiology of Tuberculosis (ICEPT-3, 5th–6th July 2022, Institute of Biology, University of Szeged, Szeged, Hungary). *Tuberculosis,* 143, Supplement. https://www.sciencedirect.com/journal/tuberculosis/vol/143/suppl/S.

Papa, V., Galassi, F., Varotto, E., Gori, A., & Vaccarezza, M. (2023). The evolution of diagnostic techniques in the paleopathology of tuberculosis: a scoping review. *Pathogens and Immunity,* 8(1), 93–116.https://doi.org/10.20411/pai.v8i1.597 .
This paper offers a state-of-the-art scoping review of the evolution of diagnostic techniques for ancient tuberculosis.

Papa, V., Vaccarezza, M., Galassi, F., & Varotto, E. (2023). Discover the anatomy of the mummies: how imaging techniques contribute to understanding disease in the past. *Italian Journal of Anatomy and Embryology*, 127(1), 23–34. https://doi.org/10.36253/ijae-14549.
A complex review is given of the advancements of mummy palaeopathology through the application of palaeoradiological techniques.

Perry, M., Cherry, M., Owsley, D., Bruwelheide, K., & Ewen, C. (2023). Remains of the invisible: reconstructing nineteenth-century plantation life through the biohistories of an eastern North Carolina family. *Historical Archaeology*. https://doi.org/10.1007/s41636-023-00430-2

Roberts, C. (2023). The origin, evolution and history of leprosy through a palaeopathological lens. In: Deps, P. (Ed) *Hansen's Disease*. Springer, Cham. https://doi.org/10.1007/978-3-031-30893-2_3.

Salesse, K., Kaupová, S., Kharobi, A., Colombo, A., Brůžek, J., Kuželka, V., & Velemínský, P. (2023). Leveraging IsoArcH for isotope paleopathology: the example of the dataset from the Jedlička collection (Central Europe, 19th century CE). *Data in Brief*, 51, 109523. https://doi.org/10.1016/j.dib.2023.109523.

Wissler, A. & DeWitte, S. (2023). Frailty and survival in the 1918 influenza pandemic. PNAS, 120(42), e2304545120. https://doi.org/10.1073/pnas.2304545120.

Zhou, Y., Liu, K., Yan, F., & Berger, E. (2023). Two cases of skeletal fluorosis from the historic cemetery at Zhangwan, Henan Province, China. *International Journal of Osteoarchaeology*, 1–12. https://doi.org/10.1002/oa.3266.

Zhou, Y., Yu, Y., & Gu, W. (2023). Palaeopathology of children from the Shuanghuaishu Neolithic site in Henan Province. *Journal Acta Anthropologica Sinica*, 42(4), 458–471. https://doi.org/10.16359/j.1000-3193/AAS.2023.0026.

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Recent Relevant Titles in Mainstream Journals, September – December 2023

American Journal of Biological Anthropology (October – November)

Franklin, E., Mitchell, P., & Robb, J. (2023). The Black Death in Hereford, England: A demographic analysis of the Cathedral 14th-century plague mass graves and associated parish cemetery. *American Journal of Biological Anthropology*, 182(3), 452–466. https://doi.org/10.1002/ajpa.24838.

Ryan-Despraz, J., Villotte, S., Desideri, J., & Besse, M. (2023). Multivariate assessments of activity-related skeletal changes: interpreting Bell Beaker specialized male archery and social organization in Central Europe. *American Journal of Biological Anthropology*, 182(2), 237–263. https://doi.org/10.1002/ajpa.24817.

Štoković, N., Ivanjko, N., Bičanić, I., Jalšovec, D., Katavić, V., & Petanjek, Z. (2023). The Zagreb Skull Collection—the unique identified collection of human skulls from fetuses to centenarians. *American Journal of Biological Anthropology*, 182(3), 476–486. https://doi.org/10.1002/ajpa.24816.

Wyatt, B., McFadden, C., Ward, S., & Wilson, L. (2023). Assessing the association of skeletal indicators of stress with mean age-at-death in sub-adults. *American Journal of Biological Anthropology*, 182(3), 440–451. https://doi.org/10.1002/ajpa.24833.

International Journal of Osteoarchaeology (September/October)

Caruso, A., Karligkioti, A., Selempa, G., & Nikita, E. (2023). STARC OSTEOARCH: an open access resource for recording and sharing human osteoarchaeological data. *International Journal of Osteoarchaeology*, 33(5), 973–975. https://doi.org/10.1002/oa.3256.

Geber, J., Pickard, C., Macaud, S., Sten, S., & Carlsson, D. (2023). King Olaf's men? Contextualizing Viking burials at St Olofsholm, Gotland, Sweden. *International Journal of Osteoarchaeology*, 33(5), 802–815. https://doi.org/10.1002/oa.3211.

Ioannou, G. & Lorentz, K. (2023). Health, stress, and urbanism in the Hellenistic–Roman metropolis of Nea Paphos, Cyprus: a comparative analysis. *International Journal of Osteoarchaeology*, 33(5), 955–966. https://doi.org/10.1002/oa.3257.

López-Gijón, R., Duras, S., Maroto-Benavides, R., Mena-Sánchez, L. A., Camarós, E., & Jiménez-Brobeil, S. (2023). Two cases of cystic echinococcosis reported from al-Andalus cemeteries (southern Iberia): insights into zoonotic diseases in Islamic medieval Europe. *International Journal of Osteoarchaeology*, 33(5), 910–919. https://doi.org/10.1002/oa.3253.

Magalhães, B., Mays, S., Stark, S., & Santos, A. L. (2023). A biocultural study of nasal fracture, violence, and gender using 19th–20th century skeletal remains from Portugal. *International Journal of Osteoarchaeology*, 33(5), 858–867. https://doi.org/10.1002/oa.3233.

Tipper, S., Wilson, P., & Roberts, C. (2023). Spondylolysis in ancient Nubian skeletal populations. *International Journal of Osteoarchaeology*, 33(5), 876–885. https://doi.org/10.1002/oa.3241.

Bioarchaeology International

Betsinger, T. (2023). Trauma and violence in medieval Poland: an intersectional analysis. *Bioarchaeology International*, 7(3), 265–281. https://doi.org/10.5744/bi.2023.0007.

Newman, S., Keefe, K., Caffell, A., Gowland, R., Bekvalac, J., Holst, M., & Heyerdahl-King, I. (2023). Growing old in the Industrial Age: aging, health, and social identity in elderly women (eighteenth–nineteenth centuries A.D.) *Bioarchaeology International*, 7(3), 282–305. https://doi.org/10.5744/bi.2023.0003.

Journal of Archaeological Science: Reports (October, December)

Lai, L., Pittoni, E., Goddard, E., Hollander, D., Medda, L., Tanda, G., & Manunza, M.-R. (2023). An isotopic investigation on diet and inequality: the human remains from Gannì (Sardinia, 3rd millennium BC). *Journal of Archaeological Science: Reports*, 51, 104143. https://doi.org/10.1016/j.jasrep.2023.104143.

Spinek, A., Kurek, M., Kozakiewicz, M., Głąb, H., Drążkowska, A. (2023). A case of bilateral cleft palate with obturator prosthesis from XVIII century Cracow (Poland). *Journal of Archaeological Science: Reports*, 51, 104211. https://doi.org/10.1016/j.jasrep.2023.104211.

Storsberg, J., Loza, K., Heske, I., & Epple, M. (2023). Life history reconstruction by dental enamel analysis of the medieval population (8th–10th century AD) of Gevensleben (Lower Saxony, Germany). *Journal of Archaeological Science: Reports*, 52, 104251. https://doi.org/10.1016/j.jasrep.2023.104251.

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GUIDELINES FOR CONTRIBUTORS

TO THE PALEOPATHOLOGY NEWSLETTER

Key Details for Submissions

Please note that the PPA Newsletter will not publish Case Reports or similar papers, which should be submitted to peer-reviewed journals for potential publication. The only exception are reflective papers or those which present replies to studies published in earlier issues of the PPNL. The PPA Newsletter is publishing members' articles and short reports on items such as relevant conferences, conference reflections, new (*i.e.,* recent) excavations of interest to the PPA Membership, newly available collections, new research venues, materials of diagnostic interest (*e.g.,* 'Curious Cases') that require other members' help and/or input regarding a possible diagnosis, and similar items of interest.

Text
All manuscripts must be written in English. The preferred font is ***Calibri, 12 point***.
Please submit as unformatted **Word** documents to facilitate publishing.

Citations
These should follow **AJBA formatting** for in-text and references cited.

Illustrations
Up to 4 figures can be included. Please submit electronic files as separate additions to your text file in ***JPEG format.*** For electronic files, the images must be scanned or objects photographed at **600 d.p.i** (minimum resolution), to produce a good clear image at the size to be printed in the *Newsletter*. Images scanned at low resolutions are not suitable for printed publications, and cannot be used.

Please send materials for inclusion in the next Newsletter to:
J. Marla Toyne - Email: j.marla.toyne@ucf.edu

DEADLINE FOR NEXT ISSUE: February 15, 2024

Looking forward to it! And thank YOU!

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