88TH ANNUAL MEETING OF THE AMERICAN ASSOCIATION OF PHYSICAL ANTHROPOLOGISTS

MARCH 27 – 30, 2019

Hilton Cleveland Downtown

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MESSAGE FROM THE VP & PROGRAM CHAIR

Welcome!

It is my great pleasure to welcome you to the 2019 meeting of the American Association of Physical Anthropologists. This year's meeting is our 88th, and will be held in Cleveland, Ohio. The main conference hotel, the Hilton Downtown Cleveland, is attached to our main venue, the Huntington Convention Center. We are excited to be visiting Cleveland for the first time since 1946, and particularly delighted to be partnering closely with the renown Cleveland Museum of Natural History (CMNH), given the tremendous role and impacts the museum has had for our discipline. We are grateful to our colleagues from CMNH and local arrangements committee, Denise Su and Yohannes Haile-Selassie.

Scientific Program

Our program includes almost 1100 peer-reviewed scientific papers, which will be presented in either podium or poster sessions beginning Thursday morning. The 62 scientific sessions include 7 invited podium symposia, 14 invited poster symposia, 18 contributed podium sessions, and 23 contributed poster sessions. In addition, there are 15 innovative and exciting workshop sessions that run in parallel to the scientific program. Once again, our program is truly international, with scientists from all over the world including Africa, Asia, Australia, Europe, Latin America, and the Middle East. We are pleased to be joined in Cleveland by our partner organizations, the Paleopathology Association (PPA), the Human Biology Association (HBA), the American Association for Anthropological Genetics (AAAG), and the Dental Anthropology Association (DAA). The American Anthropological Association (AAA) is also joining us in sponsoring a session this year.

Programming officially begins on Wednesday, March 27, 2019, with the Committee on Diversity Undergraduate Research Symposium (open to everyone from 6:00-8:00 pm) and the Opening Reception (8:00-11:00 pm). The Convention Center is truly an exceptional space, and will promote a very productive set of meetings.

We've grown in size, complexity, and scope of our meetings. Like last year, podium presentations need to be uploaded onto a central secure server in the Speaker Ready Room no later than a half day before the presentation. This server will then "push" presentations to the appropriate meeting room and will be available for the session.

Schedule and Poster Session Timing. This year's daily sessions schedule will follow a similar timetable to previous years. This includes morning (8:00 am) and afternoon (2:30 pm) podium sessions, with invited poster symposia starting at the same times. This year, the Convention Center affords us adequate space for all-day poster sessions. Poster set-up will begin at 8:00 am, and end at 9:00 am, with sessions opening at 10:00 am. Even-numbered posters will have presenters in attendance at 1:30-2:30 pm, while presenters will be present at odd-numbered posters from 6:00-7:00pm on Thursday and Saturday (5:30-6:30pm on Friday to allow Business Meeting attendance). Posters should be removed from 7:00-7:30pm on Thursday and Saturday (6:30-7:00 pm on Friday). The start (2:30 pm) of podium presentations and invited poster symposia allows dedicated time for viewing of posters as well as an assortment of lunchtime events and workshops. Given the complexity of our meetings, we are fortunate to again have an AAPA Meetings App, developed by Ed Hagen, to help us track times and locations! The app is available for both Android and Apple.

Joint sessions. Our joint AAPA-PPA session, The Evolution of Syphilis: A New Approach, organized by Brenda Baker, will be held on Saturday afternoon. The joint AAPA-AAAG-HBA and American Anthropological Association (AAA) session this year is also our Wiley Symposium, and will be held on Saturday morning. The session is Interpreting and Communicating Genetic Variation in 2019: A Conversation on Race, organized by Jennifer Raff. The Presidential Panel will be held immediately following this symposium, and will offer a chance to extend the discussion of topics raised in the symposium.

Workshops

This year we have planned a number of workshops that occur in conjunction with our annual meeting. Because of space limitations, some of the workshops and events may require pre-registration (information is available on our meeting website; pre-registration closes March 15).

Special Events

Auction,
which starts as a silent auction (10:00 am-7:00 pm) and ends with the always entertaining live auction (7:00-

Friday, following the conclusion of the scientific
Business Meeting
and Awards Presentation

Presidential Panel
focuses on scientific and public discourse involving

Interpreting
and Communicating Genetic Variation in 2019: A
Conversation on Race

Student Awards Ceremony and Closing Reception

These will be listed in the final meetings program.

Acknowledgements and Appreciation

tific program and to finalize hotel details. The program
help, as have the Officers and other members of the

ABSTRACTS

Mating behavior and paternity in wild woolly monkeys (*Lagothrix lagotricha poeppigii*): is mating success a good predictor of reproductive success?

[1] [2]

[1]Anthropology, University of Texas at Austin, [2]Anthropology, Miami University

birth seasons (2013-2017) in three groups of wild *Lagothrix lagotricha poeppigii*) during their peak fertile period and/or reflect

Funded by NSF (BCS 1540403, 1638822, 1732326), the L.S.B. Leakey Foundation, the Wenner-Gren Foundation, the National Geographic Society, and the University of Texas at Austin.

The Deciduous Dilemma – New perspectives from Neolithic Northern Vietnam for studying health and stress in infants

[1] [2]

[1]Biological Anthropology Research Group, Department of Anatomy, University of Otago, [2]ANU College of Arts and Social Sciences, Australian National University

enamel hypoplasia is difficult due to morpholog- *in-utero* ines the use of topographic profiling of enamel, depth changes was used to determine if signifi-

University of Otago Doctoral Scholarship.

The impact of sensory mode on anti-predator responses of Rylands' bald-faced saki monkeys (*Pithecia rylandsi*) in Peru

[1] [2]

[1]Anthropology, The Ohio State University, Columbus, [2]Anthropology, The Ohio State University, Mansfield

ence, the mode of presentation may significantly *Pithecia rylandsi*) (*n* = *n* = *Harpia harpyja*) (*Panthera onca*) responded significantly quicker (*F1,31* *p* 0.7 s) than to playbacks (23.00 ± 4.5 s). While emitted significantly more calls (*F1,36* *p* (81.4 ± 28.3 calls) than playbacks (7.0 ± 2.5 calls) feeding) significantly sooner (*F1,33*= 18.674, *p*< s) than visual models (1710.1 ± 342.4 s). These

This research was supported by National Science Foundation (BCS-1341174), Animal Behavior Society, The Society for Integrative and Comparative Biology, Tinker Foundation, and The Ohio State University (Columbus and Mansfield)

Race science and its misuse of research in biological anthropology

Anthropology, University of Nevada, Reno

Despite valid scientific research dismissing race science, this field of inquiry is seeing a current *Mankind Quarterly* *The Journal of Social, Political, and Economic Studies* *The Occidental Quarterly* the scientific community (n=137). scientific community, with the opinion that they are fighting for the truth against politically correct authors routinely incorporate scientific research *Mankind Quarterly*

Patterns of variation in trabecular bone volume fraction in the calcaneus and C2 vertebrae of *H. sapiens*

[illegible]

[1]Human Evolutionary Biology, Harvard University, [2]Human Evolutionary Biology, Harvard University

Trabecular bone volume fraction (BVF) is influ- [illegible] semi-sedentary Natufians; Holocene hunt- [illegible] and statistical significance was set to p < 0.05. Natufians had 36%, 46% and 46% greater calca- [illegible] (p=0.002) groups. Natufian C2 BVF was 53% [illegible]

This project was funded by the Leakey Foundation (#06180443-01) and the Wenner Gren Foundation (# 06321163-01).

Skeletal-wide variation in phylogenetic signal across *Order Primates*

[illegible]

[1]Department of Anthropology, University at Buffalo, [2]Division of Biological Infrastructure, National Science Foundation, [3]Department of Anthropology, University of Massachusetts Amherst, [4]Organismic and Evolutionary Biology, University of Massachusetts Amherst

[illegible] mosaic, making it difficult to discern species affiliation. However, few studies have assessed how reliably trait variation reflects underlying [illegible] (Order) taxonomic levels reflecting very ancient [illegible] ardized traits reflecting all major primate linages [illegible] gated whether there was significant variation in [illegible] phism and covariation by calculating sex-specific [illegible] strongly reflect phylogeny. However, there were significant differences in K across skeletal [illegible] *os coxae* [illegible] taxonomic levels, such as those reflecting the [illegible]

Hierarchical Patterns of Constraint and Functional Trait Complexes in the Primate Shoulder and Hip Regions

[illegible]

Anthropology, The University of Tennessee - Knoxville

[illegible] *Macaca mulatta.* [illegible] are reflected in genetic covariances among their morphological traits, that in turn would influ- [illegible] are significantly lower than the evolvabilities [illegible]

This research is supported by a National Science Foundation Doctoral Dissertation Improvement Grant (NSF BCS-1825995).

Effective seed dispersal of an economically important plant resource by western chimpanzees at Fongoli, Senegal

[illegible]

[1]Anthropology, Rutgers, the State University of New Jersey, [2]Ecology, Evolution and Organismal Biology, Iowa State University, [3]Anthropology, Purdue University, [4]Anthropology, Texas State University

[illegible] (*Pan troglodytes verus*) [illegible] *Saba senegalensis.* [illegible] *Saba* regeneration through the beneficial effects of gut [illegible] *in situ.* [illegible] *in situ* [illegible] *Saba* [illegible] *Saba* [illegible]

fits accrued to humans via seed dispersing

Funding was provided by Iowa State University and the Center for Global and Regional Environmental Research, University of Iowa.

Evolutionary changes in neurocranial structure do not correlate with cortical reorganization in humans

[1]Department of Anthropology, University of Zurich, [2]Neuroscience Institute, Georgia State University, [3]Division of Developmental and Cognitive Neuroscience, Yerkes National Primate Research Center

to chimpanzee brains, reflecting the well-docu-

Funded by Swiss NSF grant #31003A_135470 to CPEZ.

The role of spatial memory as it relates to nutritional balancing in Bornean orangutans (*Pongo pygmaeus wurmbii*)

[1]Anthropology, University of California, Davis, [2]Anthropology, Rutgers, the State University of New Jersey, [3]The Center for Human Evolutionary Studies, Rutgers, the State University of New Jersey

algorithm identified trees with 70-83% accuracy,

employ a flexible foraging strategy, switching

United States Agency for International Development; The Center for Human Evolutionary Studies; International Primatological Society, National Science Foundation (NSF-805182), Rutgers Department of Anthropology

New macaque remains from the Middle Pleistocene of Gruta da Aroeira, Portugal

[1]Institut Català de Paleontologia Miquel Crusafont, Universitat Autònoma de Barcelona, [2]Grup de Recerca del Quaternari (GRQ)-SERP, Departament d'Història i Arqueologia, Universitat de Barcelona, [3]Departamento de Paleontología, Facultad de Ciencias Geológicas, Universidad Complutense de Madrid, [4]Centro Universidad Complutense de Madrid, Instituto de Salud Carlos III de Investigación sobre la Evolución y Comportamiento Humanos, [5]Department of Anthropology, Lehman College of the City University of New York, [6]Department of Vertebrate Paleontology, American Museum of Natural History, [7]PhD Program in Anthropology, The Graduate Center of the City University of New York, [8]New York Consortium in Evolutionary Primatology, New York, [9]Departament d'Història i Arqueologia, Universitat de Barcelona, [10]Institució Catalana de Recerca i Estudis Avançats, (ICREA), [11]UNIARQ-Centro de Arqueologia da Universidade de Lisboa, Faculdade de Letras, Universidade de Lisboa

juvenile macaque mandible (ARO17-J8-Xa-934) that was recovered in 2017 from Unit 2 hard

Macaca

and proportions fit well with both extant *Macaca sylvanus*

sylvanus

pliocena

Funded by the Generalitat de Catalunya (CERCA Program) and Ministerio de Economía y Competitividad: HAR2017-86509, CGL2015-65387-C3-2-P, CGL2016-76431-P, and CGL2017-82654-P (MINECO-AEI/FEDER EU); RYC-2015-17667 to J.D.; and IJCI-2017-33908 to M.S.

Osteological development of the foot during the Medieval to Post-Medieval transition

Department of Anthropology, The Ohio State University

account the influence of several covariates (age, sex, stature, hypoplasia, non-specific infections, blood disorders, vitamin D deficiency, and oste-
are significantly longer in the Medieval period
pedal metrics remains statistically significant

Men's secretory immunoglobin-A, testosterone, and cortisol are significantly associated within a single day and across two sequential days

[1]Anthropology, Boston University, [2]Psychology, Nipissing University

before sleep on the first day and upon waking the
tions. Changes in T were significantly positively
morning were significantly negatively correlated.
also significantly positively correlated with sIgA variation. This provides the first evidence that

Glucocorticoid levels predict lifespan in wild female baboons

[1]Evolutionary Anthropology, Duke University, [2]Biology, Duke University, [3]Institute of Primate Research, National Museums of Kenya, [4]Anthropology, University of Texas San Antonio, [5]Ecology and Evolutionary Biology, Princeton Universeity, [6]Biological Sciences, University of Notre Dame

Hormones & Behavior 2017) reached the remarkable conclu-
GC-mediated stress response, and fitness-related
chronic stress (as indexed by GCs) influences
determinant of fitness variation among female
from 197 adult females (n=1784 female-years),
fitness, and aging and suggest that they may

This research was funded by the National Institutes of Health, the National Science Foundation, the Leakey Foundation, and the Max Planck Institute for Demographic Research.

Got fish? Diet and dental health of the Late Intermediate (ca. 1000-1450 CE) peoples in the Atacama Desert, northern Chile

[1]SASW, Kansas State University, [2]Centro de Ciencia del Clima y la Resilencia, Universidad de Concepción, [3]Departamento de Antropología, Universidad de Tarapacá, [4]Departamento de Antropología, Universidad Alberto Hurtado, [5]Departamento de Antropología, Universidad de Chile, [6]Instituto de Ecología y Biodiversidad, Pontificia Universidad Católica de Chile, [7]Instituto de Alta Investigación, Universidad de Tarapacá

stylistically unified, their subsistence patterns
of C4 crops (Cam-8=<9%; Llu-54= 14.2-17.4%;
domestic-wild plants (Az-8=~47%; Llu-54 and Cam-8= <37%) by site. Trophic niche analyses
between groups. These differences reflect varia-

FONDECYT 1151046

ABSTRACTS

Age Indicators Reveal Population Information: A New Computational Framework for Estimating Ancestry from Pubic Symphyseal Shape

[2] [2]

[1]Center for Comparative Studies in Race and Ethnicity, Stanford University, [2]Scientific Computing, Florida State University

able, as population-specific standards arguably

of ancestry is a difficult task as the accuracy of

the misspecification of ancestry in adult age

analysis for classification, and standard multi-

studies, find that ancestry accounts for ≈42% of

of classification, 63-91%. While we conclude

NIJ award 2015-DN-BX-K010

Daily Lives of Samburu Pastoralist Children: Work, herding, and food consumption

[2] [3]

[1]Anthropology, University at Albany - SUNY, [2]Anthropology, University of North Carolina at Chapel Hill, [3]Anthropology, Western Michigan University

from the benefit of ready-food access during

This research was funded by A Research Experience for Undergraduate Supplement to National Science Foundation Award #1728743, "A Bio-Cultural Investigation of Intergenerational Epigenetic Mechanisms" (Bilinda Straight, PI).

In Service to the Sultan: Biological affinity analysis of Vlach Ottoman vassals from southern Croatia

[2],
ANITA ADAMIĆ HADŽIĆ
[3]

[1]Department of Anthropology/Sociology, Eastern Oregon University, [2]Anthropological Center, Croatian Academy of Sciences and Arts, [3]Buffalo Human Evolutionary Morphology Lab, Department of Anthropology, University at Buffalo

cultural and biological definitions, this ethnicity

variation highlighted the biological affinity of a

light a Vlach population with biological affinity

This material is based upon work supported by the National Science Foundation under grant no.1642007

Life histories, aging, and testosterone levels among Datoga, Hadza, and Qom men

[2],
[3]
[4]

[1]Anthropology, University at Albany–SUNY, [2]Anthropology, Yale University, [3]Human Evolutionary Biology, Harvard University, [4]Anthropology, University of New Mexico

yet significant age-related testosterone decline is

48 Qom men, ages 17-72 years. Population vari-

scale society, we find that blunted age-decline

Examining patterns in gut microbial eukaryotes and bacteria across the primate phylogeny

[1]Anthropology, Northwestern University, [2]Botany, University of British Columbia, [3]Biodiversity Research Centre, University of British Columbia, [4]Zoology, University of British Columbia

Given the influence of the gut microbiome on host

yote profiles of 12 species of wild primates. We

Entamoeba, Blastocystis, d *Giardia*, and find

group influence taxonomic diversity. Additionally,

Entamoeba

Water availability, primate ranging behavior, and implications for parasite transmission: an experimental and observational study of wild red-fronted lemurs (*Eulemur rufifrons*) in a dry deciduous forest

[1]Evolutionary Anthropology, Duke University, [2]Behavioral Ecology and Sociobiology, German Primate Center, [3]Sociobiology/Anthropology, University of Göttingen, [4]Global Health Institute, Duke University

Eulemur rufifrons)

availability. Specifically, lemurs were more likely

model better supported than null model; ΔAIC>2

on these findings, we conclude that lemurs are flexible in their ranging patterns in response to

This research was funded by NSF BCS-1613482 (DDRIG), the Margot Marsh Biodiversity Foundation, and Primate Conservation, Inc.

Porotic cranial lesions in living forager-horticulturalists: theoretical pathways and preliminary evidence

[1]Anthropology, University of California Santa Barbara, [2]Saint Luke's Mid America Heart Institute, University of Missouri, [3]School of Human Evolution and Center for Evolution and Medicine, Arizona State University, [4]Cardiology, Ascension Healthcare, [5]Medicine, Al Azhar University, [6]Anthropology, Dartmouth College, [7]Medicine, Memorial Care Hospital, [8]Anthropology, Institute for Advanced Study in Toulouse, [9]Medicine, Universidad de San Simón, [10]Medicine, University of Southern California, [11]Cardiology, Renown Institute for Heart and Vascular Health, [12]Laboratorio de Paleopatologia, Catedra Pedro Weiss, Universidad Peruana Cayetano Heredia, [13]Bioengineering, University of Washington, Seattle, [14]Radiology, Weill Cornell Medical College, [15]Icahn School of Medicine, Mount Sinai, [16]Economic Science Institute, Chapman University, [17]Anthropology, University of New Mexico, [18]Anthropology, Washington State University, Pullman

are cranial lesions often identified in archaeolog-

of Tsimane adults aged 45+ (52% male) we find

dietary data suggest that dietary iron deficiency is unlikely, and vitamin D deficiency is minimal in the tropics, yet we find that 20% of Tsimane adults

endemic and systemic inflammation is high:

Thus, blood loss anemia and anemia of inflam-

of CT scans to 775 individuals and linking these

This research made possible by NIH/NIA grants R01AG024119-01, R01AG024119-02, and R56AG024119

Bioarchaeological Signatures of Health and Inequality at the Middle Bronze Age Rural Site Kaman-Kalehöyük

[1]Anthropology, Boise State University, [2]Anthropology, University of Nevada, Las Vegas, [3]Archaeology, Japanese Institute of Anatolian Archaeology

1750 years Before Current Era) in central Anatolia

of human skeletal remains. More specifically,

Some aspects of the health profile, such as the demographic profile, fertility rates and preva-

community and fertility is high (0.3774). Based

the MBA Kaman-Kalehöyük show health profiles

The taxonomic status of the large-bodied colobine specimen KNM-WT 16827

Department of Anthropology, University of Oregon

KNM-WT 16827 is an associated partial skel-

ankle. It was initially classified as *Paracolobus mutiwa*

P. mutiwa

Paracolobus

P. chemeroni

Postcranially KNM-WT 16827 is distinct not only

P. chemeroni

Rhinocolobus turkanensis *Cercopithecoides williamsi*

P. chemeroni

C. williamsi

R. turkanensis.

P. chemeroni

P. chemeroni

ankle joint. KNM-WT 16827's unique postcra-

Paracolobus

This research was supported by the University of Oregon and the National Science Foundation (Proposal No. 1650923).

Application of Synchrotron micro-Computed Tomography and Confocal Laser Scanning Microscopy to evaluate sex-related differences in the human osteocyte lacunar-canalicular network across the lifespan

[1]Biology, University of Akron, [2]Anatomy, Physiology, and Pharmacology, University of Saskatchewan

Supported by the Canadian Institutes of Health Research, Training Grant in Health Research Using Synchrotron Techniques

The Role of Broca's Area in Stone Toolmaking Action Perception

[1]Department of Anthropology and Cognitive Sciences Program, Indiana University, [2]Stone Age Insitute, Stone Age Institute, [3]Department of Brain & Cognitive Sciences, University of Rochester

This research was supported in part by grant 52935 from the Templeton Foundation titled: "What Drives Human Cognitive Evolution?"

Evolutionary genomic patterns of recent natural selection on body size sexual dimorphism in *Homo sapiens*

[1]Departments of Anthropology and Biology, Pennsylvania State University, [2]DFG Center for Advanced Studies "Words, Bones, Genes, Tools", University of Tübingen, [3]Research Centre in Evolutionary Anthropology and Palaeoecology, Liverpool John Moores University

phism could instead reflect genetic drift. Here we

with phenotypic variation; the identified variants

data from the UKBiobank, we identified 147

significantly associated with height variation in

) and have a significant sex difference for height

statistic, which quantifies recent changes in the

The Penn State University Erickson Discovery, Presidential Leadership Academy Enrichment, and Liberal Arts Enrichment Grants (all to A.M.A); NIH grant R01-GM115656 (to G.P); and DFG grant FOR-2237.

Moving through time: Intermediate phalanges from East African early and middle Miocene catarrhines reveal locomotor changes

[1]Anthropology, University of Michigan, [2]Anthropology, New Mexico State University, [3]Evolutionary Anthropology, Duke University, [4]Turkana Basin Institute, Stony Brook University

tropithecus, Ekembo heseloni, d *Equatorius* n robust with index values between 29-37, as in *Colobus, Cebus,* d *Nasalis.* n Songhor (~19-20 Ma), are more gracile (RI 27-31) n *heseloni.*

suspensory taxa; while SO 974, 986, and 1966 are *kembo* d . taxon than SO 974, 986, and 1966.

Pan d *Ekembo nyanzae*) b *Kenyapithecus africanus*. It is robust (RI=37) like *Pan* d *Mandrillus* g *Papio.* d *Victoriapithecus* d *Simiolus* o *Mabokopithecus.* g

Kenyapithecus d *Victoriapithecus.*

Support was provided by the National Science Foundation, L.S.B. Leakey Foundation, Wenner-Gren Society, National Geographic Society, Boise Fund, and the University of Michigan.

Maternal position within the dominance hierarchy in *Macaca mulatta*: Associations with offspring 2D:4D ratio and growth

[1]Department of Applied Anthropology, University of South Florida, [2]Caribbean Primate Research Center, Medical Sciences Campus, University of Puerto Rico

maternal received-affiliation (RAF) are associ-

ic-affiliative interactions between adult females.

in males (p=0.046), and lower finger trauma

finger trauma in females (p=0.011). The higher

(p=0.007), and a higher RH-2D:4D to LH-2D:4D

Testing factors influencing the lemur gut microbiome: host genetics or diet?

[1]Anthropology, University of Illinois at Urbana-Champaign, Urbana, IL, USA, [2]Carl R. Woese Institute for Genomic Biology, University of Illinois at Urbana-Champaign, Urbana, IL, USA, [3]Ecology and Evolution, Stony Brook University, Stony Brook, NY, USA, [4]Biology, University of Kentucky, Lexington, KY, USA, [5]Biology, Clarkson University, Potsdam, NY,

USA, [6]Anthropology, University of Texas at Austin, TX, USA, [7]Columbus Zoo and Aquarium, Columbus, OH, USA, [8]Anthropology, Northern Illinois University, DeKalb, IL, USA, [9]Anthropology, University of Colorado-Boulder, Boulder, CO, USA, [10]Centre ValBio, Ranomafana, Madagascar, [11]Institute for the Conservation of Tropical Environments, Stony Brook University, Stony Brook, NY, USA, [12]Anthropology, Stony Brook University, Stony Brook, NY, USA

have been shown to influence the composition

compared the gut microbiomes of five closely-re- *Propithecus verreauxi*, *Propithecus diadema*, *Propithecus edwardsi*, *Varecia variegata,* and *Lemur catta*

were statistically significant ($p<$ *P. verreauxi* and *L. catta*

respectively, a possible reflection of diet diversity.

significantly discriminative among host species

factor influencing variation in the lemur gut micro-

We gratefully acknowledge funding from NSF BCS 0820709 and NSF BCS 0935347.

Middle Pleistocene hominin systematics: *Homo heidelbergensis, Homo sapiens*, and the species concept revisited

Anthropology, Texas A&M University

language for transmission of ideas; 2) reflecting and 3) developing a classification that allows for studies folk naming and classification systems, achieving these goals. I review published defi- them, following Berlin's seminal 1973 work, into *folk generic* *folk specific*

define *H. heidelbergensis*

with modifiers (e.g., "Middle Pleistocene *Homo*")

necessary and sufficient given the current data.

Nonmetric cranial trait expression in pre-contact Southwest Native Americans and modern Asians

[1]Anatomy and Neurobiology, Boston University School of Medicine, [2]Anthropology, Boston University

biological profile due to their distantly shared

cific methods should be developed. Nonmetric

Asian groups exhibit significant differences in

icantly between the groups. Specifically, 28 traits (80.0%) differed significantly between the males, while 25 traits (71.4%) differed signifi- likely reflect distinct population histories, and

population-specific biological profile methods for

Evolvability and Constraint in Traits of the Primate Vertebral Column with Respect to Functional Trait Complexes

[1]Anthropology, The University of Tennessee, [2]Ecology and Evolutionary Biology, The University of Tennessee

Macaca mulatta.

Higher evolvability measures reflect more inde- the basicranium. Significantly higher evolvability

to responses to selection. We find similar

Petauridae,

National Science Foundation BCS DDRIG #1825995

Sacroiliac joint fusion in nulliparous and parous females and males

Geography and Anthropology, Louisiana State University

uals—specifically starting in the fifth or sixth

the frequency of SI joint fusion is significantly

that parous females and males are significantly nulliparous females (P=0.07) and nulliparous females and males (P=0.21) are nonsignificantly

Is mountain life tougher? Examining differential maximum incisor bending and shearing strength in *Gorilla gorilla* and *G. beringei*

Anatomy and Cell Biology, Indiana University

G. gorilla *G. beringei*.

beringei,

analyses have identified potentially diet specific *G. gorilla* *G. beringei*

Ateles *Alouatta*)

datasets (n=187 individuals; four incisors types)

G. beringei *G. gorilla*

folivorous taxa suggesting that specific aspects of *G. beringei*

strongly influence *G. beringei*

Ontogeny of vault shape in *Homo erectus* with implications for KNM-ER 42700

[1]Anatomy, Midwestern University, [2]Pathology and Anatomical Sciences, University of Missouri

Homo erectus,

KNM-ER 42700 fall outside of the bounds of *H. erectus*.

in *H. erectus*

We first confirm that the undeformed ectocranial shape of KNM-ER 42700 is distinct from adult *H. erectus*. KNM-ER 42700 shares similarities to *H. erectus* *H. erectus*

intermediate position of KNM-ER 42700 between *H. erectus*

ontogeny, but may also reflect parallel evolution of a rounder vault. Indeed, the KNM-ER 42700 fossil *H. erectus*

H. erectus

assessed their fit based on convergence between estimates and observed morphology. As a final test, we evaluated whether KNM-ER 42700 falls *H. erectus*

Grant support was provided by NSF (BCS 1454498, BCS 04-24262, DGE 03-33415, and DBI 96-02234), L.S.B. Leakey Foundation, Wenner-Gren Foundation, Sigma Xi Foundation and the AGEP T-FRAME program (NSF HRD 1311318).

Environmental, but not social cues predict nest site selection and use in a communally breeding primate

Anthropology, Hunter College, CUNY, Anthropology & Biology, The Graduate Center, CUNY, The New York Consortium in Evolutionary Primatology, NYCEP

Varecia variegata, a

both environmental and social cues influence

a 75m radius of the nest, whereas nest use

75m. Microhabitat characteristics were unrelated

cues, specifically the average distance to conspecifics' nest and park sites, were unrelated to nest

Funding provided by NSF DDIG (BSC-0725975), The Leakey Foundation, US Fulbright Foundation, Primate Conservation, Inc., Primate Action Fund, Rowe-Wright Primate Fund, Stony Brook University, and Hunter College.

ABSTRACTS

Ancient oral microbiome of a fisher-hunter-gatherer community from the Pacific Northwest Coast

[1]Anthropology, University of Illinois at Urbana-Champaign, [2]Anthropology, Northwestern University, [3]Research Division, Canadian Museum of History, [4]Treaty Office, Metlakatla First Nation, [5]Carl R. Woese Institute for Genomic Biology, University of Illinois at Urbana-Champaign

of the Coast Tsimshian engaged in a fisher-hunt-

of the oral microbiome of an ancestral fish-

of descendant participants (n=17). Microbial

National Science Foundation (NSF BCS-1732263, DGE-1069157), University of Illinois at Urbana-Champaign Graduate College and Department of Anthropology

Arm-swinging and habitat use of the red-shanked douc in the Son Tra Nature Reserve, Vietnam

[1]Anthropology, Texas A&M University, [2]Vietnam Academy of Science and Technology, Southern Institute of Ecology, [3]GreenViet Biodiversity Conservation Centre

ygathrix

and April 2017. The monkeys were filmed most

arm-swings significantly more on branches, hori-

Primate Conservation, Inc. and Texas A&M University Department of Anthropology

New mandible from Olorgesailie sheds light on Middle Pleistocene human evolution in Africa

[1]Center for the Study of Human Origins, New York University, [2]The New York Consortium in Evolutionary Primatology, [3]Human Origins Program, NMNH, Smithsonian Institution

partial cranium dated to 0.97- 0.90 Ma, attrib- *H. erectus*

excavations in 2017 uncovered additional fossil

M_2

70780. Although African hominins of similar age

well: the ascending ramus of OG 70780 is more

BK 67; the anterior portion of the ascending ramus flares in OG 70780 but is more vertical in

(CMN) of OG 70780 joins the condyle more medially whereas the CMN in BK 67 merges with the

OG 70780 M_2

Olorgesailie mandible fits in with other African

Homo sapiens.

A Critical Review of Diagnostic Criteria Used to Identify Treponemal Infection in Human Skeletal Remains

Center for Bioarchaeological Research, School of Human Evolution and Social Change, Arizona State University

The identification of treponemal infection in skel-

that rely upon nonspecific indicators, and prom- *Treponema pallidum*

T. pallidum

and dental indicators. Lesion specificity (caused

the lesion) are addressed to consider the ramifi-

lesions with less specificity but greater sensitivity.

(1) provide sufficient information on the archae-

Missing migrants and the search for identity

Anthropology, Baylor University

are fleeing extreme poverty and violence to enter

tified migrants exhumed or recovered from South

any unidentified person database. The US federal

hinders identification and reduces the popula-

and are compiling data for better identification

Modeling rainforest ecology as a product of local socioeconomic pressures in Masoala National Park, Madagascar

Anthropology, The Pennsylvania State University, Intercollege Program in Bioethics, The Pennsylvania State University

Varecia rubra

sects (mean 675m, mode 1000m) were laid out

the July 2017-December 2017 field season.

significantly correlated with increased harvest of

Studying trabecular bone tissue structure-function relationship using 3D printing

Biology, Winthrop University

so far it was impossible to test a specific sample multiple times in different directions to find if its

not differ significantly between printouts and

This project was supported by SC INBRE grants from the National Institute of General Medical Sciences of the National Institutes of Health and Winthrop University Research Council Grants

Ancient Genomic and Epigenomic Simulation Using the epiPALEOMIX Pipeline

[1]Anthropology, University of Kansas, [2]Ecology and Evolutionary Biology, University of Kansas

considered (147 bp). Modifying the base pair size

ABSTRACTS

Hibernation, puberty and chronic kidney disease in hominins from Spain half a million years ago

[1]History and Ethnology, Democritus University of Thrace, [2]Instituto de Salud Carlos III de Evolución y Comportamiento Humanos, Centro Mixto Universidad Complutense de Madrid

ular tunneling and osteitis fibrosa, subperiosteal

Menstrual cycle variability in rural Bangladeshi women

Biological Anthropology, University of Washington

five-year intervals, and breastfeeding. Only about

This research was funded by the American Institute for Bangladesh Studies, Mellon Foundation, NSF (DBS-92-18734, SBR-9600690) and NICHD (R21 HD052081-01A1, 1F32 HD07994).

A meta-analysis of fission-fusion dynamics: towards a standardization of methods to facilitate inter- and intra-species comparisons

[1]Anthropology, CUNY Graduate Center, [2]New York Consortium in Evolutionary Primatology, (NYCEP), [3]Anthropology, CUNY Hunter College

The term 'fission-fusion' was first introduced by Kummer (1971) to describe the fluid inter-

and mammal taxa, but a lack of concise defini-

fission-fusion literature representing 42 primate

recorded. Sites and research groups differ signifi-

defined (e.g., distance-based, neighbor rule, visi-

A Method for Identifying Cold-Induced Activation of Brown Adipose Tissue

Department of Anthropology, University of Michigan

ficient thermogenic form of fat. Inducible BAT,

cumbersome while in the field. Presented is a

phenotypes while in the field.

Dental developmental patterns and tissue volume variation along the arcade in Neandertals and Upper Paleolithic humans

[1]PACEA UMR5199, University of Bordeaux, France, [2]PMOI EA4490, University of Lille, France, [3]School of Anthropology and Conservation, University of Kent, UK

we use microCT-based data to finely quantify

Funding from University of Bordeaux, IdEx Bordeaux, French CNRS, and Région Nouvelle Aquitaine.

Putrid, fermented, spoiled, decayed, let's call the whole thing "off": consumption of putrid meat by Neanderthals

[1]Department of Anthropology, University of Tennessee, Knoxville, [2]Department of Anthropology, Wayne State University, [3]Department of Archaeology, Durham University

Elevated δ[5]
of Neanderthals as "top predators". In 2017, Speth
and fish might be a dietary item that is under-
We explore the Δ[5]
averaging 176 pounds placed on the surface. During the first 40 days when daily temperatures average 9.3 °C, no significant difference is observed from the starting δ[5]
Δ[5] N = 0.1‰). From day 41-76 (when identifiable
icant increase in Δ[5]
of 1.7‰ despite no significant change in the daily
within the first 40 days after death, would not increase δ[5]
position the period of stasis in δ[5]
exceed 40 days. While Speth (2017) is correct
that the consumption of putrid meat in the first 40 days would not contribute to high δ[5]
argue that in significantly colder weather occupied by Neanderthals the lack of Δ[5]

Timing is everything: Implementing a Life Course Perspective to Investigate Developmental Origins of Health and Disease in a Medieval Italian Skeletal Sample

[1]Behavioral Sciences, University of Michigan, Dearborn, [2]Anthropology, University of California, Berkeley, [3]History, University of Cambridge, [4]Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Cagliari e le province di Oristano e Sud Sardegna, [5]Human and Animal Biology, University of Rome La Sapienza, [6]Anthropological Service, Lazio, Italy

n
= 70) as well as prevalence and timing of linear
n
Linear enamel hypoplasias were identified macro-
n

The atlas of the *Australopithecus* specimen StW 573 ("Little Foot")

[1]School of Geography, Archaeology and Environmental Studies, University of the Witwatersrand, South Africa, [2]Department of Anatomy, University of Pretoria, South Africa, [3]Evolutionary Studies Institute, University of the Witwatersrand, South Africa, [4]Department of Biology, Birmingham-Southern College, USA, [5]Plio-Pleistocene Palaeontology Section, Department of Vertebrates, Ditsong National Museum of Natural History, South Africa, [6]Department of Anthropology, University of Wisconsin, USA, [7]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, USA, [8]Department of Rheumatology, Aintree University Hospital NHS Trust, England, [9]Molecular Imaging Center, Department of Radiology, Keck School of Medicine, University of Southern California, USA, [10]Department of Geology and Paleontology, Georgian National Museum, Georgia, [11]French Institute of South Africa (IFAS), USR 3336 CNRS, South Africa, [12]French National Institute for Preventive Archaeological Research, France, [13]South African Nuclear Energy Corporation SOC Ltd. (Necsa), South Africa, [14]UGCT Department of Physics and Astronomy, Ghent University, Belgium

Australopithecus specimen StW 573 ("Little Foot") was discovered in 1997 in Member 2
Australopithecus
fossil record, the StW 573 skeleton is remarkable
completeness. In this regard, StW 573 offers the
the skull revealed a nearly complete first cervical
maxilla. The atlas of StW 573 is missing only
the fossil record (i.e., this is the first atlas from

Sterkfontein), ongoing comparative morphometric analyses of the atlas of StW 573 will provide new evidence for reconstructing early hominin posture and locomotion.

Funding support provided by Claude Leon Foundation, CoE in Palaeosciences, IFAS, NRF, PAST. We thank the CHPC supercomputing center.

A tale of three monkeys: male-mediated prenatal loss explained

JACINTA C. BEEHNER[1,2], MATT N. ZIPPLE[3], EILA K. ROBERTS[4] and SUSAN C. ALBERTS[3,5,6]

[1]Department of Anthropology, University of Michigan, [2]Department of Psychology, University of Michigan, [3]Department of Biology, Duke University, [4]Department of Integrative Biology, Michigan State University, [5]Department of Evolutionary Anthropology, Duke University, [6]Institute of Primate Research, National Museums of Kenya

Infanticide by males has been the subject of intense empirical and theoretical study for decades. However, a related phenomenon, male-mediated prenatal loss, has received considerably less attention. Male-mediated prenatal loss occurs when inseminated or pregnant females terminate reproductive effort following exposure to a non-sire male, either through implantation failure or pregnancy termination. Male-mediated prenatal loss encompasses two sub-phenomena: sexually selected feticide and the Bruce effect. In this talk, we walk through three different evolutionary scenarios in three species of primate - the yellow baboon, the gelada, and the chacma baboon - to lay out a framework that explains the relationship between infanticide, feticide, and the Bruce effect and describes the proximate and ultimate mechanisms involved for each. We argue that male-mediated prenatal loss may have played a greater role in mammalian social evolution than has previously been documented.

National Science Foundation (BCS-0824592, BCS-0715179, IOS-1255974 to JCB; IOS-1456832 to SCA), National Institute on Aging (R01-AG053330, P01-AG031719 to SCA), Duke University (SCA, MNZ), University of Michigan (JCB), Michigan State University (EKR).

Does learning evolutionary theory within anthropology help students reason about human evolution?

ELIZABETH P. BEGGROW

Center for Life Sciences Education, The Ohio State University

Situated cognition theory sees learning as situated within the context of the social and cultural setting in which it takes place. Consequently, learning evolution within biological anthropology (b.a.) should result in the knowledge acquisition, retrieval and problem solving of evolutionary concepts being situated within the human context. This hypothesis was tested by asking introductory level b.a. (137) and biology (147) students at a Midwestern university to explain evolutionary change of familiar or unfamiliar traits in either humans or nonhuman taxa and assessing their reasoning patterns. A previously published instrument, the ACORNS, was used to collect data post instruction on basic evolutionary concepts. Responses were scored for the presence of accurate key concepts (KCs) (e.g., variation, heritability, differential reproduction). A Mann-Whitney U test showed no differences for the biology sample between assessments that used human vs. nonhuman taxa, but the b.a. sample had a higher KC score (0.01) for the assessment with nonhuman taxa and used the KC 'differential reproduction' more for nonhuman taxa ($p = 0.024$). Furthermore, a comparison of how familiar and unfamiliar traits in the items affect reasoning patterns found no differences between items for the biology sample, while the b.a. sample had higher KC scores for items that asked about familiar traits in nonhuman taxa ($p = 0.006$). These results suggest that, overall, biology students are able to generalize their knowledge about evolutionary change across contexts more fluidly, while some contextual features appear to impact anthropology students' reasoning patterns, highlighting important implications for b.a. instruction.

This research was funded by the Marilyn Ruth Hathaway Education Scholarship Fund and NSF REESE grant 0909999.

Hominin origins: New evidence from the eastern Mediterranean

DAVID R. BEGUN[1], MADELAINE BÖHME[2,3], NIKOLAI SPASSOV[4], AYLA SEVIM EROL[5] and ALPER YENER YAVUZ[6]

[1]Department of Anthropology, University of Toronto, [2]Department of Geoscience, Eberhard-Karls-University, [3]Senckenberg Centre for Human Evolution and Palaeoenvironment (HEP), Senckenberg, [4] National Museum of Natural History, Bulgarian Academy of Sciences, [5]Department of Anthropology, Ankara University, [6]Department of Anthropology, MAKÜ

Great ape fossils, ranging in age from about 9.5 to 7.2 Ma, are known from Bulgaria, Greek Macedonia, Attica and Anatolia. Usually attributed to a single genus, recent analysis confirms the generic distinction of *Graecopithecus* (Attica) and *Ouranopithecus* (Macedonia.) Within Macedonia, the samples from Ravin de la Pluie and Xirochori, both about 9.5 Ma, form a well-defined hypodigm for *Ouranopithecus macedoniensis*. A younger sample from Macedonia but further to the south, Nikiti 1, dated to between 8.5 to 9 Ma, is close in age to Çorakyerler from central Anatolia. Nikiti 1 and Çorakyerler are distinguished from *Ouranopithecus macedoniensis* by larger postcanine teeth, more homomorphic premolars and smaller canines. *Graecopithecus*, from the 7.2 Ma site of Pygros Vassilissis (Attica), has the smallest canine (as suggested by root size), fused premolar roots and the largest molars relative to mandibular corpus dimensions of all eastern Mediterranean great apes. These samplesmay represent an evolving lineage characterized by increasing postcanine and decreasing canine sizes. We propose two alternative phylogenetic hypotheses. This lineage, linked phylogenetically with the middle and late Miocene dryopiths, may be a terminal representative of the radiation of European Miocene great apes, having survived and adapted to more open conditions in the eastern Mediterranean. Alternatively, this lineage may represent a transition from the stem hominines of central and Western Europe to the earliest known hominins of Africa (e.g. *Sahelanthropus*, *Orrorin*) and as such documents the origin of the hominins in Europe.

DRB is supported by funds from NSERC.

Cranial trauma prevalence in Neanderthals and early Upper Paleolithic modern humans

JUDITH BEIER[1], NILS ANTHES[2], JOACHIM WAHL[1,3] and KATERINA HARVATI[1,4]

[1]Paleoanthropology, Senckenberg Centre for Human Evolution and Palaeoenvironment, University of Tübingen, [2]Animal Evolutionary Ecology, Institute of Evolution and Ecology, University of Tübingen, [3]Osteology, State Office for Cultural Heritage Management Baden-Württemberg, Konstanz, [4]DFG Center for Advanced Studies 'Words, Bones, Genes, Tools', University of Tübingen

A high frequency of traumatic injuries has been considered common for Neanderthal (NEA) skeletal remains, and is variously attributed to stressful NEA lifestyles, violent behaviors and dangerous hunting practices – in contrast to Upper Paleolithic anatomically modern humans (UPH). However, only few quantitative studies on Paleolithic traumata exist to date and interpretations are mainly based on narrative, case-based evidence. Here, we assess the hypothesis of higher cranial trauma prevalence in NEA compared to UPH. Employing a population-level approach, we compiled an exhaustive database from the literature comprising 114 NEA and 90 UPH specimens (corresponding to 295 NEA and 541 UPH single cranial elements) with and without traumata from sites all over West-Eurasia dating to ca. 80-20 ka BP. We used generalized linear mixed models employing a Markov chain Monte Carlo algorithm to examine how trauma prevalence can be predicted by various variables, including taxon, age-at-death, sex, and skeletal preservation, while accounting for variation between geographic locations and cranial elements. Results show similar overall trauma prevalence in the two taxa, rejecting the hypothesis of higher NEA cranial trauma. Moreover, we found a higher prevalence for males in both taxa

This research is funded by the German Research Foundation (DFG). We gratefully acknowledge support from the University of Tübingen, the Senckenberg Gesellschaft für Naturforschung and the European Research Council.

The Impact of Industrialisation on London Health

[1]Centre for Human Bioarchaeology, Museum of London, [2]Osteology, Ossafreelance

are fundamentally influenced by the process of

trauma, air pollution and diet. The influence of

demographic profiles over time, recognising that

epidemiology also recognises the influence of

the emergence of social stratification on health

Comparing Evolutionary Models of Primate Hair Color Variation

[1]Graduate Program in Organismic and Evolutionary Biology, University of Massachusetts Amherst, [2]Center for the Advanced Study of Human Paleobiology, Department of Anthropology, The George Washington University, [3]Department of Anthropology, University of Massachusetts Amherst

hair color variation across five body regions for

the fit of three evolutionary models (Brownian

tion suggest clade-specific selective pressures

Our research is supported by NSF (BCS #1546730, BCS #1606360), the Wenner-Gren Foundation, The George Washington University, University of Massachusetts, Amherst, Yale University and the Natural Environment Research Council, UK.

A review of prehistoric cannibalism in Europe: choice or necessity?

[1]Dep Earth Sciences, The Natural History Museum, London, [2]School of Environment and Technology, University of Brighton, Lewes Road, Brighton, BN2 4GJ, UK

consumption is difficult, but even more contro-

antecessor, *Heidelbergenisis*,

remains for each site appears significantly lower

The research work of SMB is part of the "Human Behaviour in 3D" Project, funded by the Calleva Foundation.

Paleoenvironmental studies Tor Hamar, Southern Jordan: Early modern human behavioral adaptability during MIS 3

[1]Department of Anthropology, University of Tulsa, [2]Department of Geosciences, Eberhard-Karls Universität Tübingen, [3]Senckenberg Center for Human Evolution and Paleoenvironment, Eberhard-Karls Universität Tübingen, [4]Nagoya University Museum, Nagoya University, [5]Department of Anatomy and Cell Biology, Oklahoma State University Center for Health Sciences, [6]Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology, [7]Department of Natural Environmental Studies, University of Tokyo

ized by climatic fluctuations during MIS 3. Faunal

Gazelle sp. *Capra*

tation in the diet, based on δ^{13}C

fluctuating climatic regimes.

MEXT KAKENHI Grant No. 16H06409

Preliminary analysis of dental pathologies frequencies among individuals at Los Indios archaeological site (AD 600-1200) Santa Isabel, Puerto Rico: considering oral health during the Late Ceramic Age (AD 600-1500)

Anthropology, California State University, Los Angeles

hierarchical societies with an intensification of

66.3 % (57/86) of individuals showed evidence of caries and 13.4 % (170/1273) of teeth presented

Urinary oxytocin in capuchin monkeys: Validation and the influence of social behavior

[1]Department of Psychology, Georgia State University, [2]Language Research Center, Georgia State University, [3]Center for Behavioral Neuroscience, Georgia State University, [4]Neuroscience Institute, Georgia State University

between oxytocin and two affiliative behaviors,

Sapajus apella)

were groomed (β = 0.28, t = 2.10, p=0.038) or participated in a fur-rubbing bout (β=0.27, t = 2.07, p = 0.041). Furthermore, we found that affiliative behaviors fluctuated after fur-rubbing, increasing proximity and contact during (β = 0.69, z = 5.75, p < 0.001) and 30 minutes afterwards (β = 0.31, SE

(β = −0.85, SE = 0.24, p < 0.001). This supports

a critical role for oxytocin in affiliative behaviors

affiliative behaviors, and social bonding.

This research was funded by the National Science Foundation Postdoctoral Research Fellowship (SMA-1214923) and the GSU Brains & Behavior Program

Epigenetic Insights into Early Life Plasticity and Reproductive Function

[1]Dept of Anthropology, Durham University, UK, [2]School of Biosciences, University of Nottingham, UK, [3]Advanced Data Analysis Centre, University of Nottingham, UK, [4]Faculty of Biology, Technion-Israel Institute of Technology

modifies reproductive phenotypes compared

Srd5a1

enzyme5α-reductase), down-regulation of which (through increased methylation) matched find-

rd5a1

also significantly reduced in the hypothalamus,

activating specific neuronal (GABA) receptors.

experienced significantly earlier adrenarche. Our

Srd5a1

reduced 5α-reductase activity) could provide a

puberty and adrenarche, as well as modified adult

modifications comprise flexible, regulatory mech-

Funding: ESRC/BBSRC, UK

Skeletal remains and historical traces of Ming Dynasty elites in Shaanxi, China

[1]Lieberthal-Rogel Center for Chinese Studies, University of Michigan, [2]Institute for Field Research, University of California, Los Angeles, [3]Shaanxi Archaeological Academy

This project is supported by the Shaanxi Archaeological Academy and the Institute for Field Research.

In vitro gene regulatory responses to growth factors in short-statured African rainforest hunter-gatherers

[1]Departments of Anthropology and Biology, Pennsylvania State University, [2]Department of Human Genetics, McGill University, [3]Centre de Recherche CHU Sainte-Justine, Université de Montréal, [4]Department of Medicine, University of Chicago

= 152.9 cm; females = 145.7) and their taller

SOCS2

Funding was provided by NIH R01-GM115656, F32 GM125228, and F32 GM123634.

Resilience of the hunter-gatherers of Lagoa Santa, Brazil: a new case of Paleoamerican late survival

[1]Laboratório de Estudos em Antropologia Biológica, Bioarqueologia e Evolução Humana, Instituto de Ciências Humanas e da Informação, Universidade Federal do Rio Grande, [2]Graduate Program of Anthropology, Federal University of Pará, [3]Instituto de Estudos Avançados, Universidade de São Paulo

Conselho Nacional de Desenvolvimento Científico e Tecnológico – CNPq (Process MCTI/CNPq/Universal 14/2014/461122/2014-6 to DVB) and Fundação de Amparo à Pesquisa do Estado de São Paulo – FAPESP (Process 2013/00069-0 to PD).

Reconstruction of intentional violence in the Central European Early Medieval: perimortem axe skull injuries at Pohansko-Břeclav

[1], JIŘÍ MACHÁČEK[2], SLÁDEK[3]

[1]Department of Anthropology, Natural History Museum, Vienna, [2]Department of Archaeology and Museology, Masaryk University, Czech Republic, [3]Department of Anthropology and Human Genetics, Faculty of Science, Charles University in Prague, Czech Republic

used to inflict injuries. In this study, we examined

of the Early Medieval site at Pohansko-Břeclav

eight individuals (14.5 %). Males (7/32 = 23.3%) exhibited significantly more cranial injuries (p =

Integration of growth in head circumference, body length, and body weight in rural Gambian infants during the first year of life

[1]Department of Anthropology, University of Colorado Boulder, [2]Health and Society Program, Institute of Behavioral Science, University of Colorado Boulder, [3]Department of Applied Mathematics, University of Colorado Boulder, [4]Department of Pathology, University of Cambridge, [5]Department of Paediatrics, University of Cambridge School of Clinical Medicine, [6]MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine, [7]MRC Unit The Gambia, London School of Hygiene and Tropical Medicine, [8]Department of Women and Children's Health, King's College, London

velocity in the first year of life, we use methods
with significant correlations spanning lag -10 to
faltering and catch-up within the first year of life.
brain growth during the first year of life, and the

Funded by the Bill and Melinda Gates Foundation (OPP1066932)

Research from records: retrieving and sharing useful data from a non-research database

[1]Health Informatics and Information Management, University of Mississippi Medical Center, [2]Anthropology, University of New Mexico, [3]Office of the Medical Investigator, University of New Mexico

in an accurate, standardized, time efficient way.

The New Mexico Office of the Medical Investigator
to 15,249 whole body CT scans and 57 associ-
medicine, and other fields. For instance, the field
International Classification of Diseases. Where
fications or new standards were generated. VAST also includes many free-text fields, each
research questions in fields such as anatomy,

Funded by National Institute of Justice 2016-DN-BX-0144. Statements made are solely the responsibility of the authors.

South African hominin dental biomechanics

[1]Department of Bioengineering, Imperial College London, [2]Max Planck Weizmann Center for Integrative Archaeology and Anthropology, Max Planck Institute of Evolutionary Anthropology, [3]Department of Anthropology, Durham University

Australopithecus africanus and *Paranthropus robustus*
A. africanus
P. robust-
P. robustus

P. robustus's molars were more efficient at
(n=17 *A. africanus*, *P. robustus*
Paranthropus robustus required 27% more force and 17% more
A. africanus
more efficiently than *P. robustus*
P. robustus
P. robustus

We thank the Max Planck Institute of Evolutionary Anthropology and Max Planck Weizmann Center for funding this research.

Frailty and Survivorship in Medieval Poland: A Comparison of Urban and Rural Populations

[1]Anthropology, SUNY Oneonta, [2]Anthropology, University of South Carolina, [3]SNA International, [4]Skeletal Biology Research Lab, Ohio State University

graphic data from urban Poznań (n=98) and from
(18+ years) similarly reveal no significant differ-

hazards analyses reveal any significant differ-

Assessing striae of Retzius periodicity nondestructively using perikymata counts and distribution in two new populations

Anthropology, The Ohio State University

high definition tooth crown replicas and histo-

periodicity and perikymata counts within specific

An experimental investigation of asymmetrical Paleolithic wooden spear tips: expediency or design?

Department of Anthropology, The University at Buffalo, State University of New York (SUNY), Buffalo, NY 14261

could be more efficiently produced (i.e., took less

influence of biometric factors on spear-tip manufacturing efficiency (measured by time). Two

dowels using finger-held steel blades, in order to

time taken, results demonstrated no significant difference in efficiency between symmetrical

more dominant influence in explaining time variation, specifically that pinch strength was found to be significantly related to time. These results

efficient manufacturing process.

The sensitive camel and the wishing troll: Paint chips redefining arbitrary categories of skin pigmentation in anthropological education

Anthropology, University of Central Florida

redefine the parameters of skin color and racial

of racial profiles. With these considerations, the students create their own skin color classification

engaging in this personally reflexive exercise,

cultural confines where different perspectives on

Primate Communities and Atmospheric CO_2 in the Plio-Pleistocene of east Africa

[1]School of Human Evolution and Social Change, Arizona State University, [2]Institute of Human Origins, Arizona State University

are thought to be dependent on specific vege-

values have been significantly increasing over the past 5 million years, no significant relationship

$_2$ may yield more significant

Translating unique variants: the classroom, the courtroom, and the dinner table

Anthropology, The University of Michigan

lations. Unfortunately, these population specific

bution of population specific variants, how they

Epigenetic predictors of pubertal timing

Epidemiology, University of California, Los Angeles

how pubertal timing programs long-term modifications in disease risk. Epigenetic modifications

into relationships between specific patterns of

findings across international cohorts, and

These investigations were supported by Public Health Service grant NIH/NCI R01CA158313 (to Dr. Karin Michels), and the Breast Cancer and the Environment Research Program award NIH/NCI/NIEHS U01ES026130 (to Dr. Michels).

Isotopic perspectives on the shep-*herd* relationship at two Hellenistic (ca. 323 – 31 BCE) settlements in Thessaly, Greece

[1]Anthropology, University of Alberta, [2]History and Classics, University of Alberta, [3]Ephorate of Antiquities, Diachronic Museum in Larissa, Greece

the first isotope-based approach to this problem,

tooth variation of carbon ($\delta^{13}C$), oxygen ($\delta^{18}O$

sheep and goats. Based on the δ^{13}

$_3$ plant sources. The $\delta^{18}O$

no significant movement; (2) local grazing at

Our analysis represents the first documented

Funding was provided by the Social Sciences and Humanities Research Council of Canada, various sources at the University of Alberta, the Killam Trusts, and the Canadian Association of Physical Anthropology.

Human Eco-immunology in the Field: Measuring multiple dimensions of immune function with minimally invasive, field-adapted techniques

[1]Dept. of Anthropology, Washington State University, [2]Dept. of Anthropology, University of California, Santa Barbara, [3]Center for Evolution and Medicine, Arizona State University

where single biomarkers may reflect different

of immunity in the field can be challenging, since

often reflect conditions in the bladder, gut, and

a finger prick, which can be: 1) dried on filter

also allow for the quantification of many other

nity can be quantified using flow cytometry on

Hellman Family Faculty Fellowship

Presence of Lingual Cuspule and paraconid on one Archaic period individual from the Ohio Valley

Anthropology, The Ohio State University

tionary changes and determining affilial

of the first molar of an adult male in an African

the Lingual Cuspule was previously identified.

are due to mis-identification of other known traits, including the MMTP. Even with clarifica-

Ohio State University Alumni Grant for Graduate Research and Scholarship Ohio Sate University, Department of Anthropology, Larsen Research Grant

Estimating Sex Using the Human Mandibular Canine

Department of Geography and Anthropology, Louisiana State University

Sexual dimorphism can be quantified in human

for a total of 641 males and 597 females. Both left

counting individuals. Using ANOVA, a significant

indicating that males have significantly larger BL

females from the study sample. Significant differ-

indices show statistically significant differences

This research was funded in part by a Robert C. West Graduate Student Field Research Award from the Department of Geography and Anthropology at Louisiana State University.

The Influence of Habitual Activities and Lifelong Occupations on Morphological Measures of Skeletal Robusticity

[1]Department of Anthropology, University of Tennessee, Knoxville, [2]Department of Anthropology, The Ohio State University, [3]Instituto de Arqueología y Antropología, Universidad Católica del Norte, Chile

Previous studies have identified relationships

factors, specifically habitual activity patterns.

of one to five, with five being the most rigorous

pations. Results indicate there is no significant

are, however, significant differences in the olec-

pations and habitual activities, or could reflect the

Intra-annual variation in diets of Plio-Pleistocene papionins from Kenya

[1]Department of Anthropology, University of Oregon, [2]Research Laboratory for Archaeology, University of Oxford, [3]Department of Geology & Geophysics, University of Utah, [4]National Museum of Natural History, Smithsonian Institution, [5]Earth Sciences Department, National Museums of Kenya

investigate aspects of within-individual niche flex-

Theropithecus

intra-tooth δ^{13}C

(mean range = 3.1‰) reflecting significant diet

Theropithecus

intra-tooth δ^{13}C

diet flexibility despite significant inter-individual δ^{13}C

laser ablation can be used to detect significant

can mask significant intra-tooth isotopic, and

Theropithecus $\delta^{13}C_{enamel}$

we find that diets flexibly included significant

Theropithecus

$\delta^{13}C_{enamel}$ resources, which can influence selective

We thank the Natural Environment Research Council (NE/P013376/1) for funding.

Effects of domestication and selective breeding on coat coloration in alpacas through exon 4 analysis of agouti gene

Anthropology, Binghamton University

study examined a 57 base pair deletion located

this genotype. There is no significant association

Sex-biased admixture and geographic mating structure shape genomic variation in Cape Verde

[1]Anthropology, Emory University, [2]Genetics, University of Leicester, [3]Evolutionary Anthropology, Duke University

with ~57% of Cape Verdean ancestry tracing to

infer the impact of sex-specific mating patterns

between islands. Specifically, we used a model-

men and African women contributed significantly

fine-scale demography of an understudied popu-

Characterization of the microbiome in the AIDS-resistant natural host Sooty mangabey monkey (*Cercocebus atys)*

[1]Division of Animal Resources, Yerkes National Primate Research Center, Emory University School of Medicine, [2]Division of Microbiology & Immunology, Yerkes National Primate Research Center, Emory University School of Medicine

have identified that a primary tissue site differ-

Specifically, with SIV infection, sooty mangabeys

inflammation and immune activation, which

a potentially beneficial evolutionary adapta-

The Yerkes NHP Genomics Core is supported in part by ORIP/OD P51OD011132.

Variation in Maturational Timing Influences Interpretations of the Juvenile Skeleton

[1]Department of Orthopaedic Surgery, University of Missouri, [2]Department of Pathology and Anatomical Sciences, University of Missouri

(CA 13.36–22.06 and 10.98–22.72 years, respec-

this study can be used in refining interpretations

This work was supported by grants from the National Institutes of Health (R01AR055927; R01HD012252; F31HD091939).

Pulling teeth: Dental avulsion at Kulubnarti, Sudan, in regional context

[1]Department of Sociology, Anthropology, and Social Work, Texas Tech University, [2]School of Human Evolution and Social Change, Arizona State University

leading to difficulty in interpreting the purpose

All individuals with permanent incisors (those 6-7

154 (7.1%) individuals exhibit avulsion, a slightly

hallmark of dental modification, in contrast to

tional insight into dental modification through

Hidden in plain sight: the persistence of racemaking in contemporary population genomics

Department of Anthropology, University of Connecticut

the study of populations, a focus on classifica-

assumptions about stasis and the fixity of traits

over time. These shifts had a significant impact on research undertaken over the last 70 years, espe-

However, while our field has advanced in impor-

anew through contemporary scientific practice.

New associated immature postcranial remains of *Homo naledi* from the Dinaledi Chamber, South Africa

[1]Evolutionary Studies Institute, University of the Witwatersrand, [2]Anthropology, Modesto College

Homo naledi

Hominin 7 (DH7). Here, we report on a second

in situ

with field numbers U.W. 101-938a immature

U.W.101-938c was identified as a partial ischium,

101-1754. In the lab, U.W. 101-1755 right partial ischium, inferior aspect, was refitted to U.W. 101-1754 (VanSickle et al., 2017), for a nearly complete ischial lunate surface. These findings

H. naledi

Human Walking Behavior

[1]Biology, Seattle Pacific University, [2]Anthropology, University of Washington

mental cues influence gait changes in walking

traffic to hit them. The footage was analyzed

to the situation (i.e. crosswalk length and traffic

collected data on 1,517 people crossing streets.

they jaywalked. Taken together, these findings

Mortuary practices' archaeology seen under a multivariate perspective: case study of southern Brazilian shellmounds

Laboratório de Estudos em Antropologia Biológica, Bioarqueologia e Evolução Humana, Instituto de Ciências Humanas e da Informação, Universidade Federal do Rio Grande

tionship between mortuary variability (defined

these 16 sites. All subjects were classified under

Conselho Nacional de Desenvolvimento Científico e Tecnológico – CNPQ Process MCTI/CNPq/Universal 14/2014/461122/2014-6 to DVB and Process PIBIC/CNPq/FURG 103271/2017-1 to ACAB

Quantitatively designing and testing the effects of data-driven interventions to address lemur-hunting in Madagascar

[1]Anthropology, Montclair State University, [2]Masoala, Madagascar

significantly improved child health and nutrition.

This research was funded by grants from the National Geographic Society Conservation Trust (C280–14 and C021–17) and the National Science Foundation SBE-IBSS Postdoctoral Research Fellowship (1513638).

Glandular microbiomes vary by species and host traits in wild and captive lemurs

[1]Department of Evolutionary Anthropology, Duke University, [2]University Program in Ecology, Duke University, [3]Department of Biology, Duke University

are no less significant to host well-being and

conspecifics of different sex or social status, to

swabs from multiple species- and sex-specific

biomes. We find that glandular microbiomes of lemurs varied significantly by species, by sex, by

diated visual signal of rank, harbor significantly

Micro- and macro-wear of human dental enamel. A materials science perspective

[1]Materials Science and Engineering, Universidad de Extremadura, [2]Department of Biology, Saint Michael's College, [3]Materials Measurement Laboratory, National Institute of Standards and Technology

in-vitro

This study was supported by Junta de Extremadura, Spain, and FEDER/ERDF funds (grant IB16139).

Gestation length in African and Asian colobines

[1]Anthropology, Stony Brook University, SUNY, [2]Interdepartmental Doctoral Program in Anthropological Sciences, Stony Brook University, SUNY

pGLS regression was significant, but R-squared
178-200 days, Presbytini: 150-200 days), in the
colobines were significant only for the 'accurate'

A virtual assessment of the proposed suprainiac fossa on the early modern European calvaria from Cioclovina, Romania

[1]DFG Center for Advanced Studies: "Words, Bones, Genes, Tools", Eberhard Karls University of Tuebingen, [2]Paleoanthropology, Senckenberg Center for Human Evolution and Palaeoenvironment, Eberhard Karls University of Tuebingen

H. sapiens
sapiens
ized by superficial resorption present on the outer
H. sapiens
H. sapiens

This research was funded by the German Research Foundation (DFG FOR 2237: Project "Words, Bones, Genes, Tools: Tracking Linguistic, Cultural and Biological Trajectories of the Human Past").

A Push for Trans-inclusive Language in Forensic Anthropology

Anthropology, Entomology, Texas A&M University

ence to unidentified remains and sex estimation
and unidentified remains from the Texas A&M
benefits both the individual being identified and

Analysis of cortisol levels from archaeological hair from the medieval nubian population of kulubnarti

[1]Anthropology, University of Colorado, Boulder, [2]Institute of Behavioral Science, University of Colorado, Boulder

=1.92, range 7.48-111).
SD=0.272).

Funded by the Department of Anthropology and College of Arts and Sciences, University of Colorado Boulder.

Measuring entheseal morphology of the opponens pollicis muscle in digital and physical specimens of *Homo sapiens*

[1]Anthropology, University of Arkansas, [2]Anthropology, Lakehead University, [3]Human Origins Program, National Museum of Natural History, Smithsonian Institution, [4]Cell and Developmental Biology, University of Colorado School of Medicine, [5]Anthropology, University of Colorado Denver

pollicis muscle flange, located on the pollical

Homo sapiens

pollicis flange taken from 3D virtual renderings

sapiens

of the opponens pollicis flange. Measurements

of the opponens pollicis flange has important

Funding provided by National Science Foundation (BCS-1539741) (CMO).

Residual Rickets and Respiratory Disease in Rural and Urban Post-Medieval London

Anthropology, University of Tennessee, Knoxville

Vitamin D deficiency is a pervasive health

deficiency and respiratory disease in age cohorts

quences of childhood vitamin D deficiency on

blages representing affluent rural and urban

blage had no effect on their age-specific odds of

1.78), rib periostitis (OR

inary evidence that early life vitamin D deficiency

adults examined here were from affluent back-

vitamin D deficiency and adult respiratory health

Testing hypotheses about the relationships between diet and the primate torso: Implications for human evolution

[1]Center for the Advanced Study of Human Paleobiology, Department of Anthropology (CASHP), The George Washington University, [2]Division of Anthropology, American Museum of Natural History, New York, NY, [3]New York Consortium of Evolutionary Primatology (NYCEP), [4]Institut Català de Paleontologia Miquel Crusafont (ICP), Cerdanyola del Vallès, Barcelona, Spain

Australopithecus *Homo* are often claimed to reflect a reduction in

assumption

form reflects accommodations for differently

other factors might influence primate torso

motion. Iliac flare, ilium width, bi-iliac breadth, and

complexity were fitted and compared using

significant predictor variable and many models

where including diet yields a best-fitting model,

but other diet items (seeds, flowers). More specific studies investigating the relationship

Funding provided by NSF (GRF; BCS 1316947), the Wenner-Gren Foundation (Dissertation Fieldwork Grant), the Agencia Estatal de Investigación (CGL2017-82654-P, AEI/FEDER EU), the Generalitat de Catalunya (CERCA Programme), and GWU.

Musculotendinous changes associated with hindlimb bone elongation in the Longshanks mouse

[1]Department of Anthropology and Archaeology, University of Calgary, [2]Department of Comparative Biology and Experimental Medicine, University of Calgary

riality and power amplification during jumping. It

9-27% longer calcaneal tendons (ANOVA $p<0.01$)

neal tendon length was not significantly different

power amplification in the jumping Longshanks

alone do not significantly alter locomotor perfor-

Nutritional balancing and composition varies with infant age in wild mother orangutans (*Pongo pygmaeus wurmbii*)

[1]Anthropology, Rutgers, the State University of New Jersey, [2]The Center for Human Evolutionary Studies, Rutgers, the State University of New Jersey, [3]Biological Sciences, Universitas Nasional Jakarta

nutritional strategy varies significantly with the

for full-day follows from 15 years of data (n=2075;

a fixed effect, we found that a mother's P:NPe ratio decreased significantly as her infant aged

a time when infants first start incorporating solid

(p=0.0002). By the time an orangutan is five years

This project was funded by the United States Agency for International Development, National Science Foundation, The Center for Human Evolution Studies, and the American Society of Primatologists.

Morphological integration and modularity in the humerus of modern humans

Human Evolution Research Center, Department of Integrative Biology, University of California, Berkeley

recent studies have focused on specific skeletal

This study was supported by the National Science Foundation DDRIG-1732221 and the Portuguese Studies Program at UC Berkeley. MFB was supported by the University of California Berkeley Chancellor's Fellowship.

Studying oral health status in Pre-Hispanic and Colonial indigenous individuals from Central Mexico through paleogenomics

[1], AXEL SOLÍS GUZMÁN [2], [3] and MARÍA C. ÁVILA [1]

[1]Population & Evolutionary Genomics Lab, International Laboratory for Human Genome Research, [2]Centre INAH Querétaro, Centre INAH Querétaro (National Institute of Anthropology and History), [3]Postgraduate Studies Division, National School of Anthropology and History, UNAM

taxonomic assignments specific to known path-

Tannerella forsythia

T. forsythia

T. forsythia KS16

colonization also influenced the type of diet and

T. forsythia

Wellcome Trust, CONACYT

Factors influencing the strength, equality, and stability of male chimpanzee social bonds at Gombe National Park

[1]School of Human Evolution and Social Change, Arizona State University, [2]Institute of Human Origins, Arizona State University

course of adulthood, and do the factors influ-

defined by a composite index based on party association and grooming rate. A significant

kinship and age similarity was significant. After

alent index up to five years prior, indicating that

at least five years. Additionally, maternal kinship

Funding provided by the Jane Goodall Institute, the National Science Foundation, the National Institutes of Health, the Leakey Foundation, and the National Science Foundation Graduate Research Fellowship.

Estimating the minimum number of individuals (MNI) from a looted, commingled context in Hualcayán, Peru

[illegible]

[1]Department of Anthropology, University of Minnesota, [2]Department of Anthropology, Wayne State University, [3]School of Human Evolution and Social Change, Arizona State

[illegible]
[illegible] *et al.* [illegible]
Peru dating to 200-700 CE. Chullpas are above-
with MNI of 7 (White), MNI of 7 (Knüsel and Outram), and MNI of 7(Mack *et al.*

The evolution of human neutrophilia and the functional divergence of a bactericidal cell in primates

[illegible]

[1]Department of Anthropology, University of Illinois Urbana-Champaign, [2]Institute for Genomic Biology, University of Illinois Urbana-Champaign, [3]College of Veterinary Medicine, University of Illinois Urbana-Champaign, [4]Department of Molecular and Cell Biology, University of Illinois Urbana-Champaign

[illegible]
proportions of neutrophils (50-70% of circulating
[illegible]
[illegible] *Escherichia coli*
(NETing)] by fluorescent microscopy. Species
innate immune and cell trafficking pathways.
ities in human-specific pathologies and suggest

University of Illinois at Urbana-Champaign, Department of Anthropology.

Osteometric sorting of metacarpals and metatarsals in commingled human skeletal assemblages

[illegible]

Anthropology, University of Nevada, Reno

Commingling can significantly impede analyses
[illegible]

[illegible]
measurements led to correctly excluding 74.6-
from the 1870s in San Francisco shows medical
purpose since it is difficult to identify complete
excluded 59.3-73.6% of potential matches, and

Funded in part by CSU, Chico Research, Scholarship, & Creative Activity.

Crown shape analysis of the maxillary dentition of *Homo naledi*

[illegible]

[1]Geography and Anthropology, Louisiana State University, [2]Evolutionary Studies Institute and Centre for Excellence in PaleoSciences, University of the Witwatersrand, [3]Anthropology, Texas A&M University

Homo naledi is
currently unresolved. The identification of simi-
[illegible]
from hominins classified as *Australopithecus africanus*, *A. robustus*, *Homo sp*, *H. erectus*, *H. habilis*, *H. rudolfensis*.
overlap
Homo naledi, *H. rudolfensis*, *H. erectus* first molars plot in the negative half of PC2, likely reflecting the distal displacement

Australopithecus robustus, *A. africanus*, *H. habilis*

Functional adaptation of trabecular bone in the Human mandibular condyle in relation to diet

[1]Department of Archaeology, University of Cambridge, [2]Department of Anthropology, Western University

related to diet, and more specifically, the transi-

influences trabecular bone in the mandibular

ence. There were also site specific differences

This study was funded by the Cambridge AHRC Doctoral Training Partnership and the Isaac Newton Trust.

Orangutan Nesting Behavior in Gunung Palung National Park, West Kalimantan, Indonesia

[1]Anthropology, Boston University, [2]Biology, National University of Indonesia

(*Pongo pygmaeus wurmbii*)

height. We found a significant effect of age/sex

comparisons (adjusted α-level= 0.008) showed that flanged males nested significantly lower

females nested significantly lower than juveniles and unflanged males ($p<0.001$). Flanged males

strate that across forest types, flanged male

finding that solitary individuals nest lower than

have significant conservation implications, as

National Science Foundation (BCS-1638823, BCS-0936199, 1540360, 9414388); National Geographic Society; US Fish and Wildlife (F15AP00812, F12AP00369, 98210-8-G661); Leakey Foundation; Disney Wildlife Conservation; Wenner-Gren Foundation; Nacey-Maggioncalda Foundation; Conservation, Food and Health

The Effect of Polycystic Ovarian Syndrome (PCOS) on Bone Mineral Density

[1]Department of History and Philosophy, Eastern Michigan University, [2]Department of Sociology, Anthropology, and Criminology, Eastern Michigan University

($n =$

($n =$

using full body, DEXA scans. A significant correla-

(r $p=$

(r p

(r $p=$

0.590). Finally, no significant correlation between

study is necessary to confirm the conclusions of

This research was sponsored by the Senior Honors Thesis Award granted by the Eastern Michigan University Honors College.

A cautionary theory: Learning from the origins of allometric scaling

[1]Institute for Quantitative and Computational Biology, University of California, Los Angeles, [2]School of Forestry and Environmental Studies, Yale

biology is to define the rules that govern all

were commonly used to affirm the preconceived

Do polyspecific associations influence nutritional intake of female redtail monkeys (*Cercopithecus ascanius*)?

[1]Anthropology Program, The Graduate Center of the City University of New York, [2], New York Consortium in Evolutionary Primatology, [3]Department of Anthropology, Hunter College of the City University of New York

Primate group living carries costs and benefits that grow more complex with polyspecific associ-

increase. We quantified the potential nutritional costs of polyspecific association for forest living (*Cercopithecus ascanius*) in

2015-2016 included polyspecific association (>70%), defined as a heterospecific(s) <20 meters.

differ by proportion of day spent in polyspecific (*Cercopithecus mitis*), (*Lophocebus albigena*), o both frugivorous heterospecifics (*p*

observations of interspecific aggression during

monkeys receiving and fleeing from aggression,

cific hierarchy in which redtail monkeys are at

=0.21). These findings suggest

frequent polyspecific association. Nutritional costs of polyspecific association depend not only on dietary overlap, but also dietary flexibility of

This study was funded by NSF BCS 1540369 (DDRI Bio Anth), NSF BCS 1521528, NSF BCS 0922709, and NSF DGE 0966166 (NYCEP IGERT).

Are we what we eat? Regional diet, but not climate, shapes cranial morphology in Jomon foragers

[1]Department of Archaeology, University of Cambridge, UK, [2]Department of Anthropology, University of California, Davis, USA, [3]Department of Earth Sciences, Natural History Museum (London), UK, [4]School of Natural Sciences and Psychology, Liverpool John Moores University, UK, [5]Section of Evolutionary Morphology, Primate Research Institute, Kyoto University, Japan, [6]Department of Anthropology, Western University, London, Canada, [7]Max Planck Institute for the Study of Human History, Jena, Germany

as key influences on cranial morphology. The

shows no significant relationship between

however, shows a large, significant difference in

Climatic variation sufficient to influence cranial

This work was supported by the European Research Council (ADaPt Project: FP7-IDEAS-ERC 617627)

The Antiquity of Treponemal disease in the Asia-Pacific regions: Implications for settlement history

[1]Anatomy, University of Otago, [2]Anatomy, University of Otago, [3]College of Medicine and Dentistry, James Cook University, [4]Department of Prehistoric Archaeology, Vietnam Institute of Archaeology, [5]School of Archaeology and Anthropology, The Australian National University

Pacific Islands has received less attention than

tives. We also present new findings from the

T. pallidum pertenue) in the Pacific islands is from Micronesia c.800

was the route of entry into the Pacific, and when

Pacific islands, is potentially significant for under-

disease to the Pacific.

Partially Funded by a Royal Society of New Zealand Marsden Fund

The uncertainty of the potto and exudate-feeding in Lorisidae

[1]Department of Physical Therapy, Duquesne University, [2]Department of Anthropology, University of Pittsburgh, [3]Department of Biological Sciences, North Carolina State University, [4]School of Human Evolution and Social Change, Arizona State University, [5]Department of Anthropology, University of Toronto Scarborough, [6]Institute of Paleobiology, Polish Academy of Sciences

Arctocebus /*Perodicticus* *Loris*/*Nycticebus* *Loris*) (*Nycticebus*) *Arctocebus* *Perodicticus*

[illegible] *Perodicticus.* [illegible] canines, first upper and lower premolars, and [illegible] *Loris* [illegible] *Nycticebus coucang* [illegible] *Arctocebus* [illegible] *Perodicticus* [illegible]

[illegible] *Perodicticus* [illegible] *N. coucang*. *Arctocebus* [illegible] *Loris* [illegible] significantly from one another in dental morpho- [illegible] *Perodicticus* [illegible] *N. coucang* [illegible] ogous suite of interspecific dental differences. More definitive evidence of gouging should be [illegible] *Perodicticus* [illegible]

Opening Adult Learners Up to New Ideas Using Museum Experiences

[illegible]

Human Health and Evolutionary Medicine, Cleveland Museum of Natural History

[illegible] *Adult Education Quarterly* [illegible] *Review Research Education* [illegible]

Ontogenetic processes in the nasal cavity among Alaskan Inuits: Implications for respiratory adaptations in cold-dry environments

[illegible]

[1]Department of Anatomy, Des Moines University, [2]Center for Anatomical Sciences, University of North Texas HSC, [3]Department of Orthodontics, University of Illinois at Chicago, [4]Anuchin Research Institute and Museum of Anthropology, Lomonosov Moscow State University

[illegible] lations likely reflect air-conditioning processes. [illegible] regional differences along CV1 (70.26%) and [illegible] age-groups exhibit significantly taller/narrower [illegible] *P-values* [illegible]

3D Morphometric Analysis of Cranial Variation at the Egyptian Colonial Site of Tombos in Nubia

[illegible]

ERIK R. OTÁROLA-CASTILLO

Department of Anthropology, Purdue University

[illegible] characteristics of individuals from Tombos reflect [illegible] based on distinct burial classification: New [illegible] ANOVA revealed statistically significant differ- [illegible] 2.1647, P< 0.001). To further explore this result, we [illegible] the Bonferroni correction (α = 0.0167). These tests demonstrated that there was a significant [illegible] and tumulus groups (F = 3.2273, P<0.001), but no significant difference between the chamber [illegible]

This research was supported in part by the National Science Foundation grants 0917815 and 1359210 and the National Geographic Society Committee for Research and Exploration.

Dental macrowear, diet and anterior tooth use in *Piliocolobus badius* and *Colobus polykomos*

[illegible]

[1]Anthropology, The Ohio State University, [2]Evolutionary Anthropology, Duke University

Coast's Tai Forest and that differ significantly in
Colobus polykomos'
Pentaclethra macrophylla
Piliocolobus badius
C. polykomos *P. badius*
averaged first and second incisor wear to first
C. polykomos are significantly greater than those
P. badius for each interspecific comparison
ties, and oral processing behaviors are reflected
C. polykomos *P. badius*.

Changes in costovertebral joint anatomy have been selected for in humans and increase ventilation during endurance running

Department of Human Evolutionary Biology, Harvard University

these features first appear in the genus *Homo*,
adapted for cursoriality. To test the first hypoth-
Homo erectus.
Homo

Surveying Portugal residents' view on the creation and dissemination of three-dimensional replicas of human skeletal remains

[1]CIAS - Research Centre for Anthropology and Health, University of Coimbra, [2]CEF - Centre for Functional Ecology - Science for People & the Planet, Forensic Anthropology and Paleobiology, University of Coimbra, [3]LABOH – Laboratory of Biological Anthropology and Human Osteology, CRIA – Centro em Rede de Investigação em Antropologia, FCSH, Universidade NOVA de Lisboa, [4]CNRS, EFS, ADES, Aix Marseille Univ, [5]Cranfield Defense & Security, Cranfield University

human bones, with 87.3% of the participants

Shaping voids and building bridges: towards an ethic and legal framework and societal approach to Portuguese human identified skeletal collections (HISC) (Dr Francisca Alves Cardoso - FCT IF/00127/2014)

Differentiating human skeletal remains through energy dispersive X-ray fluorescence (EDXRF)

Anthropology, Univeristy of Toronto

fication purposes (forensics) and to determine
bones should have a unique elemental "finger-
analysis had a correct classification rate of 98.6%
ment data produced a classification rate of 94.6
%. The most influential components in discrimi-

Integrative archaeometrical and osteological approach suggests violent deaths for Dutch colonizers in 17th Century Northeastern Brazil

Archaeology, Federal University of Pernambuco

a taphonomic analysis on 28 17th
and 1654. Specifically, we hypothesize that these
fied perimortem and antemortem lesions in the skulls of 5 individuals. Specifically, we found that
ment and found that they harbor significantly

This research is funded by Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPQ) from Brazil.

New ages for old primates: a revised geochronology for the highly endemic late Uintan and early Duchesnean assemblages from the Devil's Graveyard Formation of West Texas

[1]Institute of Human Origins, Arizona State University, [2]School of Human Evolution and Social Change, Arizona State University, [3]Berkeley Geochronology Center, Berkeley Geochronology Center, [4]Department of Earth and Planetary Sciences, Rutgers University, [5]Paleomagnetics Lab, Lamont-Doherty Earth Observatory, [6]Department of Anthropology, University of Texas at Austin, [7]Jackson School Museum of Earth History, University of Texas at Austin

Pecos volcanic field of West Texas, preserves
imately 41.5 Ma, confirming an early/earliest
Mescalerolemur horneri
Mahgarita stevensi

Social relationship quality vs quantity: Which is a better predictor of survival in female baboons?

[1]Department of Anthropology, University of Texas at San Antonio, [2]Department of Biology, Duke University, [3]Department of Biological Sciences, University of Notre Dame, [4]Department of Evolutionary Anthropology, Duke University

are better predictors of fitness. Here, we use fine-
and lifespan of 276 adult female baboons (*Papio cynocephalus*) (N = 2,037 female-years) to model
we find that greater relationship quality with part-
with male partners all significantly predict longer
significant effects on survival (ΔAICc = 30 compared to next-best model). These findings
process, and they clarify the specific aspects of

This research was funded by the National Institutes of Health, the National Science Foundation, the Leakey Foundation, and the Max Planck Institute for Demographic Research.

Morphological affinities of Plio-Pleistocene hominins and its phylogenetics implications: a phenetic multivariate exploratory analysis

[1]Laboratório de Estudos em Antropologia Biológica, Bioarqueologia e Evolução Humana, Instituto de Ciências Humanas e da Informação, Universidade Federal do Rio Grande, [2]Laboratório de Genes do Desenvolvimento, Departamento de Genética e Biologia Evolutiva, Instituto de Biociências, Universidade de São Paulo

In despite of the extensive scientific produc-
panzees, a definitive hominin cladogram is far
by taphonomy factors, that shuffles and commi-
which depends on the complex identification of

here a study about the morphological affinities of

Investigating dietary properties and the feeding ecologies of lemurs in human-maintained habitats

Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine

behavioral flexibility of species to different

properties of foods consumed in different artifi-

for investigating “feeding” adaptation and flexi-

Lemur catta *Propithecus coquereli*

using Dietary Diversity Indices (∑ Food Species

Lucas Scientific FLS-1 property tester.

ate fruit (67% of consumed species; W=50–314

overlaps with their RTL conspecifics. Sifaka at

acorn squash, W=769 J/m²

No funding agencies to report.

Regulatory Constraint During Human Knee Evolution Underlies Osteoarthritis Risk

Human Evolutionary Biology, Harvard University

ciated with human bipedalism are reflected in

influencing adaptive knee morphology increased

profiling chromatin accessibility during mouse

genomics, and GWAS. We identified thousands of distal femur-specific, proximal tibia-specific, and

conservation than bone-end-specific elements.

delayed ossification and growth plate fusion.

bone-end-specific elements displayed lower vari-

This study was funded via grants from the NIH NIAMS (1R01AR070139-01A1) and NSF (BCS-1518596).

Enamel proteome sequences from Dmanisi (Georgia) enable molecular phylogeny beyond the limits of ancient DNA preservation

[1]Centre for GeoGenetics, Natural History Museum of Denmark, University of Copenhagen, [2]Natural History Museum of Denmark, University of Copenhagen, [3]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, [4]Novo Nordisk Foundation Center for Protein Research, University of Copenhagen, [5]Georgian National Museum, [6]Department of Zoology, University of Cambridge

brates, frequently recovered and identified at

enamelin, and ameloblastin were identified in

spontaneous modification extensively observed

E.C. is supported by a research grant (17649) from VILLUM Fonden. Work at the Novo Nordisk Foundation Center for Protein Research is funded in part by the Novo Nordisk Foundation (NNF14CC0001).

Geographic variation in long bone growth and age estimation of juvenile skeletal remains

[1]Deparment of Archaeology, Simon Fraser University, [2]Division of Cancer, University of Dundee, [3]Department of Earth Sciences, The Natural History Museum, [4]Department of Anthropology, University of Alberta, [5]Department of Anthropology, Brandon University, [6]Department of Paleobiology, Museo Nacional de Ciencias Naturales-CSIC, [7]Department of Archaeology, Leiden University

country-specific methods. The similarity of

residuals from the best-fitting equation of long

the different sub-samples generally reflect

These findings have important implications

defined population ("Europeans") and that such

This project was partly funded by the Social Sciences and Humanities Research Council of Canada

Revisiting Herto: New evidence and perspectives on *Homo sapiens* from Ethiopia

[1]DFG Center for Advanced Studies: Words, Bones, Genes, Tools, University of Tübingen, Germany, [2]French Center for Ethiopian Studies, Addis Ababa, Ethiopia, [3]Laboratoire de Géologie, ENS, CNRS UMR 5276, Lyon, France, [4]Rift Valley Research Service, Addis Ababa, Ethiopia, [5]Six (6) Salako Way, Santa Fe, NM 87506, [6]Department of Geology and Environmental Earth Science, Miami University, Oxford, OH, USA, [7]U.S. Geological Survey, Denver Federal Center, Denver, CO, USA, [8]Berkeley Geochronology Center and Department of Earth & Planetary Science, University of California, Berkeley, CA, USA, [9]Human Evolution Research Center and Department of Integrative Biology, University of California, Berkeley, CA, USA, [10]Human Evolution Research Center and Department of Integrative Biology, University of California, Berkeley, CA, USA

first published by the Middle Awash research

Homo sapiens

in situ

H. sapiens"

Patterns in and determinants of cortical thickness and rigidity in the femoral diaphysis of Holocene *Homo sapiens*

[1]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [2]Evolutionary Studies Institute, University of the Witwatersrand, [3]School of Statistics and Actuarial Science, University of the Witwatersrand, [4]Department of Anthropology, Pennsylvania State University, [5]Department of Archaeology, University of Cambridge, [6]Department of Anthropology, Western University, [7]Department of Anthropology, University of Albany, SUNY, [8]Molecular Imaging Center, Department of Radiology, Keck School of Medicine, University of Southern California, [9]Department of Geology and Paleontology, Georgian National Museum

of Holocene humans that more faithfully reflects inherent human variability, these findings, and

NSF BCS-1719140, NSF BCS-1719187, NRF-DST (South Africa), ERC under European Union's Seventh Framework Programme (FP/2007–2013)/ERC Grant Agreement n.617627, RCUK/BBSRC grant BB/R01292X/1, USC Provost grant for Nikon Metrology XTS225ST micro-CT.

Extreme endurance running alters the gut microbiota

[1]Department of Human Evolutionary Biology, Harvard University, [2]Department of Anthropology, Purdue University, [3]Department of Biology, University of California Riverside

and their evolutionary significance. To explore

Our mouse cohorts consisted of artificially

ultra-marathoners (p=0.010) exhibited significant

and lower Bacteroidetes (both LDA≥3.0, LEfSe), a phylum-level microbial profile linked to increased

This study was supported by the William F. Milton Fund and the Harvard Department of Human Evolutionary Biology.

Captive chimpanzees (*Pan troglodytes*) demonstrate contagion in spontaneous scratching behavior

[1]Anthropology, UCLA, [2]Psychology, UCLA

we found that chimpanzees were significantly more likely to scratch in the five seconds after

first observational evidence for naturally-occur-

Length variation in the upper limbs and hands of modern Thai skeletons

[1]Dept. of Sociology & Anthropology, NC State University, [2]Dept. of Biology, Sacred Heart University

netic fields, we investigated length variation in the

Principle components analysis identified two significant components (varimax rotated), one

for 76% of the variance in males and 80% in

palm from the digital bones. Coefficients of

showed no significant differences throughout the

similarity weakens within the fingers in a distal

larities that may relate to morphogenetic fields.

Data collection for this project was funded by a 2013 Fulbright Teacher-Scholar Grant to Thailand.

In vivo bending deformation of the human lumbar spine during axial loading: Implications for hominin postural adaptation

Human Evolutionary Biology, Harvard University

lumbar lordosis influences patterns of postural

in viv

explaining 52% and 64% of the variation in flexural

This work was supported by the Wenner-Gren Foundation (grant #8757) and Harvard University.

Consistent sex differences in stone play and stone tool use in free-ranging Balinese long-tailed macaques

[1]Psychology, University of Lethbridge, [2]Primate Research Center, Udayana University

Macaca fascicularis

NSERC and the University of Lethbridge Research Fund

Measuring attack on self: The current state of minimally invasive biomarkers for autoimmunity

Department of Anthropology, University of Colorado, Colorado Springs

Arthritis, Type 1 Diabetes, Inflammatory Bowel

munity among these populations can be difficult

sive, field-friendly techniques for understanding

varied widely in suitability for field settings. On the more field-friendly end of the spectrum are

sive methods (e.g., finger-prick blood samples,

field using point of care testing (e.g. rapid tests).

new field friendly methods are introduced that are

for measuring autoimmunity in field settings.

Life history parameters recorded in dental cementum

[1]Center for the Study of Human Origins, Department of Anthropology, New York University, [2]New York Consortium in Evolutionary Primatology, NYCEP, [3]Biomaterials & Biomimetics, New York University College of Dentistry, [4]Department of Biomaterials, New York University College of Dentistry

H. sapiens

confirmed that the bands correspond to repro-

Impacts of Thoracic Kyphosis Relative to the Midfacial Skeleton

[1]Department of Anthropology, University of Central Florida, [2]Department of Radiology, Florida Hospital

wedging of five degrees or more. Morphological

posture can influence skull development and

exhibit statistically significant MI differences

six anatomical landmarks were identified on the

significant. Patterns of variation among these significant correlation differences were explored

No funding information to disclose.

ABSTRACTS

Differential energy gain from saturated and polyunsaturated fats

Human Evolutionary Biology, Harvard University

ical profile of bile acid production, which may alter

polyunsaturated (flaxseed) fats, measuring

Six-week-old male C57BL/6J mice were reared

custom semi-purified chows spanning low-fat

kkermansia muciniphila

LDA=3.79; LEfSe). Together,

saturated and polyunsaturated fats, a finding that

This study was supported by the Milton Fund, Dean's Competitive Fund for Promising Scholarship, and the Harvard Department of Human Evolutionary Biology.

Age-related variation in ingestive behavior patterns in *Sapajus* spp

[1]Department of Biomedical Sciences, Mercer University Medical School, [2]Organismal Biology and Anatomy, University of Chicago, [3]Department of Biomedical Sciences, University of Missouri-Kansas City, [4]Department of Anthropology, Northwestern University, [5]Department of Anatomy, Kansas City University of Medicine & Biosciences, [6]Department of Experimental Psychology, University of São Paulo, [7]Department of Psychology, University of Georgia, [8]Department of Anthropology, Washington University in St. Louis, [9]Istituto di Scienze e Tecnologie della Cognizione, Consiglio Nazionale delle Ricerche, [10]Department of Anthropology, Rutgers, The State University of New Jersey, [11]Neotropical Primates Research Group

Sapajus libidinosus

Sapajus nigritus

of the data, we also examined the influence of

S. libidinosus (n=517

S. nigritus

not appear to influence age-related variation in

limit ingestive behavioral flexibility comparably

Funding was provided by the Leakey Foundation, National Science Foundation (NSF-BCS- 1440541, NSF-BCS-1440542, NSF-BCS-1440545, NSF-BCS-1627206), Northwestern University Weinberg College of Arts & Sciences Undergraduate Research Grant, and FAPESP #2008/55684-3, #10/51565-0.

The dynamic evolution of the xenobiotic-metabolizing cytochrome P450 enzymes (*CYP1-3*) among primates

[1]Department of Anthropology, Kent State University, [2]School of Biomedical Sciences, Kent State University, [3]Department of Biological Sciences, Kent State University

populations to their specific diets. Therefore, we

Taken together, our findings indicate a pattern of

Funded by the Kent State University College of Arts & Sciences

Evolving the primate retina: using time to generate high visual acuity

Psychology, Delaware State University

Callithrix jacchus

Macaca mulatta

Homo sapiens

is selectively and significantly extended in the
These findings demonstrate that extending the

This work was supported by an NIGMS grant (5P20GM103653)

Terrestrial tree hugging in a primarily arboreal lemur: a risky but effective thermoregulatory strategy

[1]Department of Anthropology, Yale University, [2]Department of Zoology and Animal Biodiversity, University of Antananarivo, [3]Department of Sociology and Anthropology, James Madison University

Regulating body temperature can be a signifi-
(*Propithecus verreauxi*)
gate the benefits of this behavior, we studied six
when ambient temperatures were ≥36°C (the
tree hugging is a highly efficient form of behav-

This research was part of our larger study of sifaka behavior funded by National Science Foundation (NSF BCS-1745371) and the Yale University MacMillan Center.

When is object manipulation an expression of psychological disturbance caused by environmental stressors? A macaque-human comparison

[1]Department of Psychology, University of Lethbridge, [2]Institute of Child and Youth Studies, University of Lethbridge, [3]Department of Neuroscience, University of Lethbridge, [4]Primate Research Center, Udayana University

(Macaca fascicularis) that fit the loosely defined
which being reminiscent of fidgeting in humans.
lation with food is limited to specific movement
study is the first to examine the performance of
fidgeting-like behaviors in non-human animals.

I would like to acknowledge the Natural Sciences and Engineering Research Council of Canada (NSERC) and the University of Lethbridge Research fund for their generosity and support.

Mortuary based variation in early stress experiences at CA-CCO-138

Anthropology and Heritage Studies, University of California, Merced

precontact central California. Specifically, this
eters were measured in 74 individuals from the
sex-specific z-scores, both femoral length and

This study was funded by the Ohio State University Office of Energy and the Environment, a Coca Cola Critical Difference for Women Grant, and the Larsen Travel Award.

The use of bout's during activity decreases women's core temperature more than men's

[1]Biology, Seattle Pacific University, [2]Anthropology, University of Washington

temp=23.9°C; avg humidity=61.7%). We meas-

was there a significant sex effect on speed or

As the World Churns: Changing Activities and Identities in a Historic Dutch Dairy Farming Community

[1], [3]

[1]Anthropology, University of California Berkeley, [2]Anthropology, Western University, [3]Anthropology, Leiden University

reflected in the manifestation and intensity of

total of 87 adults (M=46, F=41) were analyzed

etry were examined in 108 adults (M=57, F= 51).

changes in types of activities likely reflecting an

High-Altitude Epigenetics

[2] [3], [4], [4] [1]

[1]Anthropology, University of Michigan, [2]Environmental Health Sciences, University of Michigan, [3]Nutrition, University of Michigan, [4]Departamento de Ciencias Biológicas y Fisiológicas, Universidad Peruana Cayetano Heredia, [5]Exercise Science, Syracuse University

gene-specific and genome-wide analyses of

n=600 and n=87 individuals of high-altitude

We found significantly higher LINE-1 repetitive

high altitude. We also found 161 significant differ-

born at high vs low altitude. Out of these, 17 are

SIX3 *EPAS1*

MAP3K4

high altitude and hemoglobin levels. This finding

This project was funded by National Science Foundation grants 1132310 and 1613415, the Leakey Foundation, the Wenner-Gren Foundation, and the Department of Anthropology at the University of Michigan

Transcriptional signatures of the aging nonhuman primate brain

[2] [3], [6], [5,7] [3] [2]

[1]Department of Psychology, University of Washington, [2]Nathan Shock Center of Excellence in the Basic Biology of Aging, University of Washington, [3]Department of Anthropology, New York University, [4]New York Consortium in Evolutionary Primatology, [5]Department of Neuroscience, University of Pennsylvania, [6]Department of Anthropology, The George Washington University, [7]Department of Psychology, University of Pennsylvania, [8]Department of Marketing, University of Pennsylvania, [9]Center for Studies in Demography & Ecology, University of Washington

were highly region-specific, with age strongly influencing the transcriptional landscape of all

quences of aging are largely region-specific. We

This work is supported by the National Institutes of Health (NIA R00-AG051764, NIMH R01-MH108627, NIA T32-AG000057) and the National Science Foundation (BCS 1752393).

Dietary fiber and nutritional quality of the foods of Bornean orangutans (*Pongo pygmaeus wurmbii*) in Gunung Palung National Park, West Kalimantan, Indonesia

[1] [2] [3] [1]

[1]Anthropology, Boston University, [2]Biology, National University of Indonesia, [3]Anthropology, Harvard University

Wild Bornean orangutans experience fluctuations
-
to be higher in fiber and generally lower in free
there is a consistent relationship between fiber
we examine acid detergent fiber (ADF) content
-
analyzed in triplicate through a reflux apparatus, which quantified ADF proportion by weight. An ANOVA revealed significant differences between
($F(5)=20.89$, $p < 0.001$). Post-hoc analyses ($\alpha = 0.005$) determined that bark had a significantly
($p<0.001$), leaves had a significantly higher ADF
fruit had a significantly higher ADF concentration
-
there was no significant correlation between ADF and protein ($R=-0.14$, $p=0.17$) or lipid (R 0.134, $p=0.19$) content. Our findings corroborate work
food items that are high in fiber may still be good

National Science Foundation (BCS-1638823, BCS-0936199, 1540360, 9414388); National Geographic Society; US Fish and Wildlife (F15AP00812, F12AP00369, 98210-8-G661); Leakey Foundation; Disney Wildlife Conservation Fund; Wenner-Gren Foundation; Nacey-Maggioncalda Foundation; Conservation, Food and Health

Hormones from noninvasively collected samples to assess physiological responses to social, environmental and anthropogenic stressors in nonhuman primates

[1]Anthropology and Archaeology, Brooklyn College, CUNY, [2]Anthropology, Queens College, CUNY, [3]Primatology, New York Consortium in Evolutionary Primatology, [4]Anthropology, Graduate Center, CUNY, [5]Center for Species Survival, Smithsonian Conservation Biology Institute, [6]Primatology, Filoha Hamadryas Project

quantification of hormones relating to stress
-
and 3) anthropogenic: responses to conflict
of higher GC concentrations on fitness, the phys-

Funded by National Science Foundation BCS-0824590, LSB Leakey Foundation, Smithsonian Conservation Biology Institute and New York Consortium in Evolutionary Primatology

Exploring the Effect of Socioeconomic Factors on Body Size and Health in the United States from 2000-2018

[1]Department of Anthropology, University of Nevada, Reno, [2]SNA International for Defense POW/MIA Accounting Agency

-

-

tically significant relationships ($p < 0.05$) among
-

The Aftermath and Effects of Zika Virus on Human Growth and Development

Anthropology, University of Pennsylvania

Zika virus (ZIKV) is a mosquito-borne flavivirus
by storm in 2015. Although ZIKV was first identified in 1952 with cases reported in Asia
total
46 "confirmed or probable" cases of Zika virus; in 2017, 11 cases were identified as confirmed
confirmed cases in 2018. I intend to report and
findings of reported, suspected, probable, and confirmed cases of Zika virus in Philadelphia
specifically on explanations for discrepancies
-

Identifying dietary differences in howler monkey (*Alouatta* spp.) molars

Anthropology, University of Minnesota

(*Alouatta*
significant amounts of fruit when seasonally *Alouatta belzebul discolor*
belzebul discolor
A. palliata *A. senic-*
ulus
correctly classified 6/6 *A. belzebul discolor*; *A. palliata* *A. seniculus*
the specimens correctly classified, and misclassifications were placed into the other species
A. b. discolor
A. palliata *A. seniculus*

NSF-DDIG #0726134 University of Minnesota Thesis Research Travel Grant

Anatomic and geometric morphometric assessment of the Herto 16/5 endocranium (Middle Awash, Ethiopia)

[2],
[4]

[1]Anthropology, University of Nevada, Reno, [2]The Institute of Dental History and Craniofacial Study, A.A. Dugoni School of Dentistry, University of the Pacific, [3]Biology, Saint Mary's College of California, [4]Biomedical Sciences, A.A. Dugoni School of Dentistry, University of the Pacific

from two adults and a 6-7 year old juvenile. In the

crania (n=38) aged 5.8-7.9 years were used for
from tooth calcification patterns. Procrustes-
is generally flatter with a lower height. The frontal
captured the most significant variation in the
specific differences relative to recent humans,

The perils and promise of the WEIRD: contextualizing results from WEIRD and non-WEIRD populations

Anthropology, University of Illinois, Urbana-Champaign, Beckman Institute of Advanced Science & Technology, University of Illinois, Urbana-Champaign

of the scientific method, experimental design,
a priori

harm to both scientific and participant pool

This work supported by NSF Clancy #1317140 and the Illinois Leadership Center Faculty Fellows Program.

Aging Methods and Population Structures: Does Transition Analysis Call for a Re-examination of Bioarchaeological Data?

Anthropology, The Ohio State University

notoriously difficult because the degenerative
makes it difficult to discern between the true
significantly different survival curves. This study

The Effects of the Missouri and Mississippi Rivers in the Epidemiological Spread of the 1918 Influenza Epidemic

Health Sciences, University of Missouri

the 1918 Influenza pandemic; killing upwards of

how the flu spread outside of the two metropol-

the 1918-1920 Influenza epidemic. To test this,

uals dying of influenza or related diseases (like

enced a very small first pandemic wave in spring

of transportation of influenza. Future research

Funding for this project was provided through the University of Missouri's Ronald E. McNair Post-baccalaureate Achievement program.

Decontaminating Dental Calculus for Ancient Starch Research

Anthropology & Archaeology, University of Calgary

removed from artificially created calculus, while

Our methodology consisted of five sequential

tamination efficiency of various concentrations

preparation of artificial calculus by co-precipitating

tamination, and v) decalcification.

This research is the first attempt at creating

adsorbed on the surface of the artificial calculus,

This research was fully sponsored by the Canadian Social Sciences and Humanities Research Council under its Partnership Grant Program no. 895-2016-1017

Shifts in biology and mental health among Hispanic immigrant mothers and children in Nashville, TN before and after the 2016 presidential election

Anthropology, University of California, San Diego

stress (86.5%) as well as significantly decreased

we see significant negative associations between optimism (β = -0.08; p-value = 0.03) and duration in U.S. (β = -0.07; p-value = 0.02) with hair cortisol,

Funding Citation: Funds provided by the Chancellors Research in Excellence Scholars at UCSD (Application # 4-G021) and Foundation for Child Development (VU-14).

A natural history of the femoral neck

Anthropology, Boston University

coxa

recta and *rotunda*,

ossification ("coalesced" and "separate"). It has

recta

rotunda" and

recta

rotunda" and

rotunda",

rec

The Wild Primate Microbiome Partially Protects Against Obesity

[1]University of Minnesota, Minneapolis, MN, USA, [2]GreenViet Biodiversity Conservation Center, Danang, Vietnam, [3]Primate Microbiome Project, Minneapolis, MN, USA, [4]Mayo Clinic, Rochester, MN, USA, [5]University of Nebraska, Lincoln, NE, USA

low in dietary fiber have been shown to cause

loss of dietary fiber, and obesity is still lacking. We

to low-fiber diets and tend to have human-associ-

between the gut microbiota and dietary fiber, we

to either a high- or low-fiber diet. We found that

levels of circulating inflammatory cytokines, while mice receiving a high-fiber diet and wild primate

gene sequencing we identified key bacterial taxa in each group, specifically a high abundance of

Funding sources included Margot Marsh Biodiversity Foundation; Mohamed bin Zayed SCF; PharmacoNeuroImmunology Fellowship (NIH T32 DA007097-32) awarded to JBC; and the UMN Undergraduate Research Opportunities Program grant awarded to DS.

Geospatial distributions of trace metals found in 17th and 18th Century New York African Burial Ground grave soil samples using XRF technology

[1]Biology, Howard University, [2]Environmental Science and Technology, University of Maryland, [3]Geographical Information Systems, NASA

17th

analyses to explore the range of factors that influ-

of this historic NYABG population. X-ray fluores-

confidently report findings for calcium, stron-

show elevated levels of strontium (>7x) in burial

(R^2= 0.703) suggests the source is a post burial

making this work the first of its kind to use the

This study was funded by the Sigma Xi Grant-in-Aid of Reseach and Nation Geographic's Explorer Grant.

Association of *MAOA* and *HTTLPR* genetic variants, trauma, resilience, and psychosocial outcomes in Syrian refugee youth

[1]Anthropology, University of Florida, [2]Genetics Institute, University of Florida, [3]Biology and Biotechnology, Hashemite University, [4]Taghyeer Foundation, Taghyeer Foundation, [5]School of Biological and Chemical Sciences, Queen Mary University of London, [6]Anthropology, Yale University

Genetic influences on responses to psycho-

MAOA *HTTLPR*

MAOA

HTTLPR

Funded by University of Florida, Elrha's Research for Health in Humanitarian Crises (R2HC) Programme (Wellcome Trust and UK Government), National Science Foundation Graduate Research Fellowship (DGE-1315138 and DGE-1842473).

Assessing hominin hips using ilium cross-sectional shape

[1]Anthropology Department, Vassar College, [2]Department of Anatomy, A.T. Still University, [3]PACEA, Université de Bordeaux, [4]Department of Molecular Biomedical Sciences, North Carolina State University

Australopithecus africanus (MLD 7 and Sts 14),

cross-section is defined by 20 sliding semiland-

axis of the iliac blade. The crest is defined by 11

crest and cross-section are significantly correlated in PLS dimension 1 (RV coefficient = 0.71, explaining 67% of covariation). Juveniles are

Australopithecus africanus

The role of social interaction and nearest neighbor preferences in juvenile *Alouatta palliata* social development

[1]Department of Anthropology, Central Washington University, [2]Department of Biology, Regis University, [3]Maderas Rainforest Conservancy, [4]Department of Anthropology, University of Toronto at Mississauga, [5]Department of Anthropology, University of Toronto

Alouatta palliata

juveniles spent significantly more time in social

were significantly more likely to be nearest neigh-

with adult males (10.4%) or other juveniles (7.5%). In addition, juveniles were significantly closer to

Evolutionary origin of skeletal tissues: dissecting "homology" at the morphological, cellular, and molecular genetic levels

Dept. of Molecular Genetics & Microbiology; Dept of Biology; UF Genetics Institute, University of Florida

Collagen2a1
Collagen2a1

fish (a cephalopod mollusk) and horseshoe crab (an arthropod). We find that protostome and

lage matrix. These findings suggest that the

Image processing techniques for extracting complex three-dimensional cortical pore networks from high-resolution micro-computed tomography (micro-CT) images of the human femoral neck and rib

[1]Anthropology, The Ohio State University, [2]Skeletal Biology Research Lab, The Ohio State University

Research was supported by the U.S. Department of Justice, Office of Justice Programs, National Institute of Justice under award number 2017-MU-CX-0009. The content is solely expressed by the authors.

Biomarkers of cardiac health across the lifespan in wild-born chimpanzees (*Pan troglodytes*)

[1]Department of Anthropology, University of New Mexico, [2]Department of Psychology, University of Michigan, [3]Department of Anthropology, University of Michigan

Pan troglodytes

ratory chimpanzees (n=471, from the Primate

χ^2=69.84, p<0.001). Sanctuary chimpanzees also

observations, χ^2=49.37, p<0.001). These disparand lab-living chimpanzees had similar profiles

lifespan. Our findings support the hypothesis that

This study was funded by the National Institute on Aging of the National Institutes of Health (Award 1R01AG049395-01).

To be or not to be MZ or DZ: Diagnosing zygosity in South Australian white twins from nonmetric crown traits

Anthropology, University of Nevada, Reno

genetic and environmental influences on crown morphology, researchers find dental traits are

mental and epigenetic influences play a role in trait

ranged from 51.3% to 74.6%, while zygosity estimates using overall gestalt ranged from 66.7% to 92.7%. With one exception, observers attained

Research on South Australian white twins was funded in part by grants from the National Health and Medical Research Council of Australia, Australian Dental Research Foundation, and Wellcome Trust, UK.

Restructuring our idea of individual function and community participation: The ICF model in paleopathology

[1]Physical Therapy, University of Central Arkansas, [2]Section of Forensic Pathology, Department of Forensic Medicine, University of Copenhagen

International Classification of Functioning,

Denmark display unilateral DDH and significant

a descriptive profile of the individuals' function

The effects of morphometric protocol on morphological integration statistics: a case study in scapulae

Buffalo Human Evolutionary Morphology Lab, Anthropology, University at Buffalo

the morphometric quantification of shape is

Macaca fascicularis, *Gorilla gorilla*

landmarked twice, first with anatomical (n =

ized previously identified developmental modules

were created, each containing 78 traits. The first contained the 78 pairwise distances among 13

were included. The Integration Coefficient of

that the method of shape quantification can have a significant impact on the assessment of

Dental Fracture Mechanics: What broken teeth can reveal about diet and feeding behavior

[1]Biology, Saint Michael's College, [2]Materials Measurement Laboratory, National Institute of Standards and Technology

tions. As a specific case study, we present new

Paranthropus boisei

P. boisei

P. boisei

First complete primate skull from La Venta, Colombia

[1]Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine, [2]NYCEP Morphometrics Group, New York, NY, [3]Department of Biology, Farmingdale State College, SUNY, [4]Department of Biomedical Sciences, Grand Valley State University, [5]Department of Biology, Universidad de Los Andes, [6]Department of Geology, Universidad de Caldas, [7]Department of Cell Biology, New York University School of Medicine, [8]Department of Anthropology, The Graduate Center, CUNY, [9]Department of Orthopaedic Surgery, University of Missouri, Columbia

We describe the first undistorted platyrrhine

was surface collected from ~13.3-13.7 Ma sedi-

Cebupithecia

Callicebus

Cebupithecia sarmientoi.

Callicebus

Cebupithecia

National Geographic Society/Waitt Grant W387-15; GVSU Center for Scholarly and Creative Excellence

Animal models as a platform to probe the spatio-temporal coordination of cortical remodeling and its functional significance

[1]Anatomy, Physiology and Pharmacology, University of Saskatchewan, [2]Biology, University of Akron

of cortical bone was first described over 300

in situ *in vivo*

in vivo

Dispersal decisions in monogamous owl monkeys (*Aotus azarae*): How ecological and social factors influence the timing of natal dispersal

Anthropology, Yale University

The timing of natal dispersal may be highly flexible

that influence when individuals leave their group

Aotus azarae)

the Argentinean Gran Chaco. Specifically, we

social groups monitored 1997-2016. Timing was highly flexible (age range = 1.7-5.3 years),

confirmed dispersals. Our findings suggest that

Funding: NSF-BCS-0621020, 1503753, 1219368, 1232349, 1503753, and 1540255.

ABSTRACTS

Variation of Skeletal Growth and Development Patterns in Populations with Diverse Socio-Economic Backgrounds

[2]
[3]

[1]Department of Anthropology, University of Nevada, Reno, [2]Department of Anatomy, University of Pretoria, [3]Department of Psychology, University of Nevada, Reno

(N=57), France (N=581), the United States (N=880), and South Africa (N=174) were

coefficient, which capture country-level differ-

indicators and country-specific parameters to

variables are significantly different among the

than the Gini coefficient. The differences in long bone growth primarily reflect differences in the environment, but only become significant after

higher HDI and lower Gini coefficients transition

These findings provide a broader understanding

This research was funded by two federal grants (NIJ 2015-DN-BX-K409 and NIJ 2017-DN-BX-K144)

Polygenic Adaptation to Amazonian Rainforest

[1]
CÁTIRA BORTOLINI[2]
and TÁBITA HÜNEMEIER[1]

[1]Department of Genetics and Evolutionary Biology, University of São Paulo, [2]Departamento de Genética, Universidade Federal do Rio Grande do Sul

the first Americans. The Amazonian Rainforest

positive selection, we identified overlapping

functions of the genes identified by linkage dise-

This project has been supported by FAPESP, CAPES, and CNPq.

Scapular retroversion asymmetry and its correlates: New indicators of habitual upper limb activities

[2]

[1]Anthropology, University of Missouri, Columbia, [2]Center for Anatomical Sciences, University of North Texas

in humans. Specifically, high levels of asymmetry

Ancient DNA reveals genetic effects on anthropometric phenotypes in Prehistoric Europe

[2]
[3]d
[1]

[1]Department of Genetics, Perelman School of Medicine, University of Pennsylvania, [2]Department of Physical Anthropology, Penn Museum, University of Pennsylvania, [3]Center for Functional Anatomy and Evolution, John Hopkins University School of Medicine

measurements from 2178 skeletons (34,000-

reflect an environmental effect on development. Our results reveal a significant contribution of

Funding was provided by the Alfred P Sloan Foundation and the Charles E Kaufman Fund of the Pittsburgh Foundation.

Geophagy in The Gambia: An exploration of the motivators for eating earth among men and women

[1]Sociology, Anthropology, General Studies, American Public University System, [2]Head of Research & Development Unit, Department of Parks & Wildlife Management- The Gambia, [3]Department of Anthropology, Northwestern University, [4]Department of Anthropology & Institute for Policy Research, Northwestern University

tions and norms that influence the expression of

first study of geophagy in The Gambia, charac-

women, 5 men. Most participants (83%) identified

Field research funded by an American Public University System faculty research grant. Conference presentation funded by American Public University System.

The dietary niche of blue, red-tailed and hybrid monkeys (*Cercopithecus mitis, C. ascanius,* and *C. mitis x C. ascanius*) in Gombe National Park, Tanzania

[1]Department of Anthropology, Florida Atlantic University, [2]Department of Biological Sciences, Florida Atlantic University

Pan troglodytes, *Papio anubis, Piliocolobus tephrosceles*,

This research represents the first multi-year *Cercopithecus*

C. ascanius *C. mitis* *C. ascanius x C. mitis* *ad libitum*

to March 2018. We defined feeding as an individual consuming a species-specific plant part

identify a total of 57 plant species in our group's *Cercopithecus*

group. These findings suggest that invertebrates

Ancient proteomics analysis in the early contact period, St. Catherines Island, Georgia

[1]Anthropology, University of Louisville, [2]Medicine, University or Louisville, [3]Anthropology, University of Texas at Austin, [4]Anthropology, University of Connecticut, [5]Anthropology, The Ohio State University, [6]Anthropology, American Museum of Natural History

analyses of the mission population identified

first proteomics analysis of skeletal remains

using gene ontology for protein identification and

collagen proteins. Molecular pathway classifi-

the Fallen Tree bone protein profile documents

and chronic inflammatory responses during the contact period among one of the first native

Funding: Funded by the St. Catherines Island Foundation, NSF Award 1518079.

Who Pays the Costs of Cohesion? Maintaining behavioral synchrony in baboon troops on the move

[1]Department of Anthropology, University of California, Davis, [2]Animal Behavior Graduate Group, University of California, Davis, [3], Smithsonian Tropical Research Institute

Papio anubis

We identified the footfalls of walking baboons

and defined each group member's 'characteristic walking profile' based on the distribution of step

tive to their characteristic walking profile. Larger

socially and ecologically relevant field conditions.

Furnding for this research was provided by National Science Foundation (IOS-1250895 and III-1514174) and David and Lucille Packard Foundation grants to MCC.

Behavioral markers of stress in separated captive female and male ring-tailed lemurs (*Lemur catta*)

[1]Department of Biological Sciences, North Carolina State University, [2]Department of Wildlife, Fisheries, and Conservation Biology, University of Arizona

examined in five male-female pairs of ring-tailed (*Lemur catta*)

significantly more than females (p<.0009). Although not significant, females scratched,

Papio anubis)

vice versa

Geometric morphometric assessment of skull symmetry in 6-8.0 year old humans

[1]Department of Integrative Biology, University of California, Berkeley, [2]Department of Molecular and Cell Biology, University of California, Berkeley, [3]Department of Public Health, University of California, Berkeley, [4]Department of Anthropology, University of Nevada, Reno, [5]Department of Biomedical Sciences, A.A. Dugoni School of Dentistry, University of the Pacific, [6]Department of Biology, Saint Mary's College of California

mental ages of 5.8-7.9 years. Ages are based solely on dental calcification patterns. With the

cranial base flexion and anteroposterior fron-

Funding provided by Undergraduate Opportunity Fund Grants to Jessica Cronin, Ana Shaughnessy, and Jane Vannaheuang.

Fur regrowth varies among and within individual cheirogaleid lemurs

[1]Departments of Geology and Anthropology, University of Cincinnati, [2]Duke Lemur Center, Duke University

Microcebus murinus)

Cheirogaleus medius)

ability in photoperiod between February 2017 to

mouse lemurs (7-14 to 215-229 days) than dwarf lemurs (27-40 to 313-327 days; Welch t=6.06, df=53.59, p=0.017). There were no differences in

male mouse lemurs exhibited significantly slower

Regrowth rates differed significantly among individual shaves for dwarf lemurs (χ^2=22.23, df=7,

for shaves done in Fall 2017, a period during

(χ^2=10.086, df=7, p=0.19). However, one male

Being Overweight is Associated with Lower Physical Activity in US Population but Not among Forager-Horticulturalists

[1]Economic Sciences Institute, Chapman University, [2]Center for Evolution and Medicine, Arizona State University, [3]Anthropology, Institute for Advanced Study in Toulouse, [4]Department of Anthropology, University of California-Santa Barbara

Survey (n=3179, median age 54, 49% male). and 37%/35%, respectively. Tsimane spend fewer daily minutes sedentary (β=-56.4, P<2e-16), and more minutes in light (β=26.9, P<1.5e-5), and moderate activities (β=29.4, P<2e-16) than Americans at every age and sex. While we find

Patterns of cranial morphological diversity among peoples of African descent

Department of Anthropology, University of Florida

in African descendants is reflective of this history, ORSA CT scan database. Variables were defined origin had significant effects on shape in both the was significant. Pre-emancipation individuals

This material is based upon work supported by the National Science Foundation Graduate Research Fellowship under Grant No. DGE-1315138 and DGE-1842473.

Proximate and Ultimate Causes of Rising NCD Mortality in the Mississippi State Asylum (1855-1935), Jackson, MS

[1]Anthropology & Middle Eastern Cultures, Mississippi State University, [2]Anthropology, Texas State University, San Marcos, [3]Anthropology, Michigan State University, [4]NA, Colonial Williamsburg

ultimate causes, which can be context-specific. 9th century and, in a modified form, is ongoing (1855-1872: <.1%; 1900-1905: .5%; 1926-1929: diseases and nutritional deficiencies, declines in evaluate our findings within an ecological immu- chronic hyper-inflammatory responses, oriented mate causes of the second transition in specific

Oral health in a rural population of the Brazilian Amazon: Implications for interpretation of dental caries in the past

[1]Graduate Program in Anthropology, Federal University of Pará, [2]Department of Anthropology, The Ohio State University, [3]Department of Food Science and Experimental Nutrition, University of São Paulo, [4]Department of Microbiology, University of São Paulo, [5]Department of Genetics and Evolutionary Biology, University of São Paulo, [6]Department of Stomatology, University of São Paulo, [7]Department of Biomaterials and Oral Biology, University of São Paulo

main cause of this pathology, as exemplified by still practices slash and burn agriculture, fishing, fertility rate. We collected data on saliva flux, reproductive histories of 107 riverine people (39 men and 68 women; average age of 27 years). We missing, and filled teeth as a dependent variable. Our model explained 20.7% of the variation and found age and stimulated saliva flux as the main tance of saliva flux as a protector against caries,

Funded by FAPESP (process 2013/0069-0)

Priority of Access Model is a Good Fit Despite the Occurrence of Following, an Alternative Mating Strategy in Wild Crested Macaques (*Macaca nigra*)

[1]Biology, Nazareth College, [2]Sexual Selection, German Primate Center, [3]Biology, Institut Pertanian Bogor, [4]Veterinary Science, Institut Pertanian Bogor,

[5]Natural Sciences and Psychology, Liverpool John Moores University

in the macaques. We examined fit to the PoA (*Macaca nigra*
Models were used to examine the influence of
a good fit to the data for both groups. While following did influence whether a male was able
not influence of the length of time consorting
by followers. Dominance rank influenced both
number of fertile females had no influence. Thus,

Fulbright FIRST Fellowship and Leibniz-DAAD Fellowship to LMD, DFG to AE

Metabolic syndrome in urban young adults from Merida, Mexico Authors:

GONZÁLEZ[1]

[1]Human Ecology, CINVESTAV-IPN Unidad Merida, [2]Nutrition, Universidad Modelo, Merida

Objectives:

Methods:

glucose (FBG, mg/dL), insulin (μ/mL), triglyceride

Results

(men 172 cm, women 156 cm), BMI (men 26 kg/m^2 92 cm), body fat (men 17%, women 29%). Frequencies of overweight (men 47%, women
diastolic: men 83 mm Hg, women 78 mmHg),
9 μ/mL, women 26 μ/mL), TG (men 105 mg/dL, women 166 mg/dL) HDL-C (men 47 mg/
WC, BF showed significant ($p<0.05$) association

No funding

Traumatic predictors of femicide: A forensic anthropological approach to domestic violence

Justice Studies, Florida Gulf Coast University

females (24%) than males (76%), suggesting a

The molecular consequences of migration in a regional Amazonian city

Biological Anthropology, University of Kansas

Peruvian Andes and Valley of Mexico. Significantly

Nearly four-fifths of the population of Peru

into its five most prevalent haplogroups, the

differential distribution patterns. Lastly, Φ_{ST}

mine that there exists a statistically significant
of population subdivisions, based on specific,

Anthropology and Experiential Learning on a Study Abroad in South Africa

[1]Anthropology, School of World Studies, Virginia Commonwealth University, [2]Integrative Life Sciences, Virginia Commonwealth University

access to actual paleoanthropological field work.

processing often difficult emotions. Teaching

A tale of two stresses: Comparing the relationships between maximum incisor shearing strength and maximum incisor bending strength and anthropoid diet

Anatomy and Cell Biology, Indiana University School of Medicine

and are strongly influenced by dietary mechan-

hominoids and platyrrhines (n=187) with known

possibly reflecting the tendency for gibbons and

Estimating extinct primate vomeronasal traits using maximum likelihood ancestral state reconstruction methods

Department of Anthropology, Boston University

significantly related to the number of intact V1R

We sought to reaffirm previous findings using a

of 42.7 (95% CI = 15.6, 69.8), which is smaller

Adapis

CI = 13.7, 91.0), yet larger than the reconstructed

Rooneyia viejaensis

The long, twisting road: searching for biomarkers of chronic psychosocial stress

Anthropology, University of Alabama

context-specific responses to recent experience

reflects momentary not persistent regulatory

reflect chronic stress. Yet, cost and participant

anthropological field studies have challenged the

inflammation. Such makers may be examined

other forms of stress is blurry. Nevertheless, suffi-

Quest for consilience: Using dental morphology, craniometrics, and stable isotopes to classify an undocumented skull collection

[1]Institute of Dental History and Craniofacial Study, Arthur A. Dugoni School of Dentistry, University of the Pacific, [2]Department of Anthropology, University of Nevada, Reno

the University of the Pacific Dugoni School of

-
traits, using rASUDAS. Provenance confirmation
aided in a final cluster analysis.

-
of the sample showed discordant classification
dental classification of Western Eurasian being
ingly conflicting data, and investigates the utility

Trabecular ontogeny of African ape third metacarpals

[1],
[2] [2]

[1]Skeletal Biology Research Centre, School of Anthropology and Conservation, University of Kent, [2]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology

-
orilla gorilla
Pan troglodytes
Gorilla *Pan*
Gorilla
-
-
an

head. Between 4-7 years, remodelling maintains
-
-
-
ape locomotion likely influence trabecular bone

Radiocarbon Evidence Pertaining to the Origin and Spread of Treponemal Disease

Centre for Isotope Research, University of Groningen

reservoir effects and flawed sample selection.
significant quantities of marine or freshwater fish in his or her life. Corrections can be made
-
tions have been applied without sufficient rigor,

Using DNA to determine the species and geographic origins of elephant ivory discovered in a 16th century Portuguese shipwreck

[2] ,
[4] [5]

[1]Program in Ecology, Evolution and Conservation Biology, University of Illinois at Urbana-Champaign, [2]Department of Archaeology, University of Cape Town, [3]Department of Archaeology, Newcastle University, [4]Department of Anthropology, University of Illinois at Urbana-Champaign, [5]Department of Animal Sciences, University of Illinois at Urbana-Champaign

Bom Jesus
oxodonta cyclotis
least 17 different herds. This study shows that

Temperature alters chest redness in male geladas

[2]
[3]

[1]Psychology, University of Michigan, [2]Ecology and Evolutionary Biology, University of Michigan, [3]Anthropology, University of Michigan

Theropithecus gelada

color. Specifically, redder chests were associated

=5.58, p=0.007,

baseline activity levels (t(7)=2.0913, p=0.075).

Polynesian ancestry in South America? A genomic insight from Mocha Island, Chile

[1]Center for GeoGenetics, University of Copenhagen, [2]Programa de Antropología, Instituto de Sociología, Pontificia Universidad Católica de Chile, [3]Laboratory for Archaeology and the History of Art, University of Oxford, [4]Instituto de Ciencias Naturales Alexander Von Humboldt, University of Antofagasta, [5]Programa de Genética Humana, Facultad de Medicina, Universidad de Chile

specifically ascribed to have Polynesian affinities.

tion, we estimated the genomic affinities of these

the highest affinity to individuals from Southern

results find no support for possible admix-

NSF BCS-0956229, FONDECYT 3130515, FONDECYT 11150397, Lunbeck Foundation, Danish National Science Foundation

Incisor microwear textures in four genera of Sumatran primates

[1]Anthropology, University of Arkansas, [2]Basic Science, Touro University

Pongo, *Macaca*, *Presbytis*, d *Hylobates*

field observations of anterior tooth use are avail-

ten ISO-25178 texture attributes that reflect

Pongo abelii (*n* *Hylobates lar/ agilis* (*n* *Presbytis melalophos/thomasi* (*n* = *Macaca fascicularis* (*n*

Pongo *Hylobates* *Presbytis* *Hylobates* *Presbytis* *Macaca*

taxa were found for anisotropy. These findings align with reported field observations of tooth use

Funding provided by the Leakey Foundation.

Current and future applications of minimally-invasive biomarkers in the detection and treatment of various types of cancers

[1]Anthropology, University of Oregon, [2]Samaritan Hematology and Oncology Consultants, Samaritan Health Services

received a mammogram and 59.7% have never

Ghana, and South Africa. The benefits of devel-

NIH NIA YA1323-08-CN-0020; NIH R01-AG034479; WHO; Ministry of Health in Mexico; Shanghai CDC in China; NDH in South Africa; University of Ghana Medical School; USAID; University of Oregon Bray Fellowship.

To Correct for Size or Not: Examining the Problem Using the Pelvis

History and Anthropology, Monmouth University

for the first analysis the data was unadjusted, for

diameter raised to the 1.7125 power for each

for pelvic size, five different measures were not

were dimorphic. These conflicting results demonand further emphasize the difficulty in comparing

no funding to declare

Exploring pathways to skeletal phenotypes: Biomarkers of inflammation, skeletal health, and oral health in NHANES 2003-2004

Anthropology, University of North Carolina at Chapel Hill

influences that serve as sensitive indicators Periodontal disease (PD) is an inflammatory which specific social factors influence skeletal connecting biocultural factors, inflammation, statistically significant, positive associations (p [-0.542*(0.177)]. Mediation analysis found that that PD is a marker of systemic inflammation

Infanticide or expected child mortality? The curious abundance of babies in the Iron Age necropolis of Kopila hillfort, Korčula, Croatia

[1], DAVORKA RADOVČIĆ[2]
[1]Anthropology, Colorado State University, [2]Anthropology, Croatian Natural History Museum

necropolis on the island of Korčula, Croatia is a study estimates age at death for 1177 isolated profiles are employed to test the null hypothesis sample allow for a refined reconstruction of age

Impacts of grit on dental microwear formation: a time series approach

[1]Department of Earth & Environmental Sciences, Vanderbilt University, [2]Department of Basic Sciences, Touro University, [3]Conservation and Biodiversity, Federal University of Maranhão

that included corn muffins, where the corn was with identifiable features clear throughout ~8

Funding was provided by Vanderbilt University.

Joint proportions in early hominins

[1]Anthropology, Dartmouth College, [2]Ecology, Evolution, Ecosystems, and Society, Dartmouth College

Australopithecus afarensis *A. africanus*

A. afarensis, Homo erectus, *H. naledi* *A. africanus, A. sediba,* *Paranthropus robustus* *P. boisei*

Paranthropus *A. afarensis*

Our findings create a phylogenetic dilemma in

A. afarens
Paranthropus

Life history insights from dried blood spot-based measurement of bone turnover markers

[1]Anthropology, University of Michigan, [2]Global Health Biomarker Laboratory, Department of Anthropology, University of Oregon

over is influenced by life history stage, including
field settings. The present study reviews and
dried blood spots (DBS), a field friendly, cost-ef-

Support: NSF BCS-1638786

Assessing the existence of the male-female health-survival paradox in past populations

Anthropology, University of South Carolina

that it reflects underlying immune responses or

Funding was provided by NSF (BCS-1261682; BCS-1539502), the Wenner-Gren Foundation (#7142, #8247), and the American Association of Physical Anthropologists.

Modelling ontogenetic changes in masticatory performance within *Macaca fascicularis* and their impact upon dietary and social ecology: a multibody dynamics study

[1]Max Planck Weizmann Center, Max Planck Institute for Evolutionary Anthropology, [2]Center for Anatomical and Human Sciences, Hull York Medical School

Macaca fascicularis,

M. fascicularis,
adult male model also demonstrated a significantly improved anterior gape capacity, reflecting
muscle size contributed most significantly to
imparted a more significant effect upon gape
These findings demonstrate the close relation-

Financial support was provided by the Max Planck Society.

Analysis of an American Heroine?: The Skeletal Remains from the Gravesite of "Captain" Molly Corbin

Anthropology, Binghamton University

in November 1776 she took over her husband's
and later became the first woman to receive a
a small cemetery on the estate of financier J.P.
While the remains were significantly fragmented,

Nutrient goals of wild Bornean orangutans at Gunung Palung National Park: a case for nutrient balancing

[1]Anthropology, Boston University, [2]Gunung Palung Orangutan Project

Pongo pygameus

all nutrient combinations, we find that an NPE:PE

investigate the influences of this foraging goal, we

(F = 5.27, p = 0.026), and animals (ANOVA, F = 1.78, p = 0.09). We discuss the impact of each

DiGiorgio: NSF GRFP Grant No. DGE-1247312, Boston University; DiGiorgio and Knott: NSF BCS-1540360; Knott: US Fish and Wildlife Service, LSB Leakey Foundation, National Geographic Society, Disney Conservation Fund

Relationship among molecular markers, blood biochemistry, and anthropometry in Amazonian Native American populations

[1]PPGA, UFPA, [2]PPGBM, UFPA

The epidemiological and nutritional transition among Native Americans is developing fast in Latin America, which partly explain the emergence of chronic noncommunicable diseases, specially obesity. Nevertheless, obesity is a multifactorial disease and presents very complex inheritance patterns where the cumulative contribution of diverse genes results in a greater or smaller individual susceptibility to certain environmental factors. In this sense, we sought to investigate the relation of Body Mass Index (BMI), cholesterol, glucose and triglycerides with three single nucleotide polymorphisms - SNPs (ABCA1 rs9282541; ADRB3 rs4994; and PPARG rs1801282) known in the literature as associated with obesity in populations around the world. A total of 590 adult individuals (51.86% female, mean age 39.44), living in 11 indigenous villages in the State of Pará participated in the study. The overall mean BMI and blood biochemistry among these populations were within normal limits. However, when groups were considered separately, the highest overweight frequency (BMI ≥25) found was 72.7% in one given population. We found association of BMI with the SNPs of the ABCA1 and ADRB3 genes. In addition, marginal association was found with the SNP of the PPARG gene (p = 0.06). All polymorphisms were tested for relative risk (odds ratio). The mutant alleles of the ADRB3 and PPARG genes had an odds ratio of 1.37 and 1.47, respectively. In contrast, the mutant allele of ABCA1 presented a lower relative risk than the wild-type allele (0.48) suggesting a protection against obesity to the carriers of this Native American peoples' exclusive variant.

UFPA, CNPq and CAPES.

Skeletal trauma as an indicator of past living conditions in Medieval Cambridge

[1]McDonald Institute for Archaeological Research, University of Cambridge, [2]Department of Archaeology, University of Cambridge, [3]Cambridge Archaeological Unit, Department of Archaeology, University of Cambridge, [4]School of Clinical Medicine, University of Cambridge

(n=79), the Augustinian Friary (n=38), and the

were identified on 25.1% (n=82/326) of individ-

tery (36.7%, n=29/79), followed by those in the hospital cemetery (22.48%, n=47/209). Within

much lower (15.7%, n=6/38). The individuals

associated with the living conditions and reflect

Funded by the Wellcome Trust Biomedical Humanities Collaborative Grant programme

Variation in the human calcaneus: investigating the relationship between skeletal phenotype and behavior

[1]Department of Anthropology, Penn State University, [2]Department of Archaeology, Cambridge University, [3]Department of Radiology, Molecular Imaging Center, University of Southern California Keck School of Medicine, [4]Department of Geology and Paleontology, Georgian National Museum, [5]Department of Integrative and Anatomical Sciences, University of Southern California Keck School of Medicine, [6]Evolutionary Studies Institute, University of Witwatersrand, [7]Department of Anthropology, University at Albany, SUNY, [8]Department of Anthropology, Western University

bone functional adaptation

Farms (n = 17) individuals were analyzed using

Earth and Norris Farms differ significantly in Tb.Th, DA, and BS/BV. No significant differences

is complex; future studies may benefit from

NSF BCS-1719187, NSF BCS-1719140, RCUK/BBSRC grant BB/R01292X/1, NSF GRFP Grant No. DGE1255832.

The application of histomorphometry to puberty in the archaeological record

Human Osteology Lab, Skeletal Biology Research Centre, School of Anthropology & Conservation, University of Kent

size, and behavioural maturity. Specific bony

(*n*=17), Fishergate Barbican, York (*n*

This is the first study to explore the possible

This research was funded by the University of Kent Vice Chancellor's Research Scholarship and the Dora Harvey Memorial Research Scholarship.

Where the Wild Things Are…and How They Get There: Bonobo, chimpanzee and human use of visual spatial information navigating in virtual reality

Behavioral Sciences, University of Michigan

Funded by the Templeton World Charity Foundation and the University of Michigan-Dearborn.

Exploring *In Vivo* Linear Microcrack Prevalence By Sex and Age as a Variable of Skeletal Fragility

[1]Department of Anthropology, Lehman College-CUNY, [2]Skeletal Biology Research Laboratory, The Ohio State University

in vivo

in vivo

from 40–99 years (mean=70, sd=17). Ribs were

en bl

in vivo

demonstrated a statistically significant, but

in vivo

Impediments to human bipedalism in tropical rainforests

[1]Anthropology, Dartmouth College, [2]Human Evolutionary Biology, Harvard

used ground-based LiDAR (LD90-3100HS first-return laser rangefinder operating at 890 nm and 1

ankle flexion. Thus, variation in the prevalence of

conditions (mean: 0.39 ± 0.27 m^2m^{-3}
of non-foragers (n = 7; mean: 0.12 ± 0.07 m^2m^{-3};
< 0.01). This finding supports

is an impediment to efficient bipedalism and a

This research was supported by the David and Lucile Packard Foundation (Fellowship in Science and Engineering no. 2007-31754).

Día de Salud: A model for community-based outreach to improve health care access for low-income families

[1]Anthropology, University of Oregon, [2]Global Health Biomarker Lab, University of Oregon

The Oregon-based nonprofit organization Huerto

blood pressure, and finger-prick biomarkers

ments, obtaining capillary blood from finger prick,

Investigating patterns of growth disturbances in a Neolithic sample from Liguria (northwestern Italy, 4800-4400 BCE) from the analysis of enamel defects and diet

, ELIZA ORELLANA GONZÁLEZ[1],

[1]UMR 5199 PACEA, University of Bordeaux, [2]Department of Biology, Lab. of Anthropology, University of Florence, [3]CNRS, Minist Culture, LAMPEA, Aix-en-Provence, Aix Marseille Univ., [4]Department of Archaeology, Durham University

reproductive fitness despite high infant mortality.

isotopic ($\delta^{13}C$, $\delta^{15}N$

resulting in a well-defined signal of develop-

significant increase in enamel defects around

by the first year, but also a rather long time for the reaching of the adult levels of $\delta^{15}N$

ID: Marie Skłodowska-Curie grant agreement No. 752626; VSS: Programme, IdEx (University of Bordeaux) ANR-10-IDEX-03-02.

Impact of subsistence, latitude, and terrain on lower limb bone robusticity in a globally distributed skeletal sample

Department of Anthropology, University of Massachusetts

the mechanical influences of long-distance

temperature. Furthermore, studies conflict as to whether the femur or the tibia reflect variability

ently. We investigate the competing influences

(N=306). Local terrain is quantified as flat, hilly, or

shows significant positive correlations between

exhibit significantly increased relative strength,

from significantly higher medio-lateral bending rigidity, reflecting wider pelves. With latitude and mobility held constant, terrain also significantly

shape. Our data confirm the strong impact of

In search of the Denisovans: biomolecular ways for the identification of new human fossils in the Eurasian archaeological record

[1]Department of Archaeology, Max Planck Institute for the Science of Human History, [2]School of Archaeology, University of Oxford, [3]Siberian Branch, Russian Academy of Sciences

evolutionary significance of processes such as

has flourished. Yet the lack of well provenanced,

reliably dated and genetically analyzed human remains from Late Pleistocene Asia, and especially the lack of Denisovans outside the unique eponymous locus, is noticeable.

In this talk, we will introduce an interdisciplinary project ("FINDER") that applies a combination of analytical techniques to identify, characterize and analyse new hominin remains from several sites in Eurasia with the aim of finding new Denisovan fossils. At the heart of the project lies an analytical technique called collagen peptide mass fingerprinting, or ZooMS. ZooMS is a fast and cheap technique that utilises the internal variation of bone collagen peptides to taxonomically classify a bone. The method has immense potential in identifying hominin bone remains from highly fragmentary bone assemblages. Here we apply this method to bones from several sites in North and SE Asia aiming to find new Denisovans and expand their geographic distribution further in space and time.

This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme under grant agreements ERC-2016-StG-715069-FINDER (to KD) and ERC-2012-AdG-324139-PalaeoChron (to TH).

Gorilla hindlimb muscle fiber phenotypes

DANIEL J. DOYLE[1], MEGAN HOLMES[1,2], DANIEL SCHMITT[1], ANGEL ZEININGER[1] and CHRISTINE E. WALL[1,3]

[1]Evolutionary Anthropology, Duke University, [2]Physician's Assistant Program, Duke University School of Medicine, [3]Duke Lemur Center, Duke University

Muscle fiber type may have undergone selection based on locomotor patterns in hominoids. O'Neill and colleagues recently proposed that humans have a slow, fatigue resistant, energy efficient (MHC-I) phenotype that differs from the fast (MHC-II) phenotype of chimpanzees (*P.troglodytes)* and may have evolved concurrently with increased daily travel distance in early hominin bipeds. Large-bodied gorilla (*G.g.gorilla)* with a short daily travel distance allows us to test the relationship among hindlimb muscle fiber type, mass, and locomotion. If fiber phenotype reflects daily travel distance, the MHC-I phenotype should be human>chimpanzee>gorilla with chimpanzee and gorilla having >50% MHC-II. If body mass is a better predictor, the MHC-I phenotype should be gorilla>human>chimpanzee with gorilla and human having slower phenotypes.

Immunohistochemistry was performed on fresh frozen gorilla (n=1 adult female, 1 silverback) muscle from vastus lateralis, gastrocnemius, and biceps femoris to distinguish MHC-I, MHC-II and hybrid fibers. Proportion and percent cross-sectional area of muscle section (%CSA) were calculated for each fiber type and compared to published data for chimpanzees and humans.

For each muscle, fiber type proportion and %CSA for MHC-I is human>gorilla>chimpanzee. Overall, gorilla shows a fast phenotype and is very similar to chimpanzee. This supports the idea that humans are unusual in having a slow locomotor muscle phenotype. It also suggests that, contrary to the slow phenotype predicted by large body mass, gorilla has a fast fiber phenotype that is consistent with the dynamic force capabilities suggested by O'Neill and colleagues for chimpanzee.

Supported by NSF BCS-1517561 and BCS-1719743.

Markers of subtle activity variation? Enthesis bilateral asymmetry in humans

MICHELLE S.M. DRAPEAU[1] and OLIVIA A. DE CARVALHO[2]

[1]Dept. of Anthropology, Université de Montréal, [2]Departamento de Arqueologia, Campus de Laranjeiras, Universidade Federal de Sergipe (LABIARQ/DARQ/UFS), Brazil

Enthesis morphology is known to be determined by a number of factors, such as age and body size, while also being determined by muscle activity. As a consequence, activity-related changes are difficult to tease apart from these confounding factors. In order to control for the non-activity related influences that affect enthesis morphology, we compare the right and left side of individuals. This is particularly interesting in humans because of the asymmetrical use of the upper limbs, individuals generally favor one upper limb over the other. More specifically, we tested whether limb preference, as measured from the asymmetry in cross-sectional geometry correlates with the asymmetry in enthesis morphology.

Our sample consists of 14 Sadlermiut Inuit individuals (females=6, males=8) for which we visually assessed bilateral enthesis morphology of upper and lower limb muscles and collected bilateral cross-sectional CT scans from the femur and humerus. Because of the non-continuous nature of enthesis morphology scoring, non-parametric tests are used in all statistical analyses.

Our cross-sectional analyses show that, as expected, the Sadlermiut upper limbs are significantly asymmetric while the lower limbs are not. In the lower limb, there is no correlation between asymmetry of cross-sectional geometry and of enthesis morphology, likely because the low level of lower limb asymmetry. However, in the upper limb, asymmetry of the cross-sectional geometry is positively correlated with some enthesis markers, although not all. The correlation between upper-limb 'robusticity' and enthesis development suggests that relatively subtle activity differences are enough to induce enthesis changes.

This research was funded by the CNPq, Brazil (to OAdeC) and by the FQRSC, Canada (to MSMD).

Dental microwear texture analysis as a tool for discerning intra-population dietary patterns: Evidence from the Croatian Copper Age site of Potočani

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[1]Anthropology, University of Wyoming, [2]Anthropology, Institute for Anthropological Research - Zagreb, [3]Archaeology, Faculty of Humanities and Social Sciences, University of Zagreb, [4]Prehistoric Archaeology, Archaeological Museum in Zagreb, [5]Anthropology, University of Indianapolis

Dental microwear texture analysis (DMTA) is a dietary reconstruction method typically used for interspecies comparisons. More recently, DMTA has been employed as a tool for discerning differences in human subsistence patterns, but its utility in detecting intra-population dietary variation has been little explored. This study utilized dental remains of 37 individuals from the Croatian Copper Age site of Potočani (cca 4100 BCE) to investigate dietary patterning according to age and sex within the population. Standard DMTA procedures were followed to observe phase II wear facets on the occlusal molar surfaces. The three texture variables, calculated using scale-sensitive fractal analysis software (Sfrax® and Toothfrax®), included complexity (Asfc), anisotropy (epLsar), and textural fill volume (Tfv). As a whole, results indicate relatively high anisotropy values for the individuals from Potočani (x̄=.0031) signifying considerable consumption of fibrous, homogenous foods and consistent with the farming of domesticates. Complexity values for the population are also elevated (x̄=2.313) suggesting a hard or gritty diet consistent with the exploitation of wild or seasonally available foods such as nuts or berries. Overall, DMTA signatures from Potočani indicate a diet rich in farmed domesticates along with substantial supplementation of wild resources. Further investigation into sex-based variation in diet indicate that adult males consumed a harder more heterogeneous diet than adult females who ate a softer more fibrous diet, while age-based analyses indicate that sub-adults show a moderately hard and fibrous diet. These analyses indicate that DMTA is an effective tool for discerning fine-scale dietary patterns within bioarchaeological populations.

Funding was provided by the Center for Global Studies, University of Wyoming to JLD and by the National Science Foundation (BCS 0922930) to CWS.

ABSTRACTS

A probable case of cranial osteopenia in aboriginal societies from northern Argentina

[1]Facultad de Ciencias Médicas, Universidad Nacional de Santiago del Estero, [2]Facultad de Ciencias Exactas y Naturales, Universidad Nacional de Catamarca, [3]Facultad de Ciencias Naturales y Museo, Universidad Nacional de La Plata, [4]CONICET, Consejo Nacional de Investigaciones Científicas y Técnicas

areas form two significant concavities, appreci-

of parietal bones, is not a common finding in

Funding support provided by FHCSyS-UNSE, FCM-UNSE, FACEN-UNCa and FCNyM-UNLP.

Key questions and future directions: Integrating biomarkers to understand (trans) gender experience and health disparities

[1]Anthropology, University of Oregon, [2]Psychiatry and Addiction, University of Montreal, [3]Anthropology, University of Toronto, [4]Psychological and Brain Sciences, University of Massachusetts Amherst

Implementing Nutritional Geometry to identify dietary constraints and strategies in the red-bellied lemur (*Eulemur rubriventer*)

[1]Department of Anthropology, Norther Illinois University, [2]SADABE, Madagascar, Antananarivo, [3]Department of Animal Biology, University of Antananarivo, [4]Department of Anthropology, Hunter College

considers how the mixture of nutrients influ-

Eulemur rubriventer

fiber; we quantified intakes of available protein

E. rubriventer

protein/day) in the lean season (5.07 g of protein/day) and the abundant season (8.76 g of protein/

E. rubriventer

tion can lead to inaccurate diet profiles. This

E. rubriventer

Greenville Zoo Conservation Fund from the Greenville Zoo, Founders Grant from Northern Illinois University.

Geometric morphometric analyses of carpals and tarsals demonstrate differences in wild and captive baboon populations

Department of Anthropology, University of Texas at Austin

While these differences have been quantified

Papio cynocephalus

tify any significant shape differences between the

are statistically significant differences in shape

<0.001). To address specific

The paleontological record of the *Australopithecus anamensis* site of Allia Bay, East Turkana

Center for the Advanced Study of Human Paleobiology, The George Washington University

Between 1995 and 1997, a team from the *Australopithecus anamensis*

from the Allia Bay assemblage (n= 1,711) differs significantly from that of the penecomtempora-

relative to the same taxon at Kanapoi (n=78). and aepycerotin δ13C values, suggesting impor-

Australopithecus anamensis

Funded by the Leakey Foundation, Sigma Xi Grants-in-Aid of Research, Explorers Club Washington Group inc, Evolving Earth Foundation, Cosmos Club Foundation and the Lewis N. Cotlow Fund.

Reconstructing host immune status in acquired syphilis: a bioarchaeological and immunological approach

[1]Anthropology, University of Louisville, [2]Anthropology and Middle Eastern Cultures, Mississippi State University, [3]Anthropology and Biology, University of South Carolina

Treponema pallidum, therefore, reconstructing each host's inflam-

between systemic inflammatory responses *T. pallidum* *Porphyromonas gingivalis*, inflammatory reaction. We assessed estab- individuals with lesions suggestive or specific to

in vitro

T. pallidum antigen Tp47

P. gingivalis.

sion of pro-inflammatory cytokines (TNFα, IFNγ, representing a hyper-inflammatory response. sure to Tp47 induces shifts in the expression of TNFα; IFNγ; IL-1 by the PBMCs. Together, these results suggest that an inflammatory interplay *T. pallidum* & *gingivalis* lesions, specifically PD, could be used to recon-

Arboreal primate gait kinematics: Do wild data validate laboratory inferences?

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laboratory reflect those of primates moving in natural settings. We filmed quadrupedal loco- tified the diameter and orientation of locomotor

Ateles *Alouatta* *Lagothrix* *Cebus* *Saguinus* respectively). This study confirms the prefer- primates (i.e., 87.9% of all recorded symmet- substrates. We show that laboratory and field consistent patterns but that field studies can flexibility in response to the increased substrate

Research supported by the National Science Foundation Grants BCS-1640552 and BCS-1640453.

First metacarpal trabecular morphology: Implications for thumb use in great apes and *Australopithecus*

[1]Skeletal Biology Research Centre, School of Anthropology and Conservation, University of Kent, [2]Department of Anthropology, Pennsylvania State University, [3]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, [4]Evolutionary Studies Institute, University of the Witwatersrand

tecture of the first metacarpal in extant great *Homo sapiens* *Australopithecus africanus*

Australopithecus sediba (*Paranthropus* / *Homo* *Homo neanderthalensis*)

to test for significant differences in relative

H. sapiens have significantly different first

-

-

the human pattern. These findings offer further

-

This research was supported by European Research Council Starting Grant #336301, The Fyssen Foundation, and the Max Planck Society.

Preliminary results from a recently discovered Holocene burial site in Northern Laos, Tam Pa Ping

[2] [2],

[5],

[7],

[8]

[1]Department of Medical Education, Creighton University School of Medicine, [2]Anthropology Department, University of Illinois at Urbana-Champaign, [3]Institute of Archaeology, Vietnam Academy of Social Sciences, [4]Ecole et Observatoire des Sciences de la Terre, Universite de Strasbourg, [5], Museum Histoire Naturelle de la Rochelle, [6], French National Center for Scientific Research, [7], Ministry of Information and Culture of Laos, [8], Musee de l'Homme, Paris.

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-

tified sites. Tam Pa Ping contained a single burial dating to 2996 +/- 47 years BP with associated

burial practice and antemortem body modifica-

This individual has an average measured $\delta^{13}C_{ap}$ of -7.13‰, an indication of more C4 than C3 vegetation consumption. This find suggests that

-

the

Quantifying growth pulses across the first year of life in rural Gambian infants

[2]

[3] [4]

[6],

[8]

[9] [3]

[1]Institute of Behavioral Science, University of Colorado Boulder, [2]Department of Computer Science, University of Colorado Boulder, [3]Department of Anthropology, University of Colorado Boulder, [4]Department of Applied Mathematics, University of Colorado Boulder, [5]Department of Pathology, University of Cambridge, [6]Department of Paediatrics, University of Cambridge School of Clinical Medicine, [7]MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine, [8]MRC Unit The Gambia, London School of Hygiene and Tropical Medicine, [9]Department of Women and Children's Health, King's College London

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-

ments. Here, we present a modified Gompertz

considered for fitting (N=69 (F=36, M=33)). We

in R), then attempts a Gompertz fit within each

on the next data point after the successfully fit

significant variation in the number and pattern

infants. Specifically, greater total numbers of

Gompertz events within the first 100-150 days of

Funded by the Bill and Melinda Gates Foundation (OPP1066932)

Evaluating the Significance of Hominin Femoral Variation

Anthropology, University of Arkansas

Plavcan, 2017; Eason, 2018).

-

Australopithecus *Homo*

-

specific behavioral differences among hominins are difficult to interpret with reference to such

Fluctuating sea levels in Australomelanesia and some shifting hypotheses about human population of Flores, Indonesia

[1]Laboratory for the Comparative Study of Morphology, Mechanics, and Molecules, Department of Kinesiology, Pennsylvania State University, [2]Laboratory for the Comparative Study of Morphology, Mechanics, and Molecules, Department of Kinesiology, Pennsylvania State University, [3]Department of Geosciences, University of Chinese Academy of Sciences, Beijing, China, [4]Anthropology and Comparative Anatomy, University of Adelaide

al., 2004) supporters of "Homo floresiensis"
(Jacob, et al., 2007), stature >1.25 m (Eckhardt
Homo sapiens
olation
an essential explanatory element for defining
falsified (Brumm, et al., 2016); if anything, body
(Jacob, et al., 2007) remains that numerous sea level fluctuations over time make it likely that
individual.

Health Outcomes Associated with Higher Allostatic Load in Zoo-Housed Western Lowland Gorillas (*Gorilla gorilla gorilla*)

[1]Endocrinology Laboratory, Smithsonian Conservation Biology Institute, [2]Department of Anthropology, The Ohio State University, [3]Department of Veterinary Preventive Medicine, The Ohio State University, [4]College of Public Health, The Ohio State University

from 0-6 (=1.84, SD=1.71). AL was positively
regression, p=0.797, R

This work was supported by the Columbus Zoo and Aquarium and the Department of Anthropology at The Ohio State University.

NMDID: A new research resource for biological anthropology

[1]Anthropology; Office of the Medical Investigator, University of New Mexico, [2]Health Informatics and Information Management, University of Mississippi

medicine, public health and other fields. The data-
2010-2017, approximately 11% of deaths in New

77% of the scans. Two-thirds of the sample were male; one-third were Hispanic/Latino; 872 were
one optimized for displaying bone, totaling 7GB

Funded by National Institute of Justice 2016-DN-BX-0144. Statements made are solely the responsibility of the authors.

Age and pathology-related changes in neuron density in the chimpanzee cortex

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but an absence of significant neuronal loss.
tive deficits, they lack neuron death and cortical

beta (Aβ) and tau-related neurofibrillary tangles

panzee brains (n = 29, 12-62 years). Utilizing Aβ

subfields CA1 and CA3 from Nissl-stained

R^2 = 0.17, p's ≤ 0.02). Additionally, increased volume of Aβ42-containing vessels correlated ^{2} = 0.23, p ≤ 0.04). These data suggest that both aging and Aβ

NSF (BCS-1316829, MAR), NIH (NS042867, NS073134, NS092988, WDH, CCS; AG017802, JJE; AG014308, JME; AG005138, PRH; P01AG014449, AG043375, EJM), James S. McDonnell Foundation (220020293, CCS), Sigma Xi, KSU RC and GSS

Dental Microwear Texture Analysis of Archaic Period Groups in Indiana and Kentucky

Anthropology, University of Indianapolis

is applied to Phase II facets on first and second

(12Fl73, Bluegrass, Kramer, Meyer) and Kentucky (Carlston Annis, Barrett, Butterfield, Indian Knoll,

white-light confocal profiler at a magnification

Our results found statistically significant differences (df = 6, F=2.267, p = .044, partial eta2 = 0.135) for complexity between Butterfield (mean

study indicates a statistically significant variation

Complex Clavicles: A novel method for landmark collection on structures lacking clearly defined features

[1]Department of Anatomy, Midwestern University, [2]Department of Integrative Anatomical Sciences, University of Southern California, Keck School of Medicine, [3]Department of Anatomy, Campbell University School of Osteopathic Medicine

measures in predefined, two-dimensional planes.

ardized, objective orientation is first established

clearly distinguished taxa across the first three

as more subtle deflections of the sternal and

mark definition and placement, while achieving

Funding for this study was provided by Midwestern University.

After Theranos: Next-generation biomarkers and technologies

Anthropology, University of Oregon

the huge demand for finger-prick diagnostics.

in the wake of its collapse, which can only benefit

troscopy, nanofluidic biosensors, and multiplexed

focus on microsampling is likely to benefit biolog-

results in field settings from a few drops of blood

NSF BCS-1638786 and University of Oregon

Paternal age at conception effect on offspring telomere length as a potential adaptive intergenerational signaling mechanism: testing of transmission across four generations in the Philippines

[1]Department of Anthropology, University of Washington, [2]Center for Studies in Demography and Ecology, University of Washington, [3]USC-Office of Population Studies Foundation, Inc., University of San Carlos, Cebu City, Philippines, [4]Department of Anthropology, Sociology and History, University of San Carlos, Cebu City, Philippines, [5]Division of Endocrinology, Metabolism and Molecular Medicine, Department of Medicine, Northwestern University Feinberg School of Medicine, [6]Center for Genetic Medicine, Northwestern University Feinberg School of Medicine, [7]Department of

Anthropology, Northwestern University, [8]Institute for Policy Research, Northwestern University

TL to PAC across four generations. We find the power, we fail to find significant great-grandpa- (ns=1,278 and 32; ps>0.52). These results are

Funding from NSF (BCS-1519110 and BCS-0962282), the Wenner-Gren Foundation (Gr. 8111), and NIH (TW05596, DK078150, RR20649, ES10126, and DK056350).

EMPHASIS: Environmental Mismatch in Primates and Humans, Anthropogenic Impacts and Settings Survey

[1]Anthropology, Smithsonian Institute National Museum of Natural History, [2]Center for Functional Anatomy and Evolution, Johns Hopkins University, [3]Anthropology, University of Oklahoma, [4]Laboratories of Molecular Anthropology and Microbiome Research, University of Oklahoma

in health profiles which may have evolutionary implications. To investigate the influence of

tests indicate there is a significant correlation

not macaques (n=652; p=0.875,

and 57% of captives; results for this chi-square did not indicate a significant correlation between

found to be significantly correlated with environ-

captive heath profiles between primate taxa.

Flexible grouping patterns of lowland woolly monkeys (*Lagothrix lagotricha poeppigii*): evidence of a multilevel society in a New World primate?

[1]Department of Anthropology, University of Texas at Austin, [2]Department of Anthropology, Miami University

ciation patterns among conspecifics vary over

ture directly influences individuals' opportunities

due to their higher rates of group fissioning. For

Funded by NSF BCS-1540403, the Leakey and Wenner-Gren Foundations, and the National Geographic Society/ Waitt Grants Program.

Urbanizing Childhood: The Children of the Spring Street Presbyterian Church and the Changing Landscape of Lower Manhattan

Anthropology, Florida Atlantic University

of age (MNI=70), buried at the Spring Street

of urbanization in New York City are reflected in

subadults have rickets, 71% of the infants have scurvy and 22% have nonspecific cranial lesions,

in the death records—diarrheas, inflammations,

reflect the poor quality food, decreasing quality

infectious disease endemic in the first half of the

Foraging in a landscape of fear: chacma baboons (Papio hamadryas ursinus) in the anthropogenic habitats of Hemel-en-Aarde Valley, South Africa

[1]Department of Anthropology, University of Texas at San Antonio, [2]Department of Cultural and Behavioral Sciences, Georgia State University Perimeter College, [3]Program in Environmental Science and Department of Ecology and Evolutionary Biology, University of Colorado Boulder

(*Papio hamadryas ursinus*)
anthera
pardus melanotica)

We collected data (June 2016-April 2017) on
significant differences in vigilance rate among
(F=62.78, p<0.001) and animals behave differ-
habitats (identified by vigilance rate). Results

This research was supported by the National Science Foundation's Doctoral Dissertation Research Improvement Grant (Award: 1455675).

Feeding and foraging behavior of chacma baboons (*Papio hamadryas ursinus*) in a temperate and anthropogenically-altered habitat in South Africa

[1]Department of Anthropology, University of Texas at San Antonio, [2]Department of Geography and Anthropology, Kennesaw State University

Pinus *Acacia*

This research was funded by the Department of Anthropology at the University of Texas at San Antonio.

Physical frailty, aging, and mortality in wild chimpanzees

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status is difficult to assess, signs of frailty could

Funding: National Institutes of Aging/Office for Research on Women's Health (R01-049395), National Science Foundation (Grants 1355014, 0849380), Leakey Foundation, Wenner-Gren Foundation, University of New Mexico, Harvard University, Tufts University.

Oral health and osteoarthritis: impacts from social and environmental variation among Iron Age steppe groups of southern Siberia and Inner Asia

[1]Biological Sciences, Western Michigan University, [2]Institute of Intercultural and Anthropological Studies, Western Michigan University

steppe sites to analyze the influence of environ-
(N=87) and the Xiongnu period ring tombs of

isons show that Heigouliang has significantly higher rates of antemortem tooth loss (χ^2 [illegible] N=2834)=79.911, p<0.001) and in teeth that are carious (χ^2 (2, N=1525)=39.671, p<0.001), which [illegible] (χ^2 [illegible] females (χ^2 [illegible] significantly highest among Egiin Gol individuals (χ^2 (2, N=87)=10.852, p=0.004). These results [illegible]

Funding for JE: Fulbright-Hays Doctoral Dissertation Abroad program & University of California Pacific Rim Award. Funding for MM: Smithsonian Institution (Council for American Overseas Research Centers) and Wenner Gren.

Competitive ability complements coalition formation in wild male chimpanzees

[illegible] [2], [illegible] [3] [illegible] [2] [illegible] [4] [illegible] [2]

[1]Department of Anthropology, University of New Mexico, [2]Kibale Chimpanzee Project, Fort Portal, Uganda, [3]Department of Anthropology, Tufts University, [4]Department of Human Evolutionary Biology, Harvard University

so they stand to gain substantial benefits from [illegible] rates than did adolescent males (GLMM: β=1.35, [illegible] were older (β=1.09, SE=0.22, p<0.001) and larger (β=0.87, SE=0.24, p<0.001) than if they were younger and smaller. Our findings indicate that [illegible]

This material is based upon work supported by the National Science Foundation Graduate Research Fellowship Grant No. DGE-0237002, National Science Foundation Grants No. 1355014, 9807448, 0416125, and the Leakey Foundation.

Patterns of Skeletal Asymmetry in the Human Pelvis

[illegible]

Department of Anthropology, University at Buffalo-SUNY

[illegible] *priori* [illegible] fluctuating asymmetry (FA) and individual (IA) [illegible] quantified using landmark configurations on 3D [illegible] configurations and all possible interlandmark [illegible] and Mann-Whitney U tests found no significant [illegible]

This project was funded by the Wenner-Gren Dissertation Fieldwork Grant (Grant #9641), the Mark Diamond Research Fund (SP-18-19), and the 2017 Morris E. and Lucille R. Opler Dissertation Research Scholarship.

Closing the gap: Examining sex differences in oral health

[illegible] [2] [illegible] [1] [illegible] [3]

[1]Anthropology, Smithsonian Museum of Natural History, [2]Anthropology, The College of New Jersey, [3]Paleobiology, Smithsonian Museum of Natural History

Euro males and females (between 20-87 years [illegible] and females, except age 60-70, at which point [illegible] damaged teeth. The confidence intervals for the [illegible] which have identified decreased disparity in [illegible] influences as well as biological effects.

NSF REU Site, OCE-1560088

Expression of Sexual Dimorphism Among the German, Irish, and Italian Ancestry Groups in the Huntington Collection

[illegible] [2] [illegible] [2] [illegible] [3] [illegible]

[1]Applied Forensic Science, Mercyhurst University, [2]Physical Anthropology, Smithsonian Institution, [3]Paleobiology, Smithsonian Institution

1900's, demonstrate social mobility and stratifi-

R d PRISM.

using sex as a factor. Significant sexual dimor-

not significant. These results, may be due to the

females in the collection is reflected on the activ-

Funding was provided by the National Science Foundation (NSF), REU Site, OCE-1560088.

The Relationship Between Localized Bone Density and the Area and Perimeter of Exit Wounds

Anthropology, Binghamton University

has a significant effect on the size of gunshot

This project was supported by an award from the National Institute of Justice: 2016-DN-BX-0155.

The Potential Effect of Climate Adaptation on the Morphology of the Pelvis

Department of Anthropology and the Center for the Study of Human Origins, New York University, The New York Consortium in Evolutionary Primatology, NYCEP

Human birth is difficult due to the tight corre-

the first captured the morphology of the bony

adaptation due to climate did not significantly

playing a significant role in determination of

This material is based upon work supported by the National Science Foundation Graduate Research Fellowship Program under Grant No. 1650895.

Diversity in Tudor England: Exploring Origins and Ancestry in the Crew of Henry VIII's flagship, the Mary Rose

Archaeology, Cardiff University

The tragic sinking of Henry VIII's vice flagship, the

remains of 179 crew members, resulting in a

morphology that would be classified as "White"

ably within the ranges for Britain (87Sr/86Sr = 0.71070, δ18Op = 18.4‰), his cranial morphology

(OSSA) methods of Hefner and Ousley (2014). I70 ("the Royal Archer") had a δ18Op value of 21.2‰, significantly higher than the estimated British

Tree of I70's craniomorphology suggests he was

Cardiff University Archaeological Science MSc Programme and Channel 4.

Maternal stress, anxiety, and fear of childbirth among planned homebirth mothers: results from a mixed methods study

Anthropology, University of South Florida

using a mixed methods approach. Specifically,

rise is a major and significant event. Gaining a

Funded by the University of South Florida's Creative Scholarship Grant

Frequency of enamel chipping in Tai Forest cercopithecids: Implications for dietary reconstruction in paleoanthropological contexts

[1]Anthropology, The Ohio State University, [2]Anthropology, University of Florida, [3]Biology, Saint Michael's College

hardness. We quantified chip frequency and size

Piliocolobus badius, *Colobus polykomos*, *Procolobus verus*, *Cercocebus atys*, *Cercopithecus*

Cercocebus atys *Procolobus verus*. *C. atys*, a

the forest floor, exhibited the most and largest

Evolution of the Epigenome in Ultraconserved Non-coding Elements in Animals over 300 Million Years

Animal Science, University of Minnesota

tecture and can be modified by environmental

hominids. Most exhibit significant clade specific

Social influences on reproductive development and maturation in female geladas

[1]Interdepartmental Doctoral Program in Anthropological Sciences, Stony Brook University, [2]Department of Anthropology, University of Michigan, [3]Department of Psychology, University of Michigan, [4]Department of Anthropology, Stony Brook University

thereby influencing lifetime reproductive success.

maternal rank and unit size influenced the age at first sex skin swelling for 15 juvenile female (*Theropithecus gelada*)

mined whether the onset of first swelling was presaged by a rise in fecal estrogens (n=726). We

oped their first sex skin swellings earlier than

an individual's first sex skin swelling, suggesting

with previous studies, our finding of accelerated

Fieldwork was supported by National Science Foundation (grant numbers BCS-0715179, IOS-1255974, BCS-1723228); Leakey Foundation; National Geographic Society (grant number 8100–06, 8989-11); the Wildlife Conservation Society; and the University of Michigan.

Nepotistic cooperation among maternal and paternal kin in male chimpanzees from Gombe National Park, Tanzania

[1]Department of Anthropology, University of Michigan, [2]Department of Evolutionary Anthropology, Duke University, [3]Institute of Human Origins & School of Human Evolution and Social Change, Arizona State University

cuous mating system. However, the recent finding

account for some statistical interdependencies inherent to relational network data. Here we use 21 years of behavioral data from Gombe from 23 adult males with known mothers, 10 of whom also had known fathers assigned via genetic sampling, to investigate the effect of kinship on cooperation. Employing additive and multiplicative effects (AME) models, a Bayesian random effects regression framework for relational data, we found that, as well as maternal brothers, both father-son and paternal brother dyads associated and groomed preferentially, and groomed more equitably, than unrelated dyads, even after accounting for individual age and rank, dyadic age and rank similarity, and individual grooming and association tendencies. Paternal and maternal kinship effects were of a similar magnitude. These results suggest that the ability to recognize paternal kin may be widespread in chimpanzees, and that kin selection likely plays a larger role in cooperation among male chimpanzees than previously thought.

Data collection supported by the Jane Goodall Institute, construction of the long-term database supported by NSF (DBS-9021946, SBR-9319909, BCS-0452315, IIS-0431141, IOS-LTREB-1052693), genetics work supported by NIH (R01 AI058715).

Phylogeny of Extant Colobines Using Morphological Data

AILEEN FERNANDEZ and STEPHEN R. FROST

Anthropology, University of Oregon

We conducted a cladistic analysis of extant colobines using morphological data, as the last such analysis was published twenty years ago by Jablonski (1998). The sample included all commonly recognized extant African and Asian genera including *Colobus* (n=51), *Procolobus* (n=9), *Piliocolobus* (n=58), *Simias* (n=20), *Nasalis* (n=21), *Rhinopithecus* (n=11), *Pygathrix* (n=9), *Presbytis* (n=110), *Trachypithecus* (n=60), *Semnopithecus* (n=11) and *Kasi* (n=13) treated as a separate OTUs. *Macaca* (n=199), often considered the most morphologically primitive papionin, was the outgroup. We included all of the characters that could readily be applied to colobines from Gilbert's (2013) cladistic analysis of papionins, including 52 quantitative dental, 33 quantitative cranial, and 67 qualitative characters. Quantitative characters were scored with gap weighted coding. We tested all characters for allometry, and affected characters were treated as described by Gilbert (2013). Three analyses were conducted: males only, females only, and sexes pooled. Matrices were assembled with Mesquite and analyzed in TNT using parsimony. The pooled sex analysis recovered a single most parsimonious tree with a monophyletic Presbytina, but Colobina was paraphyletic. The Asian colobines included an odd-nosed clade, but the langurs were paraphyletic. *Kasi* was sister to *Trachypithecus*. Sex-specific results were similar, except in the male analysis *Piliocolobus* was basal to the odd-nosed clade within Presbytina; and in the female analysis *Colobus* was basal to the odd-nosed clade within Presbytina. The position of *Kasi* in the sex specific analyses was unstable, but always among the other langurs. Future research involves increasing outgroup diversity to include more cercopithecines and incorporating fossils.

Investigating fossil hominin climbing behaviors: Novel applications of existing technology

ELEN M. FEUERRIEGEL[1,2] and PATRICIA A. KRAMER[1]

[1]Department of Anthropology, University of Washington, [2]Evolutionary Studies Institute, University of Witwatersrand

The retention of climbing-adapted features in the upper limb of some species of fossil hominins have historically been interpreted to indicate the continued relevance of arboreal climbing in the human lineage. Recent paleoenvironmental reconstructions for two major hominin-bearing landscapes in Africa have found that fossil hominins were preferentially utilizing landscapes featuring a mosaic of habitats in close geographical proximity, including dry, uplifted flanks with rocky cliffs. Many extant species of primate use rocky and cliff habitats as sleeping, foraging, and refuge sites. This raises the question: could the retention of climbing-advantageous morphologies in fossil hominins relate to behaviors other than tree climbing, such as rock climbing?

Five healthy, experienced rock climbers were recruited to perform two rock climbing and two suspensory grips on a custom rig. Kinematic analysis (Qualisys Motion Capture Systems, Gothenburg, Sweden) was used to quantify differences between suspensory and rock climbing grips in terms of joint angles, or grip shape. Pilot data was analyzed using principal components analysis and canonical variate analysis to assess variation within the samples. Results indicate significant differences between angular joint configurations according to grip type ($p = <0.007$). The only paired grip comparison without significant effects was the Hook-Power grip comparison.

The pilot study justifies a more detailed exploration of force distribution and kinematics between rock climbing and arboreal climbing/suspensory grips. We also present a novel approach to instrumenting complex vertical substrates using 3D printing technology to accurately collect kinetic data during non-arboreal climbing behaviors in modern humans.

This pilot study was supported by funding from the Quaternary Research Center.

Exploring age-related variations during talar growth

CARLA FIGUS[1], NICHOLAS B. STEPHENS[2], RITA SORRENTINO[1,3], EUGENIO BORTOLINI[1], LUCIA M. SCALISE[1], GAIA GABANINI[1], MATTEO ROMANDINI[1], FEDERICO LUGLI[1], SIMONA ARRIGHI[1], FEDERICA BADINO[1,4], GIULIA MARCIANI[1], GREGORIO OXILIA[1], DANIELE PANETTA[5], MARIA G. BELCASTRO[3,6], WILLIAM HARCOURT-SMITH[7,8,9], TIMOTHY M. RYAN[2] and STEFANO BENAZZI[1,10]

[1]Department of Cultural Heritage, University of Bologna, [2]Department of Anthropology, Pennsylvania State University, [3]Department of Biological, Geological and Environmental Sciences, University of Bologna, [4]CNR. - Istituto per la Dinamica dei Processi Ambientali, National Research Council, [5]CNR Institute of Clinical Physiology, National Research Council, [6]ADES AMU-CNRS- EFS: Anthropology and Health, Aix-Marseille Université, [7]Graduate Center, City University of New York, [8]Department of Anthropology, Lehman College, [9]Division of Paleontology, American Museum of Natural History, [10]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology

Age estimation is a fundamental aspect in juvenile osteological studies and, as such, there are many methods that rely on ontogenetic-related changes to bone morphology. The talus, being a small and compact bone, is generally well preserved in archaeological contexts, but little is known about its morphological trajectory during growth. To better understand this we apply a (semi)landmark-based approach to an ontogenetic sample of 26 modern human juvenile tali (known age/sex = 12; unknown age/sex = 14), grouped by 5 age categories ranging from 0 to 15 years.

A template of 11 landmarks and 205 semilandmarks were applied to 26 microCT-based digital models of the juvenile tali. These were superimposed by Generalized Procrustes Analysis with the semilandmarks freely sliding against recursive updates of the Procrustes consensus. Finally, individuals of unknown age/sex were projected into the form-space determined from a Principal Component Analysis of the known sample.

Our results show that most of the morphometric variation is explained by PC1 (≅91%), which is highly correlated with size and accounts for ontogenetic allometry. Negative scores (i.e., youngest) are related to a small and globular morphology. The positive scores (i.e., oldest) account for an elongation of the talar body, which is mainly related to the development of the neck and growth of the lateral malleolar facet.

This project is funded by the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No 724046 - SUCCESS); website: http://www.erc-success.eu/

ED-XRF study of Oldowan artifacts documents raw material selection and transport through time on the Homa Peninsula, Kenya

[1]Anthropology, CUNY Graduate Center, [2]NYCEP, New York Consortium in Evolutionary Primatology, [3]Anthropology, CUNY Queens College, [4]The Center for the Advanced Study of Human Paleobiology, George Washington University, [5]School of Archaeology, University of Oxford

afield. This shift is apparent at Kanjera South

(27.2%). Trace element geochemistry obtained from X-ray fluorescence spectroscopy indicates

identified for KJS. While some rhyolites may have

paleo-conglomerates confirmed that secondary

of non-local materials for flake production.

This research was supported by the Leakey Foundation and the National Science Foundation DDIG (BSC-1836669).

Evaluating Osteon Cement-Line Interface Distances for Advancing Understanding of Bone Adaptation

[1]Othopaedics, University of Utah, [2]Biology, University of Florida

fiber orientation (CFO). Surprisingly, the chim-

explained by the more robust analysis. The find-

Diet and Catastrophe: Dental Microwear Analysis of a Population Under Siege at the Ancient Greek Colony of Himera

[1]Department of Classics, University of Texas at Austin, [2]Department of Anthropology, University of Georgia, [3]Soprintendenza archeologica regione palermo, Italia, [4]Department of Anthropology, University of Northern Colorado

reflect diet at the end of an individual's life, and in this case likely reflect diet of individuals affected

field emission scanning electron microscope.

This research was funded by National Science Foundation Research Experience for Undergraduates award numbers 1560227 and 1560158, the University of Georgia, and the University of Northern Colorado.

Neanderthal Hypercarnivory Revisited – Experimental Study of $\delta^{15}N$ Shifts in Dietary Items Produced by Various Cooking Techniques

[1]Anthropology, George Washington University, [2]Museum Conservation Institute, Smithsonian Institution

bones, results show a highly enriched δ^{15}N

hypercarnivory, in line with or exceeding the δ^{15}N

foods. Reconciling the δ^{15}N

native explanation for the highly enriched δ^{15}N

mechanism from which a δ^{15}N

animal and plant foods will cause the δ⁵
to consume cooked food items, their δ⁵
relative δ⁵
icant bi-directional variation in δ⁵
observed δ⁵

To cook or not to cook: shellfish feeding in tufted capuchins

[1]Research, Neotropical Primates Research Group, [2]Biodiversity and Conservation, Federal University of Maranhão, [3]Department of Organismal Biology and Anatomy, University of Chicago, [4]Anatomy, Kansas City University of Medicine and Biosciences, [5]Department of Anthropology, University of Georgia, [6]Center for Agrarian and Environmental Sciences, Federal University of Maranhão

tion. Shellfish are thought to be a major calorie
sites, the shellfish may have been thermally
processing, but shellfish data from non-human
Ucides cordatus
Sapajus libidinosus
strate that there are both costs and benefits to
mating the energetics of shellfish food sources

Founded by CAPES 8887.162125/2017-00, NSF BCS 1440545 and FAPEMA AUX-08365/17 and Universal 0613/15.

With People, came Parasites: An examination of human intestinal parasites and urbanization at the 18th century Fortress of Louisbourg

[1]Anthropology, University of New Brunswick, [2]Biology, University of New Brunswick

years of 1713 and 1758 and within seven years
more who fished or did seasonal business. By
(1738-1758). For each of the seven burials, indi-
Multiple species were identified within the adult
Ascaris
Enterobius vermicularis
flourishment of these particular parasites within

This research is supported by a SSHRC CGS Master's Award (MF) and a SSHRC Partnership Development Grant (890-2017-0049) (AS)

Spring function of the Achilles tendon in walking and running gaits

[1]Anatomy, Campbell University School of Osteopathic Medicine, [2]Anatomy and Neurobiology, NEOMED, [3]MS-II, Campbell University School of Osteopathic Medicine

inverse dynamics in human subjects (n=17)
modeled using specific net work (SNW; net work/
length is not significantly correlated with SNW

Funding provided by the CUSOM Medical Student Summer Research Scholars Program.

Function and variation in the mechanical properties of *Papio anubis* tooth enamel

Anthropology, Rutgers, the State University of New Jersey

mechanical property gradients reflect the ability

Papio anubis

done using a modified ANOVA test, suitable for

This work was funded by a grant from the Center for Human Evolutionary Studies at the Department of Anthropology, Rutgers, the State University of New Jersey.

Applying the random encounter model to estimate density of *Cercopithecus lomamiensis* from camera traps in the Lomami National Park and buffer zone of the Democratic Republic of the Congo

[1]Biology, Florida Atlantic University, [2]–, Lukuru Wildlife Research Foundation, [3]Anthropology, Florida Atlantic University

Cercopithecus lomamiensis

C. lomamiensis

days; E15: 173 events, 1979 CT days) to obtain

(*D(g)*

D(g)

D(i)

D(i)=30.94±2.37). This study benefits conservation efforts of *C. lomamiensis*

New Digs: Revisiting Paleoanthropology in the Genome Editing Era

School of Medicine | Department of Pediatrics, University of California, San Diego

higher resolution, including the confirmation of

in vitro

in vivo

introduction of ancient hominid-specific alleles

cific mutations are endogenously introduced in

Development of gut microbiota and the brain across the first year of life: A longitudinal study of human infants

Department of Anthropology, UCLA

intestine across the first postnatal year of human

amplified, and a closed-reference taxonomic classification was performed. We measured significant differences in beta diversity between

variable, stratified by age groups. Three beta diver-

UniFrac,and Unweighted UniFrac). This is the first

NIH P50/MH096889 (PI Dr. Baram) and 2P2CHD041022-16 (PI Dr. Seltzer) seed grant to Dr. Fox

A consideration of the 'anomalous' narial margin patterning in the Krapina Neandertal maxillae

Department of Anthropology, University of Iowa

configuration on the inferior border of the nasal aperture, has not been sufficiently considered.

are compared. I employed a detailed 7-category

the sufficiently preserved Krapina maxillae show

a category-3 configuration where the turbinal

contributes significantly to the demarcation of

Homo

and Eurasia, likely reflecting the primitive condi-

Homo. The Krapina NM configuration,

This work was supported by a Leakey Foundation Grant and NSF SBR-9312567.

Assessment of pathological conditions found in Andean Holocene inhabitants of Cuncaicha rock shelter, Peru

[1]Paleoanthropology, Senckenberg Center for Human Evolution and Paleoenvironment, University of Tuebingen, [2]Center for Advanced Studies 'Words, Bones, Genes, Tools', University of Tuebingen, [3]Department of Anthropology, Northern Illinois University

provided five partial skeletons (two adult females

inflammation, trauma, lytic defects, and other

As skeletal data suggest, all five individuals

This study was supported by the German Research Foundation (DFG grants FOR-2237 and INST 37/706-1).

The Impact of Food Texture Preference on Oral Processing in Modern Humans

[1]Anatomy and Neurobiology, Northeast Ohio Medical University, [2]The Understanding and Insight Group LLC, Denville, NJ, [3]Food, Bioprocessing, and Nutrition Sciences, North Carolina State University

and surface properties of foods, has a signifi-

humans has identified four consumer groups

MB grouping had a significant impact on oral

of the total variation on average. These findings

USDA: NIFA/AFRI 2014-67017-21644

Macroscopic analysis of periosteal new bone in human long bones

Chemistry, SUNY Buffalo State

etal lesion that results from the inflammation of

(Chi-Square (5) = 75.20, p < 0.0005), with the lower

expected on tibiae and fibulae (Chi-Square (5) = 154.47, p < 0.0005). Tibiae also had a higher

to focal lesions (0.47), than the other types of

This research was funded by the Undergraduate Summer Research Fellowship Program through SUNY Buffalo State's Office of Undergraduate Research and the Dr. Gerard and Kathleen Wieczkowski Anthropology Research Grant.

Life history underpinnings of East Turkana faunal turnover during the early Pleistocene

[1]Anthropology, Bryn Mawr College, [2]School of Human Evolution and Social Change, Arizona State University

field collections were used to calculate rates of

r2=0.494 vs. 0.307 and 0.283, respectively). In

factors influencing human and primate success

Bryn Mawr LILAC Summer Internship Funding, Judy Loomis Gould Scholarship, Pauline Austin Adams Fund for Excellence in Anthropology

Culture change in the urban north: The intergenerational effects of dietary and sociodemographic patterns among Alaska Native women and children living in Anchorage, Alaska

[1]Anthropology, Northwestern University, [2]Institute for Policy Research, Northwestern University

to, traditional foods influences pre-pregnancy

life-long residents of Anchorage eat significantly

RLF was funded by a NSF Graduate Research Fellowship, a Wenner Gren Dissertation Fieldwork Grant, and NSF DDRIG #1613340.

The oldest, most complete skeleton of *Theropithecus*, ARI-VP-1/26 from Woranso-Mille, Afar, Ethiopia

[1]Anthropology, University of Oregon, [2]Anthropology, The Pennsylvania State University, [3]Physical Anthropology, Cleveland Museum of Natural History

Theropithecus

Mesgid Dora Tuff (thus 3.57-3.664 Ma) between

Theropithecus oswaldi *darti*:

Macaca mulatta

heropithecus

T. oswaldi

T. brumpti *T. gelada*,

We thank the National Science Foundation (BCS-1124705) and a University of Oregon Faculty Research Award for support.

The Phylogeny of Baboon Social Organization

[1]Department of Anthropology, University of Massachusetts, Amherst, [2]Graduate Program in Organismic and Evolutionary Biology, University of Massachusetts, Amherst

31 sites representing five baboon species (*P. anubis, P. cynocephalus, P. papio, P. kindae, P. ursinus*)

and Early Burst) and a null model fit the variation

better fit to the social organization data than

In addition, there has been significant gene flow

have some genetic basis, then gene flow among

Human Mitochondrial Diversity Across West New Guinea: The Origin and Expansion of Haplogroups Q1 and P3

[1]Freshman Research Immersion, Binghamton Universtiy, [2]Laboratory of Biomedical Anthropology and Neurosciences, Binghamton University, [3]Anthropology Department, Binghamton University

West New Guinea (WNG). 207 blood serum

the rare M subclade M73'79. 70 samples were

tral lineages of Q1 and M73 reported so far.

This project was supported in part by: Howard Hughes Medical Institute (HHMI) through the Precollege and Undergraduate Science Education Program, NYS Regional Economic Development Council, SUNY Investment & Performance program.

Investigating symptoms of depression in African Americans by integrating genetic and sociocultural data

[1]Genetics and Genomics Graduate Program, University of Florida, [2]Genetics Institute, University of Florida, [3]Anthropology Department, University of Florida, [4]Bureau of Economic and Business Research, University of Florida

genotyped SNPs in five genes (*HTR1a, GNB3, SLC6A4, FKBP5,* a*BDNF)*

(self-reported difficulty paying bills) on CESD

who reported little money strain had signifi-

significant differences in CESD scores based

studies have found a significant association between the T allele of rs1360780 (in *FKBP5*)

Supported by NSF Grants BCS 0820687 and BCS 0724032.

Dental topography metrics from lemurs as ecometrics along spatial environmental gradients on Madagascar

Evolutionary Anthropology, Duke University

Tooth shape quantified using topographic metrics

reflect different aspects of lemur dietary ecology.

Re-evaluating the analysis of dominance: Investigations of dominance in captive chimpanzees (*Pan troglodytes*) and wild Tibetan macaques (*Macaca thibetana*) from a context-dependent perspective

[1]Department of Anthropology, Washington University in St. Louis, [2]Primate Behavior Program, Central Washington University, [3]Department of Anthropology & Museum Studies, Central Washington University

Theoretical definitions of dominance, how domi-

structures on other social behaviors (e.g., affilia-

n troglodytes)

Macaca thibetana)

rho correlation coefficients),

chimpanzee group, one broadly defined domi-

Pete and Sandra Barlow Award (CWU Department of Anthropology and Museum Studies); Debra and Arlen Prentice Award (CWU Primate Behavior Program); CWU School of Graduate Studies and Research

Dental Disease in an Egyptian Colonial Cemetery at Tombos

[1]Department of Geography & Anthropology, Louisiana State University, [2]Department of Anthropology, Purdue University

sample of the population reveal significantly

caries rates. The current sample reflects similar

burial styles reflecting different cultural tradi-

Exploring age-related variations during calcaneal growth

[1]Department of Cultural Heritage, University of Bologna, [2]Department of Biological, Geological and Environmental Sciences - BiGeA, University of Bologna, [3]Department of Anthropology, Pennsylvania State University, [4]ADES AMU-CNRS-EFS: Anthropology and Health, Aix-Marseille Université, [5]Graduate Center, City University of New York, [6]Department of Anthropology, Lehman College, [7]Division of Paleontology, American Museum of Natural History, [8]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology

5 age categories (0-15 years) were defined; unknown sex/age specimens were classified as

(semi)landmark configurations were super-

both a greater definition of the *sustentaculum talii* and *sinus tarsi*

This project is funded by the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No 724046 - SUCCESS); website: http://www.erc-success.eu/

The Ethical Exhibition of Human Remains

Sociology and Anthropology, Metropolitan State University of Denver

professional's role in the field as well as their

themes centering around the cultural affilia-

includes using ethnographic methods to find

between groups with conflicting perspectives,

Weighing the possibilities: Exploring a modified technique for the assessment of frailty in human skeletal remains

[1]Department of Anthropology, Humboldt State University, [2]Institute of Archaeology, University of Gdansk, [3]Department of Anthropology, Lakehead University, [4]Department of Anthropology, Binghamton University (SUNY)

In recent years, significant progress has been

proposes a modified method for the assessment

fied index employs a series of weighted scales
logical stressor, including nutritional deficiencies,
approximately 7 to 65 years from the Bezławki
to explore modifications of existing techniques

Palatine morphological variation associated with diet in lemurs

Anthropology, University of Florida

Lemur catta, Cheirogaleus medius, Varecia variegata, *Eulemur mongoz,* *Propithecus verreauxi* *Hapalemur griseus,* *Mirza coquereli* *Microcebus murinus*
Mirza coquereli *Microcebus murinus*
Lemur catta

Funded by the National Science Foundation (BCS-1231717, BCS-1231350, BCS-0959438, BCS-1728263)

The Bioarchaeology of Urbanisation in Denmark

Anthropology, University of Manitoba

centres. This was influenced by population deci-
that these changes would have influenced popu-
in growth are identified between the rural and
bone metrics showing no significant difference,
males at the urban site had significantly higher
according to severity (reflecting an overall picture

This project was funded in part by a SSRHC Vanier Canada Graduate Scholarship.

Reconstructing Weaning and Childhood Diets at the 6th-5th C. BCE Skeletal Population of the Greek Colony of Himera

[1]Gillings School of Global Public Health, University of North Carolina at Chapel Hill, [2]Department of Anthropology, University of Georgia, [3]Archaeological Heritage Section, Archaeological Superintendency of Palermo, [4]Department of Anthropology, University of Northern Colorado

Adequate nutrition during early childhood influ-
6th 5
nitrogen and carbon isotopic ratios (δ15N, δ13C)

This research was funded by National Science Foundation Research Experience for Undergraduates award numbers 1560227 and 1560158, the University of Georgia, and the University of Northern Colorado.

Chronic stressors lead to dysregulated endocrine-immune function and diabetes risk in Honduran immigrant women

[1]Center for Evolution and Medicine, Arizona State University, [2]CESAMO, Utila, Honduras, [3]Medicine, Universidad Catolica de Honduras, [4]School of Human Evolution and Social Change, Arizona State University, [5]Department of Anthropology, University of California, Santa Barbara, [6]Department of Anthropology, Washington State University, Pullman

influence disease risk in part through their effect
the mechanisms by which these factors influence

but substantial variation in individual risk. We find over the day (β = -6.99, p<0.001 and β = -3.14, sive symptoms (n=59) had significantly higher Our findings suggest that metabolic pathologies may be influenced by dysregulation of neuroen- may be linked to T2DM through influence on

Wenner-Gren Foundation Grant #9407

Bioarchaeological Evidence for Canalization in Subadult Body Size and Growth, Colonial Lambayeque Valley, Peru

[1]Sociology and Anthropology, George Mason University, [2]School of Human Evolution and Social Change, Arizona State University

Mórrope (A.D. 1536-1750) on the north coast ical marginalization and resource insufficiency. terizes these samples (n=119). Lines were fit to Mann Whitney U tests. Linear models were fit to years. No significant differences in the stand- found (p < 0.11). Similarly, no significant differ-

The importance of age-at-death in orbital roof lesion analysis

Archaeology, Durham University

classification. Furthermore, the amended chart several metabolic, nutritional deficiency, and nonspecific diseases as potential diagnoses.

Age also influences the manner in which Type

An experimental study of bone tools from Swartkrans Cave, South Africa

[1]Department of Anthropology, Georgia State University, [2]Department of Biology, Birmingham-Southern College, [3]Department of Anthropology, University of Wisconsin-Madison

Paranthropus robustus *Homo* 2.40 mm under a magnification of 40x range from recorded for the five most prominent scratches. suggesting they are difficult to classify on the first *robustus* *omo*

Colonialism and Structural Violence: Implications for Childhood Physiological Stress and Mortality Risk

Anthropology, University of Georgia

if *how often*

Furthermore, results reveal a significant negative

Effects of microbial colonization on bone collagen stable carbon and nitrogen isotope values: Results from a long-term diagenesis modelling experiment

[1]Anthropology, University of Alberta, [2]Anthropology, St. Lawrence University

after two years of curation confirmed substan-

Assessing the potential of ilium outlines, greater sciatic notch metrics, and indices of pubic/ischial length for subadult sex estimation

[1]College of Osteopathic Medicine, Des Moines University, [2]College of Pharmacy & Health Sciences, Drake University, [3]Department of Exercise Science, High Point University, [4]Department of Anthropology, University of Nevada, Reno, [5]Department of Anatomy, University of Pretoria

ANCOVA results indicate significant ($p < 0.05$) ilium outline, although DFA correctly classified that by the age of four, correct classification increases to 77.4%, although the sample size was limited to 31 individuals. Correct classification pubic/ischial indices displayed no significant sex differentiation by the age of five. Larger samples

This project was funded as part of a National Institute of Justice (2015-DN-BX-K409).

Oral processing behaviors of captive mandrills (*Mandrillus sphinx*) at the Columbus Zoo

Anthropology, The Ohio State University

Previous field studies on terrestrial mangabeys (*Cercocebus*) *Cercocebus* (*Mandrillus sphinx*) phism in this species would result in significant subjects. Significance tests identified few age/ five yielded significant differences in incision

Dentin hardness distribution and chewing frequency in two sympatric colobines

[1]Anthropology, University of Florida, [2]Anthropology, The Ohio State University

frequency influences dentin microstructure. *Colobus polykomos* *Piliocolobus badius*

was nonsignificant ($P >$
nested ANOVA found no statistically significant
indentation hardness. Resampled 95% confi-
junction in most samples. However, while five of
C. polykomos samples showed a significant
P. badius
significant Moran's *I*.
hardness is evident. This finding raises ques-

NSF BCS-0922429 and 0921770.

At the Intersection of Gender, Age, and Race: The Complexity of Social Identity in Early-20th Century Cuba

Department of Anthropology, University of Miami

tified archivally as "mixt race"), middle-aged, and

This work was supported by a Faculty Grant from the University of Miami Institute for Advanced Study of the Americas.

Exploring the population history of modern Latinos through dental morphology

Anthropology, University of Nevada, Reno

analysis showed significant distances between
with utilizing dental morphology to define Latino

Adiposity, leptin, and single nucleotide polymorphisms in Kansas Mennonites

[1]Laboratory of Biological Anthropology, University of Kansas, [2]Department of Anthropology, Western Washington Univeristy, [3]Department of Anthropology, University of Kansas

LEP
LEPR)
LEPR
the Kansas Nutrition Project (M97, Fe105), we selected 7 *LEPR* SNPs (rs1045895, rs1137100, rs1137101, rs1805134, rs1805094, rs12067936,
LEP
rium. Methylation percentages at 7 CpG sites
LEPR
using permutation tests and fixed-effect ANOVA
statistical significance set as p = 0.05 and FDR
combined and sex-stratified data, we found no evidence to suggest DNAm at these 7 promoter
LEPR
alter the outcome. These findings suggest that

Mortality or Methods: What Do Skeletal Age Estimates Really Tell Us About Past Populations?

[1]Anthropology, Idaho State University, [2]Anthropology, The Pennsylvania State University

(N=166) and Ole Worms Gade (N=317).

regardless of the sample. Method-specific

best, questionable, and, at worst, pure fiction.

Research funded by NSF Doctoral Dissertation Research Improvement Grant (DDRIG) 1455810.

Heritability of the Body Composition and Blood Pressure association in ethnically distinct indigenous populations

[1]Anthrpology, North-Eastern Hill University, [2]Anatomy, Asfendiyarov Kazakh National Medical University, [3]Anatomy and Anthropology, Tel-Aviv University

and fat free mass have considerable influence on

mates are significant for all the blood pressure and

however as a rule ≥0.250±0.086. Hence, additive

Ministry of tribal affairs, Government of India & Israel Science Foundation.

Effect of infant carriage on joint yield in wild vervet monkeys

[1]Department of Anatomy, New York Institute of Technology College of Osteopathic Medicine, [2]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [3]Human and Evolutionary Biology Section, Department of Biological Sciences, University of Southern California, [4]Psychology Department, University of Lethbridge, [5]Applied Behavioural Ecology and Ecosystem Research Unit, University of South Africa, [6]Department of Anatomy and Physiology, University of Pretoria

with a 'flat' trajectory of the CoM, involving higher

Chlorocebus pygerythrus)

females were filmed *ad libitum*

elbow: carrying: 21.7±6.5°, non-carrying: 16.3±7.0°). On an individual basis however,

carrying and mothers may find individualized

efficiency.

Funded by the: National Research Foundation (South Africa; S.P.H.), Natural Science and Engineering Council (Canada; S.P.H. and L.B.), University of Pretoria (C.Y.), and National Science Foundation (SMA 1719432; N.E.T.).

Resolving the taxonomic status of *Cercopithecus dryas* Schwarz 1932 and *C. salongo* Thys van den Audenaerde 1977

[1]Department of Anthropology, Hunter College, CUNY, [2]PhD Program in Anthropology, The Graduate Center, CUNY, [3]New York Consortium in Evolutionary Primatology, (NYCEP), [4]Department of Anthropology, Yale University, [5]Division of Vertebrate Zoology, Yale Peabody Museum of Natural History, [6]Division of Vertebrate Paleontology, Yale Peabody Museum of Natural History, [7]BIOCOL, Department of African Zoology, Royal Museum for Central Africa, [8]Laboratory of Histology and Neuropathology, Université Libre de Bruxelles, [9]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [10]Human and Evolutionary Biology Section, Department of Biological Sciences, University of Southern California, [11]Laboratory of Physical Anthropology, Graduate School of Science, Kyoto University, [12]Department of Anthropology, Florida Atlantic University, [13]Lukuru Wildlife Research Foundation, Quartier de Kingabois, Commune de la Gombe, Kinshasa, Democratic Republic of Congo

Cercopithecus dryas.

confirmed the distinctiveness of *C. salongo*

C. salongo

C. dryas.

C. dryas

dryas

C. salongo

dryas type specimen makes it difficult to accu-

dryas

C. dryas

C. salongo

C. salongo/

C. dryas for the first time. Results demonstrate that *C. dryas*

C. salongo

C. salongo specimens from other guenons and classifies *C. dryas* *C. salongo* *C. dryas* *C. salongo* skins also confirm they are extremely cific and *C. dryas*

This study was generously funded by the AAPA Professional Development Grant Program, the PSC-CUNY Faculty Award Program, and Hunter College.

Human reproductive hormone measures: Methodological considerations and anthropological importance

Department of Anthropology, Dartmouth College

been recognized as very costly, influencing devel- researchers continue to explore the efficacy of to collect fine-grained participant data allows fieldwork using these techniques among several testosterone profiles in certain contexts. These findings highlight how minimally-invasive collec- hormone profiles across diverse social and

The American Philosophical Society Lewis and Clark Fund; National Science Foundation (#BCS-1650674, BCS-1341165, BCS-0824602, BCS-0925910, GRF-2011109300); Ryoichi Sasakawa Young Leaders Fellowship Fund; University of Oregon; Wenner-Gren Foundation for Anthropological Research.

Observation of visitors at a chimpanzee ecotourism site reveals opportunity for multiple modes of pathogen transmission

[1]Psychology, Hunter College of The City University of New York, [2]Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin-Madison, [3]Anthropology, Hunter College of The City University of New York

Pan troglodytes the time, increasing group size to a mean of 17

Department of Psychology, Hunter College of The City University of New York, Graduate Women in Science, Hunter College of The City University of New York.

Variation in the trabecular structure of the proximal tibia between obese and non-obese individuals

Anthropology, Texas State University

human knee joint that should be reflected in only females have significant differences in the individuals. Obese females have significantly nearly significant difference in anisotropy in the is reflected in the proximal tibia trabecular struc-

This research is supported in part through instrumentation funded by the National Science Foundation under Grant NSF:MRI 133804.

The evolution of gape and bite force potential in primates

[1]Department of Basic Medical Sciences, University of Arizona College of Medicine-Phoenix, [2]Institute of Human Origins, School of Human Evolution and Social Change, Arizona State University

and jaw length) and food toughness influence

determine the best-fit model(s) and predictor variables(s) that explained interspecific variation in

significantly (positively) influenced Resultant- ^{2}=0.79, Lambda=1.0). We performed a

(n=7) for which data on dietary toughness were

Funding provided by NSF-DDIG 1540338, Wenner-Gren Foundation Doctoral Fieldwork Grant, Leakey Foundation Research Grant, James F. Nacey Fellowship, Elizabeth H. Harmon Research Endowment, and Donald C. Johanson Paleoanthropological Research Endowment.

Multi-Isotopic Investigation to Determine the Provenance of an Unidentified Female

[1]Anthropology, University of South Florida, [2]Geological Sciences, University of Florida

of unidentified human remains, as biochem-

gation of these unidentified remains. This dataset

a presumptive identification with an individual

The utility of geographic information systems (GIS) software for the spatial analysis of bone microstructure

Forensic Division, Clark County Office of the Coroner/Medical Examiner, Department of Anthropology, University of Nevada Las Vegas

help in the identification of an individual through

sex, ranging from 21-97 years old. Seamless

Night and day: Subfossil faunal representation in neighboring Malagasy caves illustrates interaction and exclusion by predator and prey

[1]Anthropology, University of Massachusetts, Amherst, [2]Anthropology, City University of New York Graduate Center, New York Consortium in Evolutionary Primatology (NYCEP), [3]Biology Program, Stockton University, [4]Sedimentary Basins, Evolution, Conservation (BEC), University of Antananarivo, [5]Geosciences, University of Massachusetts, Amherst, [6]Earth, Atmospheric and Planetary Sciences, Massachusetts Institute of Technology

The flooded caves of Tsimanampesotse National Park are magnificent graveyards of extinct

fluctuating record of wet and dry periods has

Cryptoprocta speleal

Pachylemu

yptoprocta

Megaladapis edwardsi,

Funded by NSF BCS-1750598 (to LRG and SJB) and NSF AGS-1702891 (to SJB).

Beyond race: Functional consequences of human genetic variation within the human population

Biological Sciences, University at Buffalo

ants are common and are not necessarily specific

share. Indeed, our own research has identified

National Science Foundation (Grant No. 1714867)

Chimpanzee reverse zoonoses: unfortunate natural experiments in great ape comparative medicine and demography

[1]School of Veterinary Medicine, University of Wisconsin-Madison, [2]Department of Pediatrics, University of Wisconsin-Madison, [3]Department of Anthropology, University of New Mexico, [4]Department of Anthropology, Arizona State Univeristy, [5]Department of Anthropology, Tufts University, [6]Department of Anthropology, University of Michigan, [7]Department of Anthropology, Boston University, [8]Makerere University Biological Field Station, Makerere University, [9]Department of Biochemistry, University of Wisconsin-Madison, [10]Department of Human Evolutionary Biology, Harvard University

Over 31 years, 27% of deaths in the Kanyawara

R_0

ranging from 1.27 to 1.83, which are similar to

Comparative analyses of human and chimpanzee demography, aging and health were supported by NIH Award 5R01AG049395 through the National Institute for Aging and the Office of Research on Women's Health.

An epigenetic measure of biological aging in rhesus macaques

[1]Anthropology, University of Oregon, [2]Psychology, University of Washington, [3]Centre for Research in Animal Behaviour, University of Exeter, [4]Neuroscience, University of Pennsylvania, [5]Psychology, University of Pennsylvania, [6]Biological and Biomedical Sciences, North Carolina Central University, [7]Genomics & Microbiology Research Lab, NC Museum of Natural Sciences, [8]Evolutionary Anthropology, Duke University

DNA methylation is an epigenetic modification

cleotides ("CpG sites") and can influence gene

measures of biological age reflect genetic and

Macaca mulatta

ylation at 2,846,027 CpG sites across the genome

Funding for this study was provided by NIH R00-AG051764.

Until They All Come Home: The Recovery and Identification of America's Prisoner of War/Missing in Action Personnel

Scientific Analysis, Defense POW/MIA Accounting Agency

and personnel remain missing from past conflicts

personnel from these past conflicts and return

contractors across Europe and the Indo-Pacific

skeletal identification lab accredited by the

utilize established population-specific forensic

field operations (archaeological recoveries and

lists and recommendations for identifications. All identification. Using these multifaceted lines of evidence, DPAA has identified approximately

Optical staining of bone mineral in human osteons reveals a fiber texture of mineral grains

[1]Anatomia Patologica, Universidad de Cadiz, [2]Biomaterials, New York University College of Dentistry

made of hydroxyapatite mineral, collagen fibers, bone weight, undecalcified bone sections imaged lets arranged parallel to the collagen fibers. In which demonstrated a birefringence specific for microscopy configured with several compensators (¼ -λ, ¾- λ, 1- λ, 1 ¼ λ). The high spatial resolution images identified mineral grains of micrometric size (0.43 ±0.07 µm diameter). As a fibrous texture and were arranged in an orderly

Assessing the status of *Homo heidelbergensis* through dental morphology and ancestral state reconstruction approaches

Department of Anthropology, University College London, Department of Genetics, Evolution and Environment, University College London, Department of Life Sciences, Natural History Museum

Homo heidelbergens *H. heidelbergensis* *H. heidelbergensis* Neanderthal dental affinities. Secondly, fossil specimens predating 700 ka are unlikely candi- *H. heidelbergensis* *H. heidelbergensis*. *H. heidelbergensis* *H. heidelbergensis* affinities, but that it had no further evolutionary

Research is funded by the UCL-Excellence program

Population-specific trabecular variation patterns drive heterogeneity in modern human phenotypic covariance matrices of trabecular and cortical bone properties

[1]Department of Anthropology, University at Albany (SUNY), [2]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [3]Evolutionary Studies Institute, University of the Witwatersrand, [4]Department of Anthropology, Pennsylvania State University, [5]Molecular Imaging Center, Department of Radiology, Keck School of Medicine, University of Southern California, [6]Department of Geology and Paleontology, Georgian National Museum, [7]Department of Archaeology, Cambridge University, [8]Department of Anthropology, Western University

e.g., *i.e.,*

Funding: NSF BCS-1719187, NSF BCS-1719140, NRF-DST (South Africa), European Research Council under the European Union's Seventh Framework Programme (FP/2007–2013)/ERC Grant Agreement n.617627 and RCUK/BBSRC grant BB/R01292X/1.

Muscle synergy based-locomotor control in bipedal and quadrupedal walking: *Macaca fuscata* and *Pan troglodytes*

[1]Human Sciences, Osaka University, [2]Medicine, Stony Brook University

Macaca fuscata

tryglodyte

patterns differed intraspecifically, but Japanese

similar flexible pattern generating systems, thus

vated in the first and second half of stance phase

flexors. In bipedal walking, the MS3, instead of

Testing least cost path (LCP) models for travel time and kilocalorie expenditure: implications for landscape genomics

[1]Anthropology, Binghamton University, [2]Laboratory of Evolutionary Anthropology and Health, Binghamton University, [3]Geophysics and Remote Sensing Laboratory, Binghamton University, [4]Geological Sciences and Environmental Studies, Binghamton University, [5]Biology, Binghamton University, [6]Laboratory of Biomedical Anthropology and Neurosciences, Binghamton University

define a cost parameter through which cost of

fied equations. For proof of concept, LCPs

Paired sample t-tests show a lack of significant

(27:44 vs. 28:06, p = .420), indicating that our

sample t-tests also show a lack of significant

kilocalorie expenditure for two paths (68 vs. 72 and 122 vs. 133, p=.278), indicating accuracy

not significantly different, straight line distances vs. walked distances (1.347 vs. 2.08, p =.068) suggest that straight lines do not reflect real

This research was made possible through start-up funds from Binghamton University's Laboratory of Evolutionary Anthropology and Health and Provost's Doctoral Fellowship Program.

Sociality and diet drove selection for shifts in primate brain size

[1]Research Centre in Evolutionary Anthropology and Palaeoecology, Liverpool John Moores University, [2]Centre for Ecological and Evolutionary Synthesis, Department of Biosciences, University of Oslo, [3]Center for the Advanced Study of Human Paleobiology, The George Washington University, [4]Natural History Museum, University of Oslo

mammals is hypothesized to confer benefits

Funding for this research was provided the U.S. Fulbright Foundation to MG.

Work minimization and toppling concerns predict limb phasing in wild primates

[1]Organismal Biology and Anatomy, University of Chicago, [2]Department of Anthropology, Washington University in St. Louis, [3]Department of Biomedical Sciences, Mercer University Medical School, [4]Department of Biodiversity and Conservation, Federal University of Maranhão, [5]Research Department, Neotropical Primates Research Group, [6]Department of Evolutionary Anthropology, Duke University, [7]Department of Anatomy, Kansas City University of Medicine and Biosciences, [8]Structure and Motion Laboratory, The Royal Veterinary College

ings of five arboreal primate species (*Alouatta seniculus*, *Ateles paniscus*, *Chiropotes satanas*, *Pithecia pithecia*, and *Sapajus apella*)

Pithecia

that sacrifice some energetic costs in order to

forefoot placement. These findings suggest an inherent flexibility associated with primate gaits,

constraints that a fine-branch arboreal environ-

ABSTRACTS

Comparative morphology of the hominoid subscapularis enthesis

Department of Anatomy, Campbell University School of Osteopathic Medicine

ularis muscle comprises a significantly greater

variation in soft tissue configurations suggests that modifications in mass and/or PCSA may

I gratefully acknowledge the National Science Foundation (BCS-0824552) and Wenner-Gren Foundation.

Interpreting intra-population variability from dental morphology and tooth dimensions of a modern Seminole Native American sample

[1]Anatomy and Neurobiology, Boston University, [2]Anthropology, Boston University

developing population-specific methods of Asian and Native American groups aid in redefining ancestry organization to better reflect the popu-

modern Japanese population reflect homogeneity

lation housed at Ohio State University reflect a

casts for 79 individuals (f=41; m=38) using the

gory refinement.

Stable Isotope Measures of Weaning Age and Early Childhood Diet in the Ancient Andes: Variation in Early Life Experiences and Health Outcomes across Status and Sex in Tiwanaku-Affiliated Sites in Peru and Bolivia

[1]Center for Evolution and Medicine, Arizona State University, [2]School of Human Evolution and Social Change, Arizona State University, [3]Department of Anthropology, University of Vermont, [4]Keck Foundation Laboratory for Environmental Biogeochemistry, Arizona State University

We employ stable isotope measures (δ^{5} and δ^{3}

derived from serial micro-samples of first molar

ical sex. We find that average weaning ages

rable – at 32.6 and 34.7 months, respectively.

at Chen Chen (10.7‰ ±0.8 δ^{5} N, -12.6‰ ±2.6 δ^{3} C versus 6.7‰ ±1.9δ^{5} N, -13.2‰ ±1.4 δ^{3}

Funding provided to A.G. by a postdoctoral research fellowship from ASU CEM, and by NSF to D.B. and K.K. (BCS-1317237 to D.B. and BCS-1317184 to K.K.)

A Biogeochemical Assessment of Treponemal Disease: Diagnosis, Host Mobility, & Mercury Treatment

Department of Sociology, Anthropology, & Social Work, University of South Alabama

larly in newly-formed bone lesions, modification

Head and neck range of motion and its relation to cervical vertebral morphology in primates

[1]School of Human Evolution and Social Change, Arizona State University, [2]Department of Medical and Anatomical Sciences, Western University of Health Sciences, [3]Department of Anatomy, New York Institute of Technology College of Osteopathic Medicine, [4]Department of Human Sciences, Osaka University

influences head and neck ranges of motion

extension and lateral flexion respectively and 2) greater ranges of flexion. To test these predictions, we collected ROM data from 7 species of

gently, but firmly manipulated into their maximum ranges of flexion, extension, and lateral flexion.

positively correlated with range of flexion at three

lateral flexion in two lower cervical joints. Overall,

This research was supported through the National Science Foundation's Dissertation Improvement Grant (BCS-1731142) and East Asia and Pacific Summer Institute's program (1515271) to NGP.

Exploring pathways to skeletal phenotypes: Biomarkers of skeletal health and bone mineral density in NHANES 2003-2004

Anthropology, UNC Chapel Hill

to environmental influences, bioarchaeologists

clinical significance, limited research examines

studies have shown that inflammatory proteins

bone formation. Inflammation thereby provides

biocultural factors, inflammation, and bone mineral density was tested using 7656 individ-

cally significant association ($p < 0.01$; denoted

turnover dysregulation. Inflammation provides an

Discriminant function analysis of cervical diameters of permanent teeth to estimate sex of subadult skeletal remains

Institute of Archaeology, University College London

Full biological profiles cannot be constructed for

limited biological profile for subadult remains in

diameters were significantly different between

a jack-knife procedure, five functions classified more than 75% of both males and females correctly. Using these five functions, 32 individuals were identified as female or probable female; 13 individuals were identified as male or

is approximately 7 years old at death. Further

is sufficiently dimorphic to estimate sex via discri-

Variability of saw blades and saw marks measured from nonhuman bone: Implications for the evaluation of accuracy of microscopic saw mark analysis

Anthropology, University of Pittsburgh

need to evaluate the significance of nonhuman

T-tests were performed to check for significant

in narrower confidence intervals than human tissue. Our confidence interval for TPI as

±2 TPI to reflect not only variability of the saw, but

Assessing the impacts of natural disaster on primate habitat in Sulawesi, Indonesia

Department of Sociology, Social Work, and Anthropology, Utah State University

On September 28, 2018, a magnitude 7.5 earthquake struck the island of Sulawesi just 78 km

quake that caused soil disruption and mud flows.

necessary to obtain data on the specific changes

Testing the Effectiveness of Permanent Canine Tooth Metrics for Sex Estimation in a Medieval Prussian Sample

[1]Anthropology, Binghamton University, [2]Anthropology, Humboldt State University, [3]Archaeology, University of Gdansk, [4]Anthropology, Lakehead University

century) cemetery at Bezławki, Poland.

lary or mandibular). Sample size fluctuated

differed significantly for all canines in the mesio-

Another look at canine variation in Neanderthals

Anthropology, The Ohio State Univeresity

hominins (15 upper canines, 17 lower canines) as well as Krapina Neanderthals (7 upper canines, 7 lower canines), to two population samples of

variance and/or coefficients of variation than those of modern humans. Variance and coeffi-

with both the variance and coefficient of variation

Male mutation bias is pervasive across primates

, MARIA CÁTIRA

[1]Departamento de Genética, Universidade Federal do Rio Grande do Sul, Brazil, [2]Instituto de Biologia, Universidade Federal da Bahia, Brazil, [3]School of Life Sciences, Arizona State University, [4]Department of Anthropology, University of Utah, [5]Department of Ecology and Evolutionary Biology, University of California, Los Angeles

on 19 life history traits. We confirm previous

previously identified associations between substi-

relative to the autosomes for a subset of five

apes, we find a puzzling pattern where humans

CNPq (Brazil), CAPES Foundation (Brazil)

Age-Associated Epigenetic Changes in Chimpanzees and Humans

[1]Center for the Advanced Study of Human Paleobiology, Department of Anthropology, The George Washington University, [2]Department of Anthropology, Yale University, [3]Department of Sociology and Anthropology, James Madison University, [4]Behavioural Ecology and Ecophysiology Group, Department of Biology, University of Antwerp, [5]Centre for Research and Conservation, Royal Zoological Society of Antwerp, [6]MAEBIOS, Alamogordo, [7]Keeling Center for Comparative Medicine and Research, University of Texas MD Anderson Cancer Center, [8]Division of Developmental and Cognitive Neuroscience, Yerkes National Primate Research Center

lineage-specific differences in life history sched-

profiled genome-wide blood methylation levels using the Illumina Infinium EPIC array for 99 samples from 75 chimpanzees aged 1-53 years

of the assayed sites showed significant change

~28% of which also show significant age-related

sites showed a significantly faster rate of change

The Leakey Foundation, National Science Foundation (BCS-1733896), Yale MacMillan Center for International Studies, Yale Institute for Biospheric Studies, and Yale and The George Washington University anthropology departments funded this research.

Ancient DNA study of M21 Excavated from Lingkou site, Lintong, Shaan Xi Province

School of Archaeology, Jilin University

region of the mitochondrial DNA (16017-16409, including primer length) were amplified using two

identification. After multiple extraction, amplification and sequencing, we finally obtained a

with the physical anthropology identification,

that M21 had a close affinity to 2 individuals from

A preliminary study of Pleistocene bovid mortality profiles in East Turkana, Kenya

[1]Department of Anthropology and Sociology, James Madison University, [2]Department of Archaeology, Durham University, [3]Division of Anthropology, American Museum of Natural History, [4]New York Consortium in Evolutionary Primatology, (NYCEP), [5]Sackler Educational Laboratory for Comparative Genomics and Human Origins, American Museum of Natural History

profile when hunting size 3 or larger bovids, and

In this study, we used bovid mortality profiles

During the 2018 field season of the Koobi Fora

the Okote (1.33-1.61 Ma), KBS (1.61-1.79 Ma), and Upper Burgi (1.79-2.02 Ma). Bovid size

The mortality profile was generated using trian-

mortality profiles from modern lion-killed bovids,

and was found to be statistically significantly

The Koobi Fora mortality profile overlaps with the profile from FLK Zinjanthropus, and becomes

Funding Statement: This research was supported by the National Science Foundation (IRES-OISE 1358178) and would not be possible without the support of the National Museums of Kenya

Intraspecific variability in early *Australopithecus afarensis* mandibular morphology: new insights from 3.6 Million-year-old hominin juvenile mandibles from Woranso-Mille, Ethiopia

[1]Physical Anthropology, Cleveland Museum of Natural History, [2]Anthropology, Pennsylvania State University

Australopithecus afarensis

Australopithecus afarensis

Australopithecus afarensis

significance (for example, the symphyseal base

Australopithecus afarensis

Australopithecus anamensis–Australopithecus afarensis

This research was financially supported by grants from the National Science Foundation (BCS-1124705, BCS-1124713) and the Cleveland Museum of Natural History.

The fetus in bioarchaeology: new approaches to unlocking the maternal-infant nexus

[1]Department of Anatomy, University of Otago, [2]Instituto de Alta Investigación, Universidad de Tarapacá, [3]Departamento de Antropología, Universidad de Tarapacá, [4]School of Archaeology and Anthropology, Australian National University

boliv-iensis, *S. oerstedii*, *S. sciureus*

S. sciureus,

Marsden Fund; University of Otago

Get an eyeful of this: Gross anatomy and morphometrics of the squirrel monkey (*Saimiri*) interorbital region

SIOBHÁN B. COOKE[4]

[1]Department of Biology, Farmingdale State College, SUNY, [2]NYCEP Morphometrics Group, New York, NY, [3]Department of Cell Biology, New York University School of Medicine, [4]Department of Anthropology, The Graduate Center, CUNY, [5]Department of Anthropology, University of Arkansas, [6]Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine

Saimiri *Cebus*

Saimiri

Dolichocebus gaimanensis,

ences is limited. Here we attempt to fill some of

Saimiri *Cebus*

The evolution of the primate forelimb and neocortical areas involved in manual dexterity

[1]Center for Neuroscience, University of California, Davis, [2]Department of Psychology, University of California, Davis

larly the fine manipulation of objects using

maps in PPC may not be strictly specified during development, but rather reflect patterns of use

What factors influence nest reuse among chimpanzees (*Pan troglodytes verus*)?

[1]Chimpanzee Care, Save The Chimps,
[2]Anthropology, University of Notre Dame,
[3]Research, Conservation Society of Sierra Leone,
[4]Anthropology, Florida Atlantic University

indicates chimpanzees reacting to locally specific

crop fields, 58% of the nests showed evidence

Considering the influence of labor schedules and

factors influencing nest reuse at the Tonkolili Site appear to be more associated to the specifics of

factors influencing nest reuse can be variable and site specific.

This research was funded by a grant from the Eck Institute for Global Health at the University of Notre Dame.

Evaluating Life History Trade-Offs Through the Presence of Linear Enamel Hypoplasia at Pueblo Bonito and Hawikku: A Biocultural Study of Early Life Stress and Survival in the Ancestral Pueblo Southwest

[1]Anthropology, George Mason University,
[2]Anthropology, Smithsonian Institution

and have identified an association between the

cally significant differences in the mean survival

the Hawikku sample, but no significant differ-

findings suggest that individuals at Hawikku who

Differentiating between frugivory and folivory in primates using non-destructive XRF measurements of strontium/calcium ratios: A case study from Kibale National Park

[1]Anthropology, University of Northern Colorado,
[2]Anthropology, University of New Mexico

making them difficult, costly, and often prohib-

significantly differ between frugivores (redtail *Cercopithecus ascanius* *Cercopithecus mitis*; *Papio anubis*; *Pan troglodytes schweinfurthii*) *Procolobus badius*; *Colobus guereza*

This work was supported in part by the National Science Foundation Grant #DGE-0903444, the Wenner-Gren Foundation, and the Leakey Foundation.

The *Oreopithecus bambolii* (IGF 11778) lumbar region: Revised anatomy

[1]Division of Anthropology, American Museum of Natural History, [2]New York Consortium of Evolutionary Primatology (NYCEP), [3]Dipartimento di Scienze della Terra, Università di Firenze, [4]Institut Català de Paleontologia Miquel Crusafont, Universitat Autònoma de Barcelona

The IGF 11778 *Oreopithecus*

was flattened and imbedded in a lignite slab,

11778 trunk. The newly-prepared anatomical portions confirm that the last thoracic and L1-L3

These revised element identifications require that IGF 11778 had at least 5 lumbar vertebrae.

of IGF 11778 show that only the most distal

Oreopithecus

Funding from: Wenner-Gren Foundation, Leakey Foundation, Spanish AEI/FEDER EU, Generalitat de Catalunya CERCA Programme, MINECO, The University of Florence, National Science Foundation

Are we overestimating commensal species densities? A case study of the long-tailed macaque (*Macaca fascicularis fascicularis*)

[1]Research and Conservation, Copenhagen Zoo, [2]Behavioural Ecology Group, University of Copenhagen, [3]Department of Biosciences, Aarhus University

Macaca fascicularis fascicularis

fied as "widespread, yet rapidly declining", yet

abundance 10350 ± 3077.8 individuals (Distance 7.1). We also conducted a non-random point

ensemble map AUC>0.7) shows a preference for

we recommend conducting scientific surveys

Bovid Tribe Abundance as an Indicator of Spatial and Temporal Heterogeneity in the Omo-Turkana Basin from 2.0-1.38 Ma

[1]Department of Anthropology, Emory University, [2]Department of Anthropology and Institute of Human Origins, School of Human Evolution and Social Change, Arizona State University, [3]Department of Anthropology and Natural History Museum of Utah, University of Utah, [4]Department of Biology, Stockton University, [5]Department of Anthropology and Center for the Advanced Study of Human Paleobiology, The George Washington University, [6]Archaeology Department, University of Cape Town, [7]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology

until 1.87 Ma when the margin experienced an

became dominated by reduncins at 1.87-1.56

Interneurons of the anthropoid striatum: reorganization and computational considerations

[1]Institute for Neural Computation, University of California San Diego, [2]Department of Anthropology, University of California San Diego, [3]Neurosciences Graduate Program, University of California San Diego, [4]Department of Anthropology, Kent State University

production, represents a site of significant modifi-

atum. This may represent a significant shift in

suggest that modifications in neural circuitry in

This research was supported by a Wenner Gren Dissertation Fieldwork Grant.

Relationships between individual level variables and fracture characteristics in human ribs subjected to anterior-posterior loading

[1]Skeletal Biology Research Laboratory, The Ohio State University, [2]Department of Anthropology, The Ohio State University

Thoracic injuries, specifically rib fractures, are

BMI). Previous research modified a fracture classification system and applied it to human

rib ranged from 0–3. No significant correla-

Additionally, these findings demonstrate that

Interspecific variation of calcaneal morphology in gorillas

Center for Functional Anatomy and Evolution, The Johns Hopkins University School of Medicine

suggesting it may reflect locomotor variation.

Gorilla gorilla gorilla *Gorilla beringei graueri* (n=17) and *Gorilla beringei beringei*

used to align landmark configurations and shape

G. b. graueri

G. b. graueri

G. g. gorilla *G. b. beringei, G. b. grau*

b. beringei

has a flatter cuboid facet and a more transversely

G. g. gorilla *b. graueri*

G. b. graueri

This project was supported by NSF grant # BCS - 1824630.

Scaling of whole brain blood flow rate in marsupials and euarchontans

[1]Department of Evolutionary Anthropology, Duke University, [2]School of Biological Sciences, University of Queensland

is tested using predictions of brain blood flow

regression is significantly higher. Furthermore, marsupial residuals are significantly larger

higher blood flow rate and hence higher tissue specific metabolic cost for a given brain mass

pressures for reducing the mass specific meta-

This research was funded by Australian Research Council Discovery Grant DP170103227, NSF BCS 1552848, NSF DBI 1701714, and NSF BCS 1825129.

Temporal Rift: Gene Flow or Genetic Drift? A case study of Korean Joseon Dynasty (1392-1910) and Modern (post-1910) Populations

[1]Department of Anthropology, University of Hawaii at Manoa, [2]Catholic Institute for Applied Anatomy, Department of Anatomy, The Catholic University of Korea, [3]Department of History, Sejong University, [4]Department of Cultural Anthropology, Hanyang University, [5]Department of Oral Biology, Yonsei University College of Dentistry

lation with little to no gene flow. This hypothesis

plot graphs. While it is difficult to distinguish

variation in the Modern sample may be a reflec-

Funding was provided by the Center for Korean Studies, University of Hawai'i at Mānoa and the Department of Anthropology, University of Hawai'i at Mānoa.

ABSTRACTS

Body temperature estimates for Bornean orangutans (*Pongo pygmaeus wurmbii*) from internal fecal temperature measurements

[1]Anthropology, Boston University, [2]Research, Gunung Palung Orangutan Project, [3]Anthropology, Hong Kong University of Science and Technology, [4]Anthropology, Oxford Brookes University

primate conservation, yet can be difficult to nonin-

temperatures for each sample that we fitted to a

weather (F(2,92)= 1.175, P= 0.313), or collection time (r= -0.074, N= 95, P= 0.468). Estimated

75, P= 0.0475). We compare these results from the field to captive fecal samples, taking place

field method. From our field samples (N=95),

temperature (33.44 ± 1.74 °C) on average than

Funding provided by NSF grant BCS-163882, Leakey Foundation, Disney Wildlife Conservation Fund, US Fish and Wildlife Great Ape Conservation Fund #F15AP00812.

Deforming feet, deforming substrates: 3D dynamics of the human foot during footprint formation revealed through biplanar X-ray methods

[1]Department of Biology, Chatham University, [2]CASHP, The George Washington University, [3]Department of Ecology and Evolutionary Biology, Brown University

processes through which a final footprint arises.

shapes, motions and forces, resulting in a final

(three deformable muds and solid carbon fiber)

that define standard gait phases, differ markedly

discrete impact event that causes significantly

icantly less and sinks for significantly longer,

that only compare final footprints to each other.

We are grateful for funding support from the National Science Foundation (SMA-1409612, DBI-1262156, BCS-1825403, BCS-1824821), Chatham University, and the Brown Undergraduate Teaching and Research Awards program.

Interobserver Agreement in Scoring Dental Morphology using ASUDAS in South Australian Whites

Department of Anthropology, University of Nevada, Reno

three and five observers per trait. All scores were

from 80-94%; DAR from 72-92%; hypocone from

number from 71-88%. This study demonstrates

Temporal clustering of sexual contacts can maintain endemic sexually transmitted virus in mobile subsistence populations

Earth System Science, Stanford University

ence mobility has a strong influence on the spatial

partners. Our fieldwork among semi-nomadic

seasonal subsistence mobility influences access

sexual contact has significant impacts on STI

This research was funded by a postdoctoral grant from the Wenner-Gren Foundation and departmental funds from Stanford University.

Diachronic changes in craniofacial morphology among the Middle-Late Holocene populations from Hehuang region, Northwest China

[1]paleoanthropology, Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences, [2]Sociology and Anthropology, George Mason Universtiy, [3]Physical anthropology, Institute of Archaeology, Chinese Academy of Social Sciences, [4]Archeaology, Jilin University, [5]Anthropology, University at Buffalo

Objectiv

factors influencing morphological transformation

Materials and methods:
76 adult skulls from five archeological sites,

Results:

any significant differences in facial and vault shape, significant craniofacial shape changes

face and vault were significantly correlated, indi-

Discussion:

in situ

extra-local gene flow to the area.

Strategic Priority Research Program, National Natural Science Foundation of China, and China Scholarship Council.

Population Variation in Dental Development and Its Effect on Forensic Age Estimation

[1]Anthropology, University of South Florida, [2]Anthropology, University of Nevada, Reno, [3]School of Dentistry, University of Texas Health Science Center at San Antonio, [4]School of Dentistry, Oregon Health Sciences University

accurately reflect the populations to which they

Dental development was evaluated on 1,757 taken between 1972 and 2017, using the Demirjian et al. (1973) scoring system. Age esti-

cific methods perform significantly better than

Overall, no significant differences in develop- ancestry groups. When there are significant

Using confidence intervals and linear models for

when compared to sex- and/or ancestry-specific methods. Therefore, although significant devel-

Midline Shifts in Modern Populations: Comparison of Migrants and a Donated Skeletal Collection

Anthropology, Texas State University

ence indicates significantly higher frequencies of

cral region from self-identified Hispanics in the

An initial examination of biological affinities of northeastern Indian populations relative to other South Asians. A dental morphology investigation

[1]Anthropology, University of Alaska, Fairbanks, [2]Anthropology, North East Hill University, Shillong

Biological affinities of the numerous Tibeto-

taboos against submission of bodily fluids for

little affinity between these ethnic groups of north-

This study employs 17 tooth-trait combinations

tuberculum dentale,

within dental field yield unique biodistance

northern Pakistan show no affinities to penin-

This work was supported by a Fulbright Senior Research Fellowship to BEH.

Silent evidence of Pre-Columbian treponemal infection in the Western half of the Old World

[1]Biological Anthropology and Comparative Anatomy Unit, The University of Adelaide, [2]The Institute of Evolutionary Medicine, University of Zurich

of scientific communication, experimental disciplines benefitted from easier collaboration while

American and British scientific journals and the

is not their first language, adding to the difficulty

with secure dates before1492 that fit standard

including 7 congenital cases: Costebelle and

treponematosis fitting standard characteristics

Effects of mean annual precipitation and temperature on carbon and nitrogen isotopes in neighboring chimpanzee sites within Gombe and Ugalla National Parks

[1]Anthropology, University of California San Diego, [2]World Languages and Cultures, Iowa State University, [3]Orthopaedic Surgery, Wright State University

Diet influences carbon and nitrogen stable isotope ratios (δ¹³ C and δ¹⁵

tissues; and here we explore the influences of

an troglodytes

paper by exploring the influence of environmental

new δ¹³ C and δ

new chimpanzee δ¹³ Chair and δ¹⁵

of these variables on the δ¹³ C and δ¹⁵

have higher δ¹³ Chair and δ¹⁵

Neither δ¹³ Chair or δ¹⁵ Nhair were significantly

MAP and MAT was seen to be significant. These results suggest the potential of using δ¹³

δ¹⁵

Anthropology outreach initiatives: How to get involved in the local community as a graduate student

Department of Anthropology, Penn State University

The fall of 2017 marked the formation of the

all subfields of anthropology, range from tabling

This material is based upon work supported by the National Science Foundation Graduate Research Fellowship Program under Grant No. DGE1255832 to M.H.

A new interpretation of the anomalous dental modifications of Olduvai Hominid 1 (OH1), Tanzania

[1]Paleoanthropology, IPHES, Institut Català de Paleoecologia Humana i Evolució Social, [2]Àrea de Prehistòria, Universitat Rovira i Virgili (URV), [3]UMR 5199 PACEA, Université de Bordeaux

ical affinities with other Late Pleistocene African

confirm the presence of large, concave facets *in situ*

lars, most first molars, and some second molars.

lower lip. Our findings suggest that the expres-

modification is more diverse than previously

(e.g., ablation, chipping, and filing).

Marie Skłodowska-Curie Actions (H2020-MSCA-IF-2016 No. 749188); AGAUR (Ref. 2017SGR1040 and 2017PFR-URV-B2-91); and MINECO/FEDER (Ref. CGL2015-65387-C3-1-P).

Correlations between Cranial Morphometric Variation and Climate in western South America

[1]Anthropology, The Ohio State University, [2]Instituto de Arqueología y Antropología, Universidad Católica del Norte, Chile

population affinity. Here, we compare functional

were analyzed, with 78 landmarks divided into

samples (0.3634 vs 0.2760). These results are

Coevolution and coextinction of primates and their parasites

[1]Evolutionary Anthropology, Duke University, [2]Duke Global Health Institute, Duke University

to influence both parasitism and threat status.

between 198 primates and 750 parasites using

97 threatened species in our dataset go extinct,

is 0.62 and would be 0.57 after extinction. These

The Neanderthals before the Neanderthals: The Levantine scenario

Anatomy and Anthropoogy, Tel Aviv University

6 *Homo sapiens*

This research was supported by the Dan David Foundation, The Leakey Foundation, National Geographic, Wenner Gren Foundation, Israel Science Foundation, Binational Science Foundation

Bonobo (*Pan paniscus*) dietary diversity: testing fallback food models

[1]Department of Anthropology, University of Oregon, [2]Sociology, Anthropology, and Philosophy Department, Northern Kentucky University, [3]Department of World Languages and Cultures, Central Oregon Community College

proposed, the fit of bonobos (*Pan paniscus)* to

(2007) staple and filler foods continuum groups

frugivory whereas Lambert's (2007) continuum

and flowers) in the diets of the Lomako Forest,

data collected between May - October 2017

-

not vary significantly with ripe fruit availability [R^2adj=-0.3272, df=1, 3, P=0.9135], flower avail-

R^2

These results highlight the lack of fit of bonobos

like insects and meat, obscure possible fit to

Differences in grooming behaviors in mantled howler monkeys (*Alouatta palliata*) based on weather conditions

Anthropology, University of Illinois at Urbana-Champaign, Anthropology, James Madison University, Anthropology, Maderas Rainforest Conservancy

Alouatta palliata

-

Station in Costa Rica. Twenty-five hours of data

time allo-grooming) than in rainy weather (8.7%

-

fies relationships among groupmates. Thus it

Assessing the determinants of primate gait kinematics in an ecological and phylogenetic framework, Part I: Phylogenetic methods for biomechanics

[1]Anatomy & Neurobiology, Northeast Ohio Medical University, [2]Anthropology, University of Texas at Austin

Interspecific comparisons of primate locomotor profiles and gait kinematics are commonly

because kinematic variables do not fit well with

-

rhine species, gathered at field sites in Ecuador

-

n =

n 57) allows the use of a

-

-

-

-

Research supported by NSF BCS-1640552 and BCS-1640453

Age estimates for hominin fossils and the onset of the Upper Palaeolithic at Denisova Cave

[1]Oxford Radiocarbon Accelerator Unit, Oxford University, [2]Department of Archaeology, Max Planck Institute for the Science of Human History, [3]Department of Evolutionary Genetics, Max Planck Institute for Evolutionary Anthropology, [4]Centre for Archaeological Science, School of Earth and Environmental Sciences, University of Wollongong, [5]Manchester Institute of Biotechnology, University of Manchester, [6]Department of Anthropology, University of Toronto, [7]Institute of Archaeology and Ethnography, Russian Academy of Sciences, Siberian Branch, Novosibirsk

Denisova

Denisova

3

56,400–67,600 years ago. Dates of pierced tooth

c.

not yet been identified in the Altai region.

This research was funded by the European Research Council, The Max Planck Society, the Russian Science Foundation and the Royal Society.

Mortality and skeletal lesion profiles among Prehispanic Lower Pecos foragers of southwest Texas

[1] [2] [2]

[1]Anthropology, University of North Carolina, Chapel Hill, [2]Texas Archeological Research Laboratory, University of Texas at Austin

mortality profiles for Prehispanic Archaic Period

passes canyonlands near the confluences of

from 37

'population' exhibits a paleodemographic profile

dietary deficiencies nor infectious diseases, the

Are we what we eat? A 3D Geometric morphometric analysis of human mandibular variation over time in Britain in relation to dietary changes

Institute of Archaeology, University College London

Previous studies have reported significant

influences mandible morphology through altera-

or if mandible morphology fluctuates between

The aim of this study is to fill the current gaps

thought to be associated with the intensification of arable agriculture. In addition, significant

World-wide variation in incisor shoveling reveals evidence of selection in the Beringian Standstill population

[1] [2] [2], [4] [2] [5] [2] [6] [7]

[1]Integrative Biology, University of California Berkeley, [2]Human Evolution Research Center, University of California Berkeley, [3]Anthropology, Penn State University, [4]Institute of Arctic and Alpine Research, University of Colorado Boulder, [5]Anthropology Institute, University of Zurich, [6]Anthropology, University of Kansas Lawrence, [7]Anthropology, University of Nevada Reno

Ectodysplasin A Receptor (*EDAR*)

V370A

generations. We find that all combinations of

the neutral hypothesis with 95% confidence,

result of selection. This finding accords with the

EDAR V370A

V370A

Paternal activity budgets of San Martin titi monkeys (Plecturocebus oenanthe) in response to habitat destruction, daily temperature range, and infant age

Anthropology, Texas A&M University

(*Plecturocebus oenanthe*

P. oenanthe

infant caregivers, employ specific strategies to

either Low (<10 degrees Celsius) or High (≥ 10

However, habitat destruction significantly

significantly altered activity budget at the high

age significantly altered overall activity budget

P. oenanthe

Funding: Fulbright, International Primatological Society, Primate Conservation, Inc., Mohamed bin Zayed Species Conservation Fund, Explorers Club, Sigma Xi, L.T. Jordan Foundation, Texas A&M University.

Native American origins: An interdisciplinary critique of current models

[1]INSTAAR, University of Colorado, [2]Anthropology, University of Nevada, [3]Anthropology, University of Kansas, [4]Anthropology, University of Virginia, [5]Human Evolution Research Center, University of California

DMTA of Muchik sacrifice victims from Cerro Cerillos

[1]Anthropology, University of Indianapolis, [2]Anthropology, George Mason University

face relief at the finest scales via profilometry with

of Cerro Cerrillos, who were sacrificed between roughly A.D. 900 and 1375. They are compared to a sample of non-sacrificed contemporaneous Muchik people from Huaca Sialupe (n = 7). The

a white-light confocal profiler at 100X. Texture

textural fill volume. Statistical comparisons were

no significant differences between the sacrificed

sacrificed subadults' diet was modest compared to that of the non-sacrificed people, particularly for complexity. That is, each sacrifice victim

diet data indicate the sacrificed children came

their being sacrificed. This may echo practices known in other Andean cultures, where sacrifice

diets as part of the pre-sacrificial program.

Seeing the flowers for the trees: trichromacy provides food detection advantages for white-faced capuchins

[1]Anthropology and Archaeology, University of Calgary, [2]Human Science, Kyushu University, [3]Integrated Biosciences, University of Tokyo, [4]Graduate School of Frontier Sciences, University of Tokyo, [5]Medical Genetics, University of Calgary, [6]Alberta Children's Hospital Research Institute, University of Calgary

fruits and flowers. However, other cues are often

vision phenotype are difficult to evaluate in wild

Cebus capucinus imitator

patterns among conspecific individuals. Floral

) are flowers that are consumed by monkeys more visible to trichromats than to dichromats? 2) do trichromatic capuchins consume flowers more often than do dichromats?

14 dietary flower species and modeled their

linear mixed models. A large majority of flowers

trichromats foraged in small flower patches significantly more often than dichromats did (Estimate=0.6882, SE=0.2449, z=2.754, p=0.006).

Natural Sciences and Engineering Research Council of Canada, The Canada Research Chairs Program, the University of Calgary, and the Japan Society for the Promotion of Science 16K14818 and 15H02421.

Surface area and volume of the body in Late Pleistocene *Homo*

[1]Anthropology, Tulane University, [2]Evolutionary Studies Institute, University of the Witwatersrand

ship are not significantly different between the

a significantly higher intercept. Thus, high latitude

adaptations; gene flow between these groups

This research was funded in part by NSF (#SBR-9321339), the L.S.B. Leakey Foundation, and Tulane University.

A Phylogenetic Analysis of European Pliopithecoids

Anthropology, University of Toronto

to 7 million years ago. Known primarily from

since their discovery by Édouard Lartet in 1837.

previous studies, we find that fossil material from

Pliopithecus *Anapithecus* , better fits with *Plesiopliopithecus* *Epipliopithecus vindobonensis* *Pliopithecus*.

Funded by Ontario School of Graduate Studies, Natural Sciences and Engineering Research Council of Canada, and Department of Anthropology, University of Toronto.

Design and function of the chewing muscles in papionins: fiber phenotype and fiber architecture

[1]Department of Community and Family Medicine, Duke University School of Medicine, [2]Evolutionary Anthropology Department, Duke University, [3]Department of Basic Science, Touro University

Cercocebus atys

minant of muscle function and may fine-tune

Non-primate mammals that spend a significant

fatigue-resistant fiber type. Here we test the *C. atys*

(*Macaca mulatta* *M. fascicularis* *Papio anubis*

MyHC α-cardiac) and type 2 (fast; MyHC-2, MyHC-M) fibers. Muscle sections were photo-

mediate, light or unstained. Hybrid fibers (single fibers expressing multiple MyHC isoforms)

type phenotype was significantly dependent on

driven by a greater proportion of MyHC-1/α- *C.atys* (87%) and *P.anubis* (71%). However, MyHC-1/α-cardiac fibers predominantly stained intermediate-dark while much of MyHC-2 fibers (50-90% across

fatigue-resistant fiber phenotype, potentially

fibers complicates functional interpretations and

This work was supported by NSF BCS 1719743.

Walking before footwear: plantar calluses protect the foot without trading-off tactile sensitivity

[1]Department of Human Evolutionary Biology, Harvard University, [2]Department of Human Locomotion, Technische Universität Chemnitz, [3]Department of Physiology, Moi University Medical School, [4]Department of Orthopedics, Moi University Medical School, [5]Department of Statistics and Computer Science, Moi University

measure callus thickness at the heel and first

finding indicates that unlike footwear, calluses

Funded by the American School of Prehistoric Research (Harvard University).

Lower mechanization levels are associated with increased age-related limb bone strength in European skeletal samples

Anthropology, University of Massachusetts

and lower limb bones are quantified for a large dieval group (Neolithic-Iron Age, 7300-1650BP, sated by significant increases in age-related TA,

A candidate gene approach to assessing phenotype/genotype correlations in the nasal complex

[1]Orthodontics, The University of Iowa, [2]Sociology and Anthropology, Metropolitan State University, Denver, [3]Anthropology, The University of Iowa

to provide the first phenotype/genotype anal-

complex was quantified using PCA of Procrustes

previously shown to influence skeletal and cartilage development or known to influence facial morphogenesis more broadly. Significant correla-

SHH, *LATS1*) *SATB2*, *MANT2*, *LMO4* *PAX7*, *SATB2*) first step toward understanding the develop-

Survivorship and urbanization in medieval england

[1]Department of Archaeology, University of Sheffield, [2]Defense POW/MIA Accounting Agency Laboratory, Department of Defense, [3]Department of Anthropology, University of South Carolina

Spital, St Mary Grace, East Smithfield, St Nicholas

Funding provided by the NSF (BCS-0406252, BCS-1261682, BCS- 1539502, BCS-1722491), Wenner-Gren Foundation (#7142, #8247), American Association of Physical Anthropologists, the Walker Institution, and University of South Carolina Department of Anthropology.

Persistence hunting in Levant: Both Neandertals and modern humans could run down a horse

VLADIMÍR SLÁDEK[1]

[1]Department of Anthropology and Human Genetics, Charles University, [2]Department of Evolutionary Anthropology, Duke University

Homo *Homo* *Equus*

This work was supported by the Czech Science Foundation (grant number 18-16287S).

The influence of occupation, habitual activity, and SES on osteometric variation in modern humans

[1]Department of Anthropology, University of Tennessee, Knoxville, [2]Department of Anthropology, The Ohio State University, [3]Instituto de Arqueología y Antropología, Universidad Católica del Norte, Chile

patterns are capable of significantly changing

influencing bone dimensions in a sample of

Sex-specific Kruskal-Wallis tests explored the

Males show more significant differences in

tion (12 of 44 tests returning p<0.05) and SES (7

limited significant results. Most of the differences

significant associations were detected among

Diversity and distribution patterns of a primate community in the Peruvian Amazon

Department of Anthropology, Southern Illinois University

2014). The site includes four types of flooded forests plus non-flooded forests. We tested the

A total of 2345.93 km was surveyed, and 714

flooded habitat as were *Pithecia* *Sapajus macrocephalus*. *Lagothrix lagotricha poeppigii* were only encountered in the non-flooded forests.

Funding for this project was provided by Idea Wild, Amazonia Expeditions, and Southern Illinois University's Uakari Research Fund.

The skin microbiome of the Cayo Santiago rhesus macaques

[1]Research and Collections, North Carolina Museum of Natural Sciences, [2]Centre for Research in Animal Behaviour, University of Exeter, [3]Department of Neuroscience, University of Pennsylvania, [4]Institute of Cognitive Science, University of Colorado Boulder, [5]Cayo Santiago Field Station, Caribbean Primate Research Center, University of Puerto Rico, [6]Marketing Department, University of Pennsylvania, [7]Department of Psychology, University of Pennsylvania, [8]Department of Biological and Biomedical Sciences, North Carolina Central University, [9]Department of Evolutionary Anthropology, Duke University

(*Macaca mulatta*)

can provide insight into how host behaviors influ-

to elucidate information about behavioral influences on microbiome composition. We amplified

We found significantly differentially abundant

lautia

ranging monkeys and these findings are directly

Recent regulatory changes shaped human vocal and facial anatomy

[1]Section of Genetic Medicine, University of Chicago, [2]Department of Genetics, The Hebrew University of Jerusalem

modifications have shaped human-specific traits.

Specifically, we identify silencing patterns in a *SOX9*, *ACAN*, *COL2A1* *NFI* *NFIX*

modern human configuration which is optimal

The Environment Beyond Points of Directional Change

[1]Psychology, University of Georgia, [2]Biology, University of Maryland, College Park, [3]ISTC-CNR, National Research Council, Rome, [4]Experimental Psychology, University of São Paulo

(*Cebus libidinosus*

(CPs) may reveal preferences that influence travel

where they significantly changed travel direc-

found farther from areas of human influence (e.g., agricultural fields and homes) than MPs. However, CPs were significantly closer to steep

influence areas being preferred for movement

Landscape preferences may reflect an animal's

Semi-quantitative BSE-SEM evaluation of osteocyte and vascular porosity across complete bone cross section

Biomaterials, New York University College of Dentistry

cross-section montages at 0.9793 µm/pixel

BSE-SEM images that allow them to be identified

Research support was provided by NSF award BCS-1062680 and the 2010 Max Planck Research Award to TGB.

Teaching race and gender as bioculturally relevant, not genetic proxies of human difference

Department of Sociology and Anthropology, Wright State University

as biologically determined and fixed categories

social classification schema this approach builds

The landscape of Denisovan ancestry in the Americas

[1]Ecology and Evolutionary Biology and Center for Computational Molecular Biology, Brown University, [2]Molecular Cell Biology, University of California Merced

the Americas. We find that populations in the

We thank both NIH (1R35GM128946-01) and NSF (DEB-1557151) for funding this research

Cradle Ambassadors: Public Palaeoanthropology in the Tourism Space

Archaeology, University of the Witwatersrand, National Geographic "Umsuka" Public Palaeoanthropology Project, African Digital Education Trust

Province just 47 km northwest of Johannesburg.

today comprises approximately 47,000 hectares

a *Australopithecus*, *Paranthropus*, d *Homo*.

flagship programme of the National Geographic

benefits for a variety of different groups without

Management Authority, Maropeng the official

Major support for this project has been provided by National Geographic Society grant numbers SP 36-16 and NGS-411E-18.

Feasibility of volumetric bone mineral density (vBMD) to predict rib structural properties

[1]Skeletal Biology Research Laboratory, The Ohio State University, [2]Injury Biomechanics Research Laboratory, The Ohio State University, [3]Wright Center of Innovation in Biomedical Imaging, The Ohio State University

Ex vivo mid-level (5-7)

30 females (54.7 ±22.0 yrs.) were scanned at 0.167mm resolution prior to dynamic (2.0 m/s)

significant differences between sides or levels

Strain Index (SSI), SSI significantly predicted peak

increased from 39.2% (vBMD) to 79.0% (SSI).

A developmental model of hominin brain evolution

[1]Biology, University of Indianapolis, [2]Anthropology, Columbia University, [3]Psychological and Brain Sciences, Indiana University, [4]Anatomy, Des Moines University, [5]Evolutionary Studies Institute, University of the Witwatersrand

Homo sapiens d *Pan troglodytes*

MH1, DH3, LES1, ER1470, ER3733, and ER3883

Ontogeny of intrinsic digit proportions in non-grasping mammals: a test of the grasping theory of primate hand and foot growth

Anatomy and Neurobiology, Northeast Ohio Medical University

consistent with this hypothesis – fingers and

than being primate-specific. We tested this

Rattus norvegicus

a mixed-longitudinal sample of 750 radiographs

ontogenetic declines in relative finger length

much lower in rats (rats: 8.7% decline; capuchin

to the significant declines observed in both capu-

Never Done: A bioarchaeological study of women's work, task, and occupation in medieval Edinburgh, Scotland

[1]School of History, Classics, and Archaeology, University of Edinburgh, [2]CIAS - Research Centre for Anthropology and Health, Dept. of Life Sciences, University of Coimbra, Portugal

on identified collections requires documented

to the use of non-specific terms. This study of

chanics. Preliminary results confirm higher

genu valgus

The effect of jaw muscle architecture dynamics on the biomechanics and evolution of the primate feeding system: a theoretical perspective

Oral Biology, University of Illinois at Chicago

muscle fibers is the relationship between the

of their fibers, being maximal at intermediate

and fiber length is usually reflected in muscles'

parallel fibers, while muscles designed for force generation tend to have short, pennated fibers.

understood. Using 3D models from 75 primate

large gapes. Clade-specific differences on the

observed for the temporalis and the superficial

Variation in diet and foraging effort across seasons in the frugivorous Brown Lemur (*Eulemur fulvus*): Contrasts with a sympatric folivore (*Propithecus diadema*)

[1]Anthropology, Northern Illinois University, [2]Mention Anthropobiologie et Développment Durable, University of Antananarivo, [3]Division of Research, SADABE, [4]Anthropology, Hunter College, [5]Graduate Center, CUNY

Eulemur fulvus

follows). We present the first diet record for this

Propithecus diadema

13%, flowers: 6%) and more frugivorous than conspecifics in Ankarafantsika's dry forest (68%,

the fruit-scarce lean season sees significantly less fruit consumption (72%, 18%, 9%). This

significantly higher feeding effort (from 172 to

adult females, this was not significant. Brown

energy maximizers, working harder to find and

Further research is necessary: first, to quantify

Funding provided by: National Geographic Society, Eppley Foundation, Northern Illinois University.

Exploring patterns of appositional growth amongst the urban child

Earth Sciences, Natural History Museum, London

hood illness, and (2) Christ Church Spitalfields,

modern population. These differences reflect

findings indicate that whilst periosteal expansion

The Guercy 1 Neanderthal cranium from Baume Moula-Guercy (Soyons, Ardèche)

[1]Department of Biology, Saint Mary's College of California, [2]Department of Biomedical Sciences, A. A. Dugoni School of Dentistry, University of the Pacific, [3]Antenne de Préhistoire de l'Institut

de Paléontologie Humaine, Centre Européen de Recherche et d'Enseignement des Géosciences de l'Environnement, [4]Laboratoire de Géologie de Lyon, CNRS UMR 5276

Interglacial (MIS 5e, 127-117 kya). Whereas

aged at ≈7.0 years. Both the cranium and the

Middle Eastern Middle-to-Late Pleistocene (≈MIS 14 – MIS 2 to ≈1) hominins (*n*

Guercy 1 has a flat, broad, and short frontal (cf.

Parietal curvatures show affinities to Late

Human races owe their reality to inaccurate historical concepts of variation not genes

Anthropology, The Pennsylvania State University

ments and abundant scientific evidence about the

definitions and the network of communication that existed between influential Enlightenment

and Blumenbach formulated definitions of human

in hierarchies. The influence of these scholars

tent influence of Enlightenment pseudoscience

Reconciling past injustices; building a future in African American genomics

Biology, Howard University

pre-identified target populations. While a total of

sented in this first sample, 260 of our participants

ancestral origins. 348 participants (75.2%)

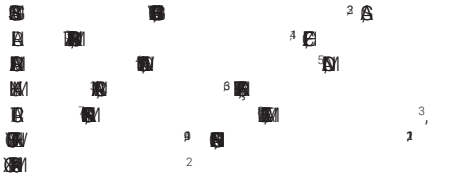
Database, 31 participants (6.7%) from continental

African Database, and 75 participants (16.2%)

Nine participants (2.0%) identified their ancestral

Support for these initial collections came from Helix and National Geographic's Genographic Project.

Multiple deeply divergent Denisovan ancestries in Papuans



[1]Complexity Institute, Nanyang Technological University, Singapore, [2]Statistics and Bioinformatics Group, Institute of Fundamental Sciences, Massey University, New Zealand, [3]Institute of Genomics, University of Tartu, Estonia, [4]Genome Diversity and Diseases Laboratory, Eijkman Institute for Molecular Biology, Indonesia, [5]Integrative Epidemiology Unit, Population Health Sciences, University of Bristol, UK, [6]APE Lab, Department of Biology, University of Padova, Italy, [7]CNRS, Université de Toulouse, France, [8]Department of Evolutionary Genetics, Max Planck Institute for Evolutionary Anthropology, Leipzig Germany, [9]Department of Medical Biology, Faculty of Medicine, University of Indonesia, Indonesia, [10]Sydney Medical School, University of Sydney, Australia, [11]Santa Fe Institute, Santa Fe, NM, [12]Stockholm Resilience Center, Kräftriket, Sweden

Southeast Asia and Papua, we find large stretches

ABSTRACTS

Gut microbiome community composition is significantly influenced by shared living-space in rural agriculturalists from Burkina Faso

[1]Department of Anthropology, University of Oklahoma, [2]Laboratories of Molecular Anthropology and Microbiome Research, University of Oklahoma, [3]Department of Biological Sciences, Centre MURAZ, Burkina Faso, [4]Director, Ministry of Health, Burkina Faso, [5]Département de pathologie et microbiologie, Université de Montréal, Canada, [6]Department of Microbiology and Plant Biology, University of Oklahoma

in fiber digestion. Still unresolved, however, are

stratified by age, sex, family, and multifamily "*quartiers*

de novo

(OTU) clustering at 97% sequence similarity.

Treponema, Succinovibrio,

Prevotella

Prevotella, Oscillibacter, Collinsella, Sporobacter,

Subdoligranulum was significantly associ-

quartier

quartiers

Investigating the Phenotypic Consequences of Archaic Hominin Introgression on Modern Human Biology

Human Evolutionary Biology, Harvard Univserity

played beneficial roles during human dispersal

specific phenotypic consequences, particular

Digestive and sensory adaptations for the grass-eating niche: Insights from the gelada (*Theropithecus gelada*) genome

[1]Anthropology & Archeology, University of Calgary, [2]Psychology, University of Washington, [3]Anthropology, Stony Brook University, [4]Psychology, University of Michigan, [5]Ecology & Evolutionary Biology, University of Michigan, [6]Anthropology, University of Michigan

Theropithecus gelada

for their unique graminivorous diet. We find significant expansions in gene families related to

p

significant contraction in the trypsin gene family (*p*

and may reflect the relatively low amount of

LDH16A1

has been under significant positive selection in

χ^2

p

linked to food detoxification. Unlike other cerco-

CHIA

S2R

rate (16.67%) than other primates (28-29%).

Cranial injuries in the Bronze Age sample from Bezdanjača cave, Croatia

-, Institute for Anthropological Research

Bezdanjača cave is located in the Lika region of

ered in the cave in a total of 57 graves, ten of

The work was funded by the Croatian Science Foundation (grant no. HRZZ IP-2016-06-1450)

The wrist and hand of the StW 573 ("Little Foot")

[1]Molecular Imaging Center, Department of Radiology, USC Keck School of Medicine, University of Southern California, [2]Department of Geology and Paleontology, Georgian National Museum, [3]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [4]Evolutionary Studies Institute, University of the Witwatersrand, [5]Department of Biology, Birmingham-Southern College, [6]Department of Anthropology, University of Wisconsin, [7]Department of Rheumatology, Aintree University Hospital NHS Trust, [8]School of Geography, Archaeology and Environmental Studies (GAES), University of the Witwatersrand, [9]School of Health Sciences, Aldro Building, University of Brighton, [10]French Institute for Preventive Archaeological Researches, (INRAP), [11]French Institute of South African Studies, (IFAS)

organ, has undergone morphological modifica-

wrist bones of the StW573 skeleton discovered in the Sterkfontein Member 2 deposit (3.67 Ma)

Comparative study of StW573 and other Plio- *Australopithecus afarensis*, *A. africanus*, *A. sediba*

A. afarensis

and hand bones of StW573 share morphometric *A. afarensis,*

South Africa National Research Foundation and Department of Science and Technology (KK82591, KK 82611, DS98808), the Center of Excellence in Palaeosciences (CoE-Pal), the Palaeontological Scientific Trust (PAST), NIHS10OD18500, NSF BCS-1719140

Selection for lifetime reproductive success among ethnic Tibetans residing at high altitude in Nepal

[1]Archaeogenetics, Max Planck Institute for the Science of Human History, [2]Human Genetics, University of Chicago, [3]Oxford University Clinical Research Unit, Patan Hospital, [4]Mountain Medicine, Mountain Medicine Society of Nepal, [5]Anthropology, Case Western Reserve University, [6]Anthropology, Washington University, [7]Anthropology, Dartmouth College

ranges from 0.552 to 0.752. These SNPs did not with reproductive fitness. The frequency of many adaptation. These findings reflect both past and *EPAS1* *EGLN1*,

NSF award 1153911 to CMB and NIH award 1RO1HL119577 to AD supported this research.

Predicting distribution of enamel on a tooth

[1]Institute of Biotechnology, University of Helsinki, [2]Department of Mathematics and Systems Analysis, Aalto University, [3]Department of Geoscience and Geography, University of Helsinki

been used to examine taxonomic affiliations, *Gorilla*, *Pongo* *Homo*

have highly distinct effects on the final shape of

Genetic variation in body weight ontogeny and its contribution to body size sexual dimorphism in captive baboons (genus, *Papio*)

[1]Anthropology, Washington University in St. Louis, [2]CNRS, MCC, PACEA UMR 5199, Univ. Bordeaux, [3]Internal Medicine, Center for Precision Medicine, Wake Forest School of Medicine, [4]South Texas Diabetes and Obesity Institute, University of Texas Rio Grande Valley School of Medicine, [5]Molecular and Human Genetics, Human Genome Sequencing Center, Baylor College of Medicine, [6]Biology, Loyola University Chicago, [7]Executive Director, The Obesity Society

Organismal adult body size can be modified by period and divergent sex-specific ontogenetic deficiency by quantifying intraspecific variation baboon sample (N=967). Body weight records

variance parameters and tested for sex-specific

tory (7.3 g/day) until ~3.5 yo, at which point the

at 7.7 yo (adult: 30.6 kg). In contrast, females

yo. All growth parameters are significantly herit-

(ρ=0.21) and early growth rate (ρ=0.78). Genetic

with the sex-specific growth trajectory diver-

Funding for research from the French State in the framework of the "Investments for the Future" Program (ANR-10-IDEX-03-02) and for baboon care from the US National Institutes of Health (P51 OD11133).

Exploring Sex- and Age-Based Variations in Diet in Ancient Greek Sicily Using Dental Microwear Analysis

[1]Department of Anthropology, Wayne State University, Detroit, MI 48202, [2]Department of Anthropology, University of Georgia, Athens, GA 30602, [3]Regional Archaeological Superintendence of Palermo, Italy, [4]Department of Anthropology, University of Northern Colorado, Greely, CO 80639

of DMA to examine whether sex and age influ-

first and second mandibular molars were viewed with a Teneo field emissions scanning electron

Microware *RStudio*

variances, females exhibit significantly more vari-

pits (p=0.04871) than subadults, but significantly less variance (p=0.01758) in pit length than

exhibit significantly smaller pits than males

be an indicator that sex influenced diet at Himera,

This research was funded by National Science Foundation Research Experience for Undergraduates award numbers 1560227 and 1560158, the University of Georgia, and the University of Northern Colorado.

Frail young, Enduring Adults: Paleopathology of a Bronze Age Chinese Skeletal Sample

[1]Department of Anthropology, University of North Carolina at Charlotte, [2]Department of Archaeology, Gansu Provincial Institute of Cultural Relics and Archaeology, [3]Department of Anthropology, University of Michigan, [4]Center for Chinese Studies, Lieberthal-Rogel Center for Chinese Studies, [5]Department of Archaeology and Anthropology, University of Cambridge, [6]Department of Archaeology and Anthropology, McDonald Institute for Archaeological Research, [7]School of Humanities, Nanyang Technological University

was analyzed for nonspecific indicators of

in significant new bone growth fusing multiple

bifida, were also present. The severity of spinal

Investigating social organization and community composition at the Tiwanaku-style temple complex of Omo M10 in the Moquegua Valley, Peru through analysis of phenotypic variation

Sociology/Anthropology, SUNY Cortland

Previous research on cranial modification style identified multiple corporate group cemeteries

to other Moquegua Tiwanaku-affiliated sites.

gene flow and may corroborate archaeological

kin-based social groups reflecting diverse ethnic and regional affiliations buried their dead in close

Financial support provided by the Dean's Office in the School of Arts and Sciences at SUNY Cortland and NSF Doctoral Dissertation Research Improvement Grant No. 1441894.

Testing a computational approach for estimating age-at-death on a modern Portuguese population

Department of Anthropology, University of South Florida

profile in forensic anthropological contexts and

refined. While there have been improvements

Century Identified Skeletal Collection (CEI/XXI).

software and produced age estimates using five

for evidentiary standards our field needs respond

Do structural equation models work to explain the factors shaping cortical bone morphology?

Anthropology, University of Missouri

load have both been suggested to influence the

influence the relationship between body mass and the final cortical measurements. This project

weight at age 18 significantly affecting the rela-

New Estimates of Hunter-Gatherer Mortality Patterns From Improved Fits of the Siler Model

[1]Department of Earth System Science, Stanford University, [2]Department of Anthropology, University of California Santa Barbara, [3], Santa Fe Institute

yield volatile estimates of age-specific mortality

particular age-specific patterns. The Siler

five parameters and captures the overall bath-

the model can be quite challenging to fit because

ters. Gurven and Kaplan (2007) compiled data on the age-specific mortality of hunter-gatherers

Gurven and Kaplan fit Siler models to the esti-

optimization algorithm for fitting the Siler model to empirical data and reanalyze the age-specific

groups (Ache, Hadza, Hiwi, Tsimane), we find that previous fits under-estimate increases in senes-

Identity and Dental Modification in Prehispanic Ecuador

Anthropology, University of North Carolina at Charlotte

Body modification in the Andes has long been

labret piercings to artificial cranial and dental modification. While body modification has

and Chilean Andes, we know significantly less about body modification in prehispanic coastal

dental modification from collection of 42 crania

from 42 individuals identified two distinct types of important antemortem modification. Four individuals had intentional dental modification such

both modifications, with gold insets on mandib-

through dental modification.

Funding for this research was provided by the College of Liberal Arts and Sciences at the University of North Carolina Charlotte.

Osteoarthritis and osteophytosis in the vertebral column in two prehistoric populations from the semi-arid north of Chile

Anthropology, Binghamton University, State University of New York

Chapman (1973), and Ubelaker (1999), data were

a significant effect on these pathologies in the

did not show a significance between age and

significance between age and severity of disease.

Morphological integration in thoracolumbar vertebrae of *Macaca fascicularis*

Buffalo Human Evolutionary Morphology Lab, University at Buffalo, SUNY, NY

stable dorso-ventral flexion.

Macaca fascicularis

defined as the two adjacent vertebrae around T10 as T10 is the first caudal thoracic vertebra

integration coefficient of variation (ICV) from

Bonferroni adjustment (significant when p <

significantly lower than other adjacent vertebrae

Physical Activity as Evidenced by Degenerative Joint Disease in Adults from a Rural and Urban Medieval Polish Comparison

[1]Forensic Anthropology, SNA International, [2]Anthropology, SUNY Oneonta, [3]Skeletal Biology Research Laboratory, The Ohio State University

Poznan (n=86) and rural Giecz (n=170) were used

et al

(n=17) exhibited more severe DJD (extensive

rural sample, 44% (n=75) of individuals exhibited mild DJD and 44% (n=75) exhibited severe DJD,

fusion. Tests confirmed that urban populations were significantly (*p*

Commingled skeletons in Cussac cave (Gravettian, Dordogne, France): Paleobiology and mortuary behaviors

[1]PACEA, CNRS-Université de Bordeaux, France, [2]Department of Archaeology, Durham University, UK, [3]Department of Biology, Laboratory of Anthropology, University of Florence, Italy, [4]Centre for Archaeological Science, University of Wollongong, Australia

bones were then disturbed by flooding events.

make a significant contribution to the knowledge

This work was supported by the Agence National de la Recherche (ANR) (Gravett'Os Project; Principal investigator: Sébastien Villotte; grant number: ANR-15-CE33-0004).

The Impact of the Roman Conquest of Egypt on the Non-Elite - Evidence from the Wall of the Crow Cemetery at Giza

Near Eastern Studies, University of California Berkeley

tive based on textual sources will mainly reflect

skeletal evidence, frequencies of non-specific

study found no statistically significant evidence

Morpho-functional traits of the mandible suggest no hard food adaptation in the hominin lineage

[1]Mammalogy, Paleoanthropology, Center of Natural History, University Hamburg, [2]Institut Català de Paleontologia M. Crusafont, Universitat Auto`noma de Barcelona, Cerdanyola del Vallès, Barcelona, [3]School of Earth and Environmental Sciences, University of Manchester

Homo

morphology to, firstly, establish the variation of

ables, and finally, to classify fossil individuals into

Paranthropu

flexibility.

German Reseaerch Foundation, KA1525-9/1, FOR 771

Linking female sociability and infant survival in capuchins: the roles of direct and indirect social connections, food competition, and energetic status

[1]Anthropology, McGill University, [2]Anthropology and Archaeology, University of Calgary, [3]Anthropology, University of Texas at San Antonio, [4]Anthropology, University of New Mexico, [5]Anthropology, Tulane University

females exhibit higher fitness. In accordance with

confer such benefits, and 2) how these benefits are conferred. To address the first question, we

(which reflect energetic status), considering the

with the lowest AIC-value), which reflects the

Sodium content in plant & insect food resources consumed by chimpanzees in Gombe National Park, Tanzania

[1]Center for the Advanced Study of Human Paleobiology, George Washington University, [2]Center for the Advanced Study of Human Paleobiology, George Washington University, [3]Nutrition Laboratory, Smithsonian Conservation Biology Institute, [4]Dialogue on Science, Ethics, and Religion Program, American Association for the Advancement of Science

Pan troglodytes

yet published data on the Na values for specific

= 93.8ppm) was significantly lower than insect foods (n= 7; Mean = 1,532.2ppm, S.D. 767.4ppm)

Macrotermes

Dorylus

This research was supported by a GWU-SI Opportunity Fund Research Grant and a Mazuri Research Grant

Are there clade level differences in the sexual dimorphism of primate hair morphology?

[1]Department of Anthropology, University of Massachusetts Amherst, [2]Graduate Program in Organismic and Evolutionary Biology, University of Massachusetts Amherst, [3]Department of Anthropology, University at Albany – SUNY, [4]The Center for the Advanced Study of Human Paleobiology (CASHP), Department of Anthropology, The George Washington University

differences likely reflect variation in the strength

Funded by National Science Foundation (BCS #1546730, BCS #1606360), the Wenner-Gren Foundation, The George Washington University, the University of Massachusetts Amherst

Moving through ecology: orangutan positional behavior in a mosaic habitat

[1]Anthropology, Boston University, [2], Gunung Palung Orangutan Conservation Project

ically move through space and the influences of

ecology. Movement ecology is thus a significant influence on animal cognition, morphology, diet,

(*Pongo abelii*, *P. wurmbi*

other than to conspecifics in disparate habitats.

(N=27) to examine postural behavior, locomotor

support use profiles between habitats. We found significant differences in the profiles of orangutan

(G=137.8, p<0.001) in 5 distinct habitats within

National Science Foundation (BCS-1638823, BCS-0936199); National Geographic Society; US Fish and Wildlife (F15AP00812, F12AP00369, 98210-8-G661); Leakey Foundation; Disney Wildlife Conservation Fund; Wenner-Gren Foundation; Nacey-Maggioncalda Foundation

Late Copper Age multiple inhumation burials with subadults in the Carpathian Basin

Anthropology, University of Pittsburgh

Settlements, burials, and isolated finds asso-

Copper Age (3500-2800/2700 BC). The present

of one or more subadults were identified at an

the role of ideological influences, genetic related-

Interdisciplinary evidence of the effects of physical activity in the patterns of human hand entheses

[1]Paleoanthropology, Senckenberg Centre for Human Evolution and Palaeoecology, [2]DFG Center for Advanced Studies "Words, Bones, Genes, Tools", Eberhard Karls University of Tübingen

odological shortcomings. Specifically, they did

of a significant functional signal in human hand

patterns among hand entheses reflect funda-

which reflect on the most recent and reliable

German Research Foundation (DFG FOR 2237), European Research Council (ERC CoG 724703), German Academic Exchange Service (91584619), and the A. G. Leventis Foundation (12386).

An analysis of the trabecular morphology of the *Homo naledi* talus, and its inferred functional implications

[1]Department of Anthropology, New York University, [2]Vertebrate Paleontology, Richard Gilder Graduate School, American Museum of Natural History, New York, [3]Department of Anthropology, Lehman College, 250 Bedford Park Blvd. W., Bronx, New York., [4]Department of Anthropology, CUNY, Graduate Center, New York, [5]Division of Paleontology, American Museum of Natural History, New York, [6], New York Consortium of Evolutionary Anthropology

Homo naledi

standing of its precise functional affinities is

to reflect loading regimes during locomotion.

H. naledi

520, UW101-1215, and UW101-1417. Specimens

H. naledi

Homo naledi

Predicting skull shape from admixture history in a multigenerational macaque cross sample

[1]Cell Biology & Anatomy, University of Calgary, [2]Department of Anthropology, University of California, Davis, [3]Department of Archaeology, University of Cape Town, [4]Human Evolution Research Institute, University of Cape Town, [5]Integrative Biology, University of California, Berkeley, [6]School of Mathematical and Natural Sciences, Arizona State University

The extent to which skeletal morphology reflects

(*Macaca mulatta*

M. mulatta

R2

p=0.002) along the primary axis of variation (first

R2

p

the implications of our findings for efforts to infer

become available to the scientific community

This research was generously support by grants from the National Science Foundation (#1623366, #1720128) and Leakey Foundation.

Managing an undergraduate research lab at a teaching-focused university

Biology, Oklahoma City University

uates have many benefits including improving

a large teaching load, making it difficult to allot

allowed me to complete a significant amount

Relations between cultural perceptions of childhood and childhood stress in an ancient Greek colony

[1]Department of Anthropology, Washington College, MD, [2]Department of Anthropology, University of Northern Colorado, CO, [3]Soprintendenza di Palermo, Italia, [4]Department of Anthropology, University of Georgia, GA

child is indoctrinated may influence stress expe-

age categories, defined by the ancient Greek's

Greek idea of childhood. We observed 739 individuals (adults). The subadults were divided into five social age categories specific to ancient Greece: preschool (6-7), school (8-14 [puberty]), and adolescence (15-18). No significant differences $X2p_{o}$ p_{p} =0.72; and p_{h} significantly more PH and LEH than 3 of the 4

This research was funded by National Science Foundation Research Experience for Undergraduates award numbers 1560227 and 1560158, the University of Georgia, and the University of Northern Colorado.

The Krapina Neandertal Site: Using Dental Metrics To Determine Population Variability In Neandertals

Anthropology, Binghamton University

ago by Karl Gorjanović-Kramberger and remains

metrics, specifically the buccolingual diameter

of the coefficient of variation and from several statistical significance tests. The results of this

element, the first and second molars, demonstrate a level of variation not significantly different

"Active learning" in the anthropology classroom improves student engagement, retention, and inclusion

Department of Sociology and Anthropology, Wright State University

and flipped classrooms have become increasingly

improved understanding of the scientific process

material. Specific examples of successful activi-

Socio-ecological predictors of maternal uncle investment in the bilateral, semi-nomadic Shodagor

[1]Department of Anthropology, University of Missouri, [2]Department of Anthropology, University of New Mexico

egies dependent upon specific ecological circumstances. Their flexibility includes some

models indicate that residence patterns significantly influence direct care from maternal uncles,

firstborn in their natal families as well as those

eral, behaviorally flexible nature of this population

The data collection for this research was funded by the Wenner-Gren Foundation, Dissertation Fieldwork Grant 8578.

Bioarchaeological analysis of Nasca 'trophy' head individuals from the site of Zorropata in Peru (AD 450-1000)

[1]Anthropology, Northern Arizona University, [2]Anthropology, University of California, Santa Barbara

at Zorropata identified at least one and possibly

barbaco

and concurrent with Wari imperial influence in

cranial vault modification and were in the style

NSF Archaeology Doctoral Dissertation Improvement Grant #1441840 and University of California, Santa Barbara Social and Behavioral Sciences Grant

The interaction of climatic and energetic factors on human nasal morphology

Center for Anatomical Sciences, University of North Texas HSC

test this, we employed 17 linear measurements

nasal aperture and internal cavity are significantly

with FHD (r-values=0.53–0.68, p-values<0.047)

passage shape retained a significant relationship with climate (r=0.76, p=0.001) with relatively

bolically sufficient intake of oxygen. Additional

Impact of urbanization on tuberculosis and leprosy prevalence in medieval Denmark

[1]Anthropology, Pennsylvania State University, [2]ADBOU, Institute of Forensic Medicine, University of Southern Denmark, Odense

– specifically leprosy and tuberculosis – in four

specificity, and it was possible to score at least

an estimated 34% (CI 24-47%). These results

This research was funded by the National Science Foundation (1825362), the Wenner-Gren Foundation (Gr.9604), the American-Scandinavian Foundation, and the College of Liberal Arts, Pennsylvania State University.

Effects of Binocular Field Width on Grasping Performance in *Cheirogaleus* and *Microcebus*: Implications for Primate Origins

Anthropology, UT Austin

nostic crown primate traits, including a large field

for the evolution of primates' wide binocular field

binocular field provides an advantage in grasping

field width grasping performance was tested

Cheirogaleus medius and *Microcebus murinus*. Five individuals per species were filmed

normal (n=400) and reduced binocular field (n=360) conditions. Binocular field restriction

that blocks the medial visual field of one eye.

M. murinus

binocular condition significantly decreased grasp

caused significant changes in three of the grasp

deficit under the reduced binocular condition was also significantly greater when individuals were

a wider binocular field is beneficial for both fruit

This work was supported by NSF Bio-Anth DDRIG 1650734 and a Harrington Fellowship

A validation of dental methods to estimate ancestry

Department of Anthropology, University of Nevada, Reno

ancestry is growing in the field of biological

classified correctly. Positive predictive values

52.7% of individuals were correctly classified into

are clear patterns in terms of misclassifications

Mitochondrial haplogroup variation from the archaeological site of Cundisa, Bolivia

STANISLAVA CHÁVEZ[3], SERGIO CHÁVEZ[1]

[1]Sociology, Anthropology and Social Work, Central Michigan University, [2]Anthropology, University of Oklahoma, [3]Anthropology, Wayne State University, [4]Microbiology, University of Oklahoma

Tiahuanaco cultural sphere of influence and one of the first studied using ancient DNA methods.

uals from different time periods identified at

on an Illumina MiSeq. Post enrichment ~3-79% of

tified as haplotype B2 and the other four appear

Post-cranial diversity in Catarrhines

Department of Anthropology, University at Buffalo

diversity tends to reflect primate taxonomy, the phylogenetic efficacy of the primate post-cranium

bones of the limb girdles reflect taxonomy using

an HDI structured light scanner. Scapula (n=17)

the affinities among individuals. For the scapula, separately, thereby reflecting gross taxonomic *Nasalis* *Hylobates*

Procrustes distances were significantly corre-

Funding provided by the Mark Diamond Research Fund.

"Anthropologically, socially and politically sound": American eugenics, anthropology, and the Galton Society

History, The University of Akron

influence on the larger field of anthropology.

that might have mortified some of its founders, the Galton Society had a significant and lasting

Saving face: the role of artificial intelligence in evaluating craniofacial variation for the treatment of orofacial dysfunction

[1]Biomedical Sciences, Texas A&M College of Dentistry, [2]Department of Surgery, Baylor University Medical Center, [3]Department of Aerospace Engineering, Texas A&M University, [4]Department of Oral and Maxillofacial Surgery, Texas A&M College of Dentistry

advances made by the field seldom find their

rely heavily on the accurate quantification of

and financial burdens for patients and hospitals

developed a novel deep-learning artificial intelli-

clinical studies in the field of anthroengineering and its application to clinical and surgical fields.

Funded by Texas A&M University Health Science Center X-Grant Development Award and the Texas A&M University College of Dentistry Department of Biomedical Sciences Development Award

Secular change in macromorphoscopic trait frequencies in modern European Americans

[1]Department of Anatomy and Neurobiology, Boston University School of Medicine, [2]Department of Anthropology, Boston University

1824-1849 (cohort 1), 1850-1874 (cohort 2), 1875-1899 (cohort 3), and 1900-1924 (cohort and 1950-1987 (cohort 6). Pearson's chi-square analysis produced significant p-values (< 0.01) that significant secular change in nonmetric

A comparison of cercopithecid molar outlines using elliptical Fourier analysis

Department of Anthropology, Georgia State University

in *Colobus*, *Cercocebus* d*Papio* , e *Cercocebus* n *Papio* a *Colobus*.A total of 24 first permanent maxillary molar v.2.0 to calculate elliptical Fourier coefficients. s *Papio* n - e *Cercocebus* a*Colobus* de *Cercocebus* n *Colobus* n v *Colobus* y extremes. The first ten principal components scores explain 94.2% of the variance. The first n *Colobus* n *Papio* 6*ercocebus* y *Cercocebus* d *Colobus* n shape differences reflect the closer phylogenetic a*pio* d*ercocebus* .

Funding was provided by Fulbright-Belgium and the Commission for Educational Exchange between the USA, Belgium and Luxembourg.

Evaluating the effects of maternal prenatal stress on fetal growth patterns and birth outcomes in Soweto, South Africa

[1]Department of Anthropology, Northwestern University, [2]MRC/Wits Developmental Pathways for Health Research Unit, School of Clinical Medicine, Faculty of Health Sciences, University of the Witwatersrand, [3]Institute for Policy Research, Northwestern University

-

utero v -

-

-

Preliminary findings report that prenatal stress is significantly correlated with infant birth weight (*p* during gestation is significantly correlated with maternal diastolic blood pressure (p=0.0373) n opmental influences of prenatal stress on fetal -

Testing the applicability of shape-based computational age-at-death estimation methods using pubic symphyseal surface scans of Asian Origin

[1]Scientific Computing, Florida State University, [2]Center for Comparative Studies in Race and Ethnicity, Stanford University, [3]Mathematics and Statistics, University of North Carolina at Charlotte, [4]Anthropology, University of Tennessee, [5]Anthropology, University of Vienna

-

same sample is used to produce the final age *forAge,* -

the gradual flattening of the face and changes in

build a series of regression models and the final

tically significant relationships exist between

This project is supported by a National Institute of Justice grant (2015-DN-BX-K010) awarded to the senior authors, Slice and Algee-Hewitt.

Canine-root size variation and its influence on the pattern of sexual dimorphism in the facial skeleton of *Australopithecus afarensis*

[1]Institute of Human Origins, Arizona State University, [2]Sackler Faculty of Medicine, Tel Aviv University

Ardipithecus, *Australopithecus*

Au. afarensis

(3.4-3.0 Ma). Inspired by recent findings that

Australopithecus

JPA

fies several Hadar specimens as female whose

Au. afarensis

Quantitative genetics of sexually-selected traits in male rhesus macaques

[1]Anthropology, New York University, [2]New York Consortium in Evolutionary Primatology

This research was supported by The Leakey Foundation.

Famine and Tooth Decay: Assessing the Relationship between Famine and Caries Frequencies

[1]Anthropology, University of Central Florida, [2]Defense POW/MIA Accounting Agency Laboratory, Department of Defense

with poor health, specifically elevated risk of infec-

animal meat, dairy, and fish), resulting in a higher

indicate caries frequencies are significant higher

a significant three-way interaction among caries,

Assessing the impact of duration versus bout frequency data in studying infant handling

Anthropology & Archaeology, University of Calgary

amount of handling received may influence the

use of the two data types influences estimates

Colobus vellerosus

were not for maternal handling (T_b=0.17, p=0.28). Frequency data was significantly more variable

received (F(1)=71.15, p<0.001). These findings

Funding for this research was provided by the Natural Sciences and Engineering Research Council of Canada.

Determining dominance rank order in wild female white-faced capuchins: a comparison of three methods

Anthropology, Tulane University

for reducing conflict and maintaining order within

costs and benefits of group living.

Cebus capucinus imitator

of the Área de Conservación Guanacaste in

capuchins. Elo-rating has the additional benefit

Funding was provided by The Nacey Maggioncalda Foundation, The American Philosophical Society, The International Primatological Society, Sigma Xi, The Leakey Foundation, and Tulane University

The role of social status in spinal degenerative joint disease outcomes: Evidence from Medieval Villamagna, Italy (800-1450 AD)

[1], [3], [6,7]

[1]Department of Anthropology, University of California, Berkeley, [2]Faculty of History, University of Cambridge King's College, [3]Anthropological Service, Soprintendenza Archeologia, Belle Arti e Paesaggio per la città metropolitana di Cagliari e le province di Oristano e Sud Sardegna, [4]Physical Anthropology Section, University of Pennsylvania Museum of Archaeology and Anthropology, [5]Department of Environmental Biology, Sapienza University of Rome, [6]Department of Archaeology, Foggia University, [7]Anthropological Service, S.A.B.A.P.-LAZ

the efficacy of employing analyses of degen-

Stahl Faculty Grant, Archaeological Research Facility, University of California Berkeley

Covariation among dental wear, craniofacial morphology, and pathologies in *Macaca fascicularis*

[1], SIOBHÁN B. COOKE[2], [4]

[1]Biomedical Sciences, Marquette University, [2]Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine, [3]New York Consortium in Evolutionary Primatology Morphometrics Group, [4]Department of Anthropology, University of Arkansas

influence one another, both in non-pathological

Macaca fascicularis

M. fascicularis

upper and lower first and second molars. The degree of fluctuating asymmetry in the cranium was also quantified.

Results indicate that TMJ shape varies signifi-

and periapical abscesses. No significant relation-

pathology. Further, we observed no significant

and dental relief. There was a significant posi-

ties. Lower levels of fluctuating asymmetry were

NSF BCS-1551722 (CAK), NSF BCS-1551669 (SBC), NSF BCS-15511766 (CET)

Patterns of mobility in the early stage of urbanization of Viking Age Sigtuna, Sweden

Osteoarchaeological Research Laboratory, Department of Archaeology and Classical studies, Stockholm University

a small level of social stratification, there are

there is a dietary difference (δ13C- and δ15N-

networks and influx of ideas in the forming of the

This study is based on the work done within two projects funded by The Swedish Research Council (VR 2013-04959 & RJ M13 0904:1 and VR 2016-02532).

Assessing the influence of Hox11 genes on calcaneal trabecular bone formation

[1]Department of Bio-Medical Sciences, Philadelphia College of Osteopathic Medicine, [2]Department of Anthropology, Pennsylvania State University

functional significance to human and non-human

Australopithecus,

Hox11 genes are known to influence wrist and

Hoxa11 *Hoxd11*

Hoxa11 *Hoxd11*

Hoxa11 *Hoxd11*

genotype differences difficult to determine.

may impact calcaneal ossification and overall

This work was funded by the National Science Foundation NSF BCS-1540418, NSF IOS-1656315 & NSF BCS-1638812

A Re-Evaluation of the Sinodont and Sundadont Dental Complexes for the Peopling of the Japanese Archipelago

Anthropology, University of Nevada, Reno

Sundadont dental complexes defined by C.G.

from Asia and the Pacific (Jomon, Ainu, East Asia,

was a product of gene flow between Sinodonts

Secular Change in Popular Morphological Traits of the Skull and Pelvis

Forensic Anthropology Program, Department of Sociology and Anthropology, Washburn University

estimation, score data of the five Walker (2008)

were collected from 1,734 individuals of known

Mann-Whitney U test. Significant differences

(p=0.012), and the SPC (p=0.037 left; p=0.002

porary black sample had significantly lower (i.e., more gracile) scores. In whites, significant differ-

males. All three traits of the pelvis were signifi-

This research was funded by National Institute of Justice Grant 2015- DN-BX-K014. Opinions expressed herein do not necessarily represent the official position or policies of the U.S. DOJ or NIJ.

In search of the missing, the overlooked, and the invisible: paleodemographic conundrums, sexuality and gender, and epigenetics in Lambayeque bioarchaeology

Sociology & Anthropology, George Mason University

encounter with ancient cultural filters involving

This work has been supported since 2005 by the Wenner-Gren Foundation, the National Science Foundation, the National Geographic Society, and George Mason University.

Functional correlates of jaw shape diversity in platyrrhine sclerocarpic harvesters

Doctoral Program in Anthropology, City University of New York Graduate Center, New York Consortium in Evolutionary Primatology (NYCEP)

Cacajao, Chiropotes, Pithecia, Callicebus) and (*Sapajus, Cebus, Aotus, Saimiri*) significant measurements of the mandible were

Aotus and the pitheciids are unified as sclerocarpic *Sapajus*

This work was supported by the National Science Foundation, NSF 0966166 (NYCEP IGERT)

Repeatability of female odor preferences in mate choice

Anthropology, University of Utah

T-shirts, worn by five different men, and identify sessions under identical conditions. For 17 significant ($p < 0.001$) but not related to HLA. Twenty-one out of 31 women showed signifi-

Disease ecology and the relationship of human- and nonhuman primate-infecting *Treponema pallidum*

[1]Infection Biology Unit, German Primate Center, [2]Gene Bank of Primates, German Primate Center, [3]Primate Genetics Laboratory, German Primate Center

Treponema pallidum (*TP* *pallidum*) *endemicum*) *pertenue*; *TPE*) One of the first confirmed reports of a *TP* (*Papio papio*) Fribourg-Blanc strain represents the first fully *TP* strains has led to its proposed classification into *pertenue*. This finding supported our *pertenue*-like classification of earlier and current *TP* *TPE* *TPE* *TPE* *TP*

Recent work on NHP and human infecting TPE strains was funded by the German Research Foundation (DFG): KN1097/3-1 and KN1097/4-1 (to SK) and RO3055/2-1 (to CR).

Fecal isotopes as indicators of weaning and diet in wild Bornean orangutans

[1]Anthropology, Boston University, [2]Geology and Anthropology, University of Cincinnati, [3]Anthropology, University of California, Santa Barbara, [4]Biology, National University of Indonesia

Orangutans have a 7.6 year average inter-birth
-
(10-13 yrs) showed significantly (GLMM, p< 0.007) lower d15N than samples taken from the
-

NSF (BCS-1638823, BCS-0936199); National Geographic; USFish/Wildlife (F15AP00812, F13AP00920, 96200-0-G249, 96200-9-G110); Leakey; Disney Wildlife Conservation; Wenner-Gren; Nacey-Maggioncalda; Orangutan Conservancy; Conservation-Food-Health; Woodland Park Zoo; Holloman Price; AZA; Ocean Park Conservation; USAID; Arcus

A Method for Identifying Source Populations in Genetic Ancestry Studies

Anthropology, University of New Mexico

from 2 ≤ K*≤ K of the potential sources. We use
ancestry coefficients estimated. This increases
-
and their final results. In total, these studies
-
-

Risk of injury in two Asian colobines

[1]Department of Anthropology, Stony Brook University SUNY, [2]Interdepartmental Doctoral Program in Anthropological Sciences, Stony Brook University SUNY

resources and expected to occur only if benefits
-
-
Semnopithecus schistaceus , *Trachypithecus phayrei crepusculus*
and 7 years of data (PLM, 87 individuals). In both
-
than females, but we did not find a sex difference

Fieldwork supported by Alexander von Humboldt-Foundation, American Society of Primatologists, Ernst-Stewner-Foundation, German Academic Exchange Service, German Research Foundation, Leakey Foundation, National Science Foundation, Society for Technical Cooperation, Wenner-Gren Foundation.

Stature estimation as allometry

Anthropology, University of Illinois at Urbana-Champaign

al. (1989) but focusing specifically on bivariate
solves the regression equation for stature. To find
Musgrave and Harjena (1978), and metatarsal
apply these summary statistics to find the full
A. sediba and *H. naledi* and *floresiensis*.
The fossil stature estimates confirm previous

New methods for quantifying entheseal shape and adaptation to functional loading

[1]Biological Sciences, University of Massachusetts Lowell, [2]Evolutionary Anthropology, Duke University, [3]Human Evolutionary Biology, Harvard University

of consistency in shape quantification methods has made it difficult to interpret and compare

Supported by NSF BCS1341120 and NIH AR055295.

Humans have relatively larger lumbar vertebrae than African apes

Archaeology, University of Oulu

Pan d

Gorilla
an troglodytes *orilla*
gorilla)

We found no statistically significant difference in

vertebrae. However, we did not find clear dimen-

Pan,

Pan
d *Gorilla*.

This research was founded by Finnish Cultural Foundation

The Life History of Hunting Skill: Cross-cultural and Individual Variation

[1]Anthropology, University of Cincinnati, [2]Human Behavior, Ecology, and Culture, Max Planck Institute for Evolutionary Anthropology

tion and sharing. In turn, refining and testing

and cultural learning benefits from increasingly

respective field sites. The cross-cultural database

collected in the field.

National Science Foundation (#1534548)

Application of the 3D quantitative shape analysis method for age assessment from os coxae in European samples

[1]Department of Anthropology and Human Genetics, Charles University, [2]Department of Life Sciences, University of Coimbra

a biological profile. Advanced technologies have

al. (2017) proposed a computational method

on five regression models of which two were

square error – 5.93 years and inaccuracy – 4.47 years). Our results did not confirm that multivar-

This research has been supported by the research grant GAUK No. 642218.

Mixed support for the patterning cascade model in bears: Implications for understanding the evolution and development of hominoid molar morphology

[1]Center for the Study of Human Origins, Department of Anthropology, New York University, [2]New York Consortium in Evolutionary Primatology, [3]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology

buccolingually-expanded, low-cusped lower first
Ursus arctos *U. americanus*
tau
coefficients for the pooled *Ursus*
the metaconid and entoconid is significantly
shape, specifically the orientation of low cusps

Arboreal Positional Behavior in Humans, Chimpanzees, and Gorillas

[1]Anthropology, City University of New York Graduate Center, [2]New York Consortium in Evolutionary Primatology, NYCEP, [3]Evolutionary Anthropology, Duke University, [4]Anthropology, Washington University in St-Louis, [5]Goualougo Triangle Ape Project, GTAP, [6]Lester E Fisher Center for the Study and Conservation of Apes, Lincoln Park Zoo

troglodytes
troglodytes *G. gorilla gorilla*
and indigenous Mbendjele men (17 individuals; Makao village). Among key results we find that: 1) In trees, humans spend significantly more time
significantly more time in the core region near
diameter is not significantly different in humans

This work was partially funded by the Leakey Foundation (general grant) and the National Science Foundation (1732194 and 1646736)

Sex Differences in Orangutan Long Bone Skeletal Strength in Relation to Flanging Status

Anthropology, University of Pennsylvania

either flanged with secondary sexual characteristics or unflanged with arrested secondary
differs between females, unflanged males, and flanged males. To further evaluate these find-
Females and unflanged males also showed a
circumference, while the flanged male relation-
were larger than females, while unflanged males had circumferences smaller than flanged
unflanged male orangutan bone strength could

Urban-rural differences in respiratory tract infections in medieval and early modern Polish subadult samples

MARTA KRENZ-NIEDBAŁA and SYLWIA ŁUKASIK

Department of Human Evolutionary Biology, Faculty of Biology, Adam Mickiewicz University in Poznań

observing inflammatory new bone formation in
to 10th-14th AD, and rural Słaboszewo dated to 14th-17th AD. Rib lesions were observed addi-
Łekno dated to 13th-16th AD, which served for
for ear bone changes, 18.0% vs 7.1% for maxil-
significant for the lesions of auditory ossicles

The role of grit in dental microwear textures: evidence from Artificial Resynthesis Technology (ART)

[1]Anthropology, Loyola University Chicago, [2]College of Dentistry, University of Illinois at Chicago, [3]Environmental Dynamics, University of Arkansas, [4]Minnesota Dental Research Center for Biomaterials and Biomechanics, University of Minnesota

microwear textures using Artificial Resynthsis

This study was funded by the LUROP Mulcahy Fellowship to KLK and EC.

Life History Perspectives on Carious Lesion Formation

Anthropology and Sociology, George Mason University

was recorded by tooth surface in a sample of 754

lesions ($p \leq 0.050$). Females with crown lesions with lesions present at the CEJ/root ($p \leq 0.001$). without carious lesions ($p \leq 0.001$), males with crown lesions ($p \leq 0.001$), and males with CEJ/root lesions ($p \leq 0.011$). Males without carious CEJ/root lesions ($p \leq 0.001$). Males with carious vorship than males with CEJ/root lesions ($p \leq$ age and sex specific differences in carious lesion lesions reflect varied life history factors including

Enamel extension rate patterns in the great apes

Research Centre in Evolutionary Anthropology and Palaeoecology, Liverpool John Moores University

The enamel extension rate reflects the number 20 µm/day within the first two months of enamel *Gorilla* *Pan* *Pongo* *Gorilla*.

Do primates really trapline?

[1]Anthropology, University of Toronto, [2]Anthropology, University of Toronto Scarborough, [3]School of the Environment, University of Toronto, [4]Anthropology, Rutgers University, [5]Animal Behavior Graduate Group, University of California, Davis

pollinating insects, is defined as repeated sequen- (*Chlorocebus pygerythrus*, *heirogaleus medius*, *Microcebus murinus*, *Daubentonia madagascariensis*) modified a similarity index (SI) previously used for bees (Saleh & Chittka 2007) to determine the like- 66.7% of dwarf lemurs (n=4/6, mean SI=0.26) showed SI values that increased significantly

This research was funded by a Natural Science and Engineering Research Council of Canada Discovery Grant issued to Dr. Julie Teichroeb, and the University of Toronto.

Three-dimensional tarsal morphology and movements in anthropoid primates

[1]Pathology and Anatomical Sciences, University of Missouri, [2]Organismal Biology and Anatomy, University of Chicago, [3]Integrative Anatomical Sciences, University of Southern California, [4]Biological Sciences, University of Southern California, [5]Cell and Developmental Biology, University of Colorado School of Medicine, [6]Anthropology, University of Colorado Denver

in vivo

in silico polygonal models onto biplanar fluoroscopic films of moving animals, enabling 3D posture and motion of the bones to be quantified

were filmed. For the comparative analysis, 1007 tarsal bones from 250 individuals of 17 anthro-

NSF MRI-DBI 1338066; Wenner-Gren Foundation, Leakey Foundation, AAPA Professional Development Program, George Washington University, University of Southern California, Midwestern University-Downers Grove, and National Science Foundation (BCS-1316947; BCS-1317047; BCS-1317029 and BCS-153974)

Using cranial morphology to investigate population history in the genomic age: insights from the study of a 9500-year-old human skeleton from San Miguel Island, California

Anthropology Department, University of California, Santa Cruz, Instituto de Alta investigación, Universidad de Tarapacá, Chile, Department of Sociology & Anthropology, University of Idaho

of biological affinities and population dynamics

exemplified in this study of a 9500-year-old skel-

ical and cultural affiliation as defined under

prehistoric populations from all along the Pacific

that support an early pacific coastal migration

This work was funded by an IIE Fulbright Fellowship #03102656, University of California Pacific Rim Research Grant #20090940, and NPS/NAGPRA Grant #P14PX01204.

The Evolution and Morphological Diversification of the Subtribe Papionina

[1]Biology, Loyola University Chicago, [2]Anatomy, Midwestern University, [3]Biology, Loyola University Chicago

defined commonly as baboons and their closest

of morphological diversification present in

Multivariate analysis was performed on 17 linear

to identify the mode of morphological diversifica-

that the mechanism driving diversification is

Age-related decline in executive function in primates

Psychological and Brain Sciences, University of Massachusetts at Amherst

most species. In addition, the influence of sex

Supported in part by R01 AG046266 and P01 AG02642

Neandertal oral health: new techniques and future directions

Department of Anthropology, California State University, Dominguez Hills

the field into maturity.

Bone remodeling in the macaque (*Macaca fascularis*) skeleton: effects of loading frequency and magnitude

[1]Anthropology, University of Florida, [2]Anthropology, The Ohio State University

Macaca fascicularis) femora, tibiae, and fibulae (n=5 individuals). Ribs involving gravitational forces. The fibula experi- ANOVAs returned significant differences in OPD t-tests revealed significantly lower On.Ar in the

osteon size. OPD was significantly higher in the rib than tibia or femur, and higher in the fibula than femur. The high fibular OPD was surprising

Supported by NSF BCS -1440278 and -1440532.

Corn, Culture, and Caries: A Temporal Study of Carious Lesions on the Mississippian Periphery

Anthropology, The Ohio State University

cultural groups are considered the first maize Late (AD1400–1675) Fort Ancient populations Turin n=1100, Anderson n=873, Fox Farm n=773). from 13.97% (Fox Farm) to 17.18% (Anderson), significance differences by sex at any of the 19.74% male, 15.66% female at Turpin, p=0.086).

Best Practices for the Macerating Human Thyroid Cartilage

Anthropology, SUNY Binghamton

test the efficacy of each maceration method. The With a final score of 18/19 (94.7%), chemical

This project was supported by an award from the National Institute of Justice: 2016-DN-BX-0155.

Another massive distal humerus of *Paranthropus boisei* from Koobi Fora, Kenya

School of Natural Sciences & Mathematics, Stockton University

whether it can be confidently attributed to (or (*P. boisei*, *H. habilis*, *H. erectus*

Distance metrics reflecting shape dissimilarity

assessed in the context of intraspecific variation

-

P. boisei

Paranthropus *Homo*.

P. boisei,

P. boisei

Australopithecus)

Supported by the National Science Foundation, the Leakey Foundation, and the Wenner-Gren Foundation.

The influence of dietary grit on capuchin feeding behavior

Organismal Biology and Anatomy, University of Chicago

studies have examined the influence of dietary grit

apajus apella

(XROMM) and fine wire electromyography.

or 10 ml of silt-like (75 microns), sand-like (180

Isotopic Analyses in Contemporary Forensic Cases from Coconino County, Arizona

[1], [3]

[1]Anthropology, Northern Arizona University, [2]Medical Examiner, Coconino County Public Health Services District Medical Examiner's Office, [3]Geological Sciences, New Mexico State University

to loved ones in unidentified forensic cases

-

mation on unidentified individuals housed at the

Medical Examiner's Office, the Northern Arizona

tooth samples from 12 unidentified individuals

for identification. We analyzed the samples at

being developed, and this is the first study to

significantly different geolocations and diets

-

The Northern Arizona University Hooper Undergraduate Research Award funded this research.

From Cheap Chicken to Genome Instability: Arsenic, Diabetes, and the Social Nature of One-Carbon Metabolism

Sociology/Institute for Society and Genetics, UCLA

-

Funding was provided by the American Association of Physical Anthropologists Cobb Professional Development Program

-

ration and detoxification occurs in any human

and historically specific. This paper uses the

detoxification processes. Microbial metabolism

-

USC Dornsife Berggruen Institute Fellowship

Maxillary sinus growth and development in Neanderthals and *H. sapiens*

[1]

[1]Department of Archaeology and Centre for Anatomical and Human Sciences, Hull York Medical School, University of York (UK), [2]Department of Environmental Biology, Sapienza, University of Rome (IT)

-

H. sapiens

H. sapiens

H. sapiens

the great changes in size that occur in the first

These findings suggest that despite differences in

Fracture Patterning and Distribution in the Appendicular Skeleton as a Result of a Blast Event

[1]Anthropology, Georgia State University, [2]Geography and Anthropology, Kennesaw State University

Sus scrofa

insufficient in producing a significantly different

found to significantly increase the severity of injury

the identification and analysis of blast trauma in

A Closer Look at Global Prevalence of Obstetric Fistula

Anthropology, Boston University

Obstetric Fistula (OF) is a fistula in which a

result of untreated difficulties during childbirth.

Base, we create 'fistula ranges' for the prevalence

highest and lowest rates of fistula researched.

been conducted fell within the fistula range for

prevalence of fistula in these regions. This study identifies crucial regions where women may be

A spoonful of bacteria helps the gluten go down: Probing the human oral microbiome for evidence of recent adaptation to host diets enriched in wheat, barley, and rye

Anthropology, University of Connecticut

Despite being a fixture in the modern human diet, gluten is notoriously difficult for many mamma-

Rothia mucilaginosa

and contribute significantly to nutrient extraction.

R. mucilagino-sa

ability that conferred a side benefit to the host.

R. mucilaginosa

Introduction and Major Findings: The Backbone of Europe: Health, Diet, Work, and Violence over Two Millennia

[1]Anthropology, Ohio State University, [2]Economics and Anthropology, Ohio State University, [3]Archaeology, University of Durham, [4]Economic History, University of Tuebingen

Research supported by U.S. National Science Foundation and The Ohio State University.

Dynamic social networks in the wake of environmental disaster: Hurricane Maria and the Cayo Santiago macaques

[1]Department of Anthropology, University of Pennsylvania, [2]Centre for Research in Evolutionary, Social and Inter-Disciplinary Anthropology, University of Roehampton, [3]Caribbean Primate Research Center, University of Puerto Rico, [4]Department of Neuroscience, University of Pennsylvania, [5]Department of Psychology, University of Washington, [6]Department of Psychology, University of Pennsylvania, [7]Department of Marketing, University of Pennsylvania, [8]Centre for Research in Animal Behaviour, University of Exeter

costs and benefits of group-living. Individuals

response to dynamic environments. In late 2017,

(*Macaca mulatta*)

close kin and same-sex pairs. We find proximity networks were significantly denser after the hurri-

integrated. This is reflected in greater frequencies

Research supported by National Institute of Mental Health grants R01-MH089484 and R01-MH096875.

New insights into human hair variation: High-throughput phenotyping paves way for genome-wide association studies and selection screens

[1]Department of Anthropology, Pennsylvania State University, [2]Department of Biology, Pennsylvania State University, [3]Department of Anthropology, University of Utah, [4]School of Life Sciences, Arizona State University

'frizzy'. Such oversimplifications of this complex

humans. To fill these gaps in our understanding,

hair fiber morphology and used it to measure

(r = 0.82, 99% CI [0.76, 0.87]). To understand the

LPAR6,

fine-scale variation therewith improving large-

This work was supported by the Center for Human Evolution and Diversity and the Department of Anthropology at the Pennsylvania State University.

Obstetric constraints in large-brained cebids and modern humans: a comparison of coping mechanisms

[1]Anthropology, Boston University, [2]Evolutionary Anthropology, Duke University

head is generally face-first. Yet even when more

Cebus albifrons *Cebus apella*

vertex presentation in our human sample (n≥10

Saimiri

Wenner-Gren Foundation Dissertation Fieldwork Grant and Boston University Summer Graduate Research Abroad Fellowship

Stabilizing selection on bamboo lemur cyanide-detoxification enzymes suggests regulatory evolution

[1]Ecology and Evolution, Stony Brook University, [2]Anthropology, Kent State University, [3]Anthropology, Stony Brook University

Prolemur simus *H. spp.*

P. simus *H. aureus*

allows them to fill a niche rarely exploited by

detoxification. We show

matic detoxification. Selection to upregulate the amount of detoxification enzymes, and/or their

detoxification and reliance on functional detoxification enzymes in CN

American Genetics Association EECG to MEL. Kent State University College of Arts and Sciences.

Talar forces and moments in turning

[1]Anthropology, University of Washington, [2]Department of Orthopaedics and Sports Medicine, University of Washington, [3]Center for Functional Anatomy and Evolution, The Johns Hopkins University School of Medicine

joint forces were not significantly different

The Epidemiology of Longevity and Behaviour - Evidence from the skeleton and its value in Human Identification

[1]Research and Development, Odyssey Fieldschool, [2]Archaeology, University of Bournemouth, [3]Center for Anatomy and Human Identification, University of Dundee, [4]Justice Studies, Florida Gulf Coast University

Enthesial changes (EC), osseous modification

acter of Cyprus prior to 1974 whereas OA may be

Modern evidence of femoroacetabular impingement: implications for interpretations in the archaeological record

[1]Department of Pathology and Anatomical Sciences, University of Missouri, [2]School of Medicine, University of Missouri, [3]Department of Orthopaedic Surgery, University of Missouri

reduced mobility. It is also often identified

ical sample of 72 living patients treated for FAI

significantly different between symptomatic and

Integration of the canine region within the hominine alveolar arch

[1]Institute of Human Origins, Arizona State University, [2]School of Human Evolution and Social Change, Arizona State University

dental regions. We also examined the influence

interspecific patterns of integration. Our sample

Australopithecus afarensis

drives intraspecific patterns of covariation but significant size relationships between dental

specific shape relationships are consistent in

A comparative analysis of carpometacarpal joints four and five in various hominoid and cercopithecoid species

[1]Department of Anthropology, Kent State University, [2]School of Biomedical Sciences, Kent State University

five and the hamate in knuckle-walking (KW)
weight on their fifth digit during KW we hypothe-
gutans, and baboons. We also defined several
them in the five taxa using seriation-scoring. We
means of hamate facet size ratios differ signifi-
Gorilla
Pan *Homo* .

Correlations between dental wear and oral cavity characteristics: Mandibular torus, palatine torus, and oral exostoses

Department of Sociology, Anthropology and Gerontology, Youngstown State University

Dental wear/loss was classified into four
common (n=336). Wear was statistically signifi-
The maxillary exostoses (n=41) varied signifi-
frequencies were significant by wear, sex and
gory. PT (N=85) varied significantly across wear
loss influences the presence and expression of

Evidence for intestinal parasitic infection from coprolites at the Bronze Age settlement of Must Farm, UK (920-790 BCE)

[1]Department of Archaeology, University of Cambridge, [2]Organic Geochemistry Unit, School of Chemistry, University of Bristol, [3]Cambridge Archaeological Unit, University of Cambridge

(920-790 BCE) pile-dwelling located in the east of England, consisting of five stilted timber struc-

Diphyllobothrium sp. (fish
Echinostoma sp. (intestinal fluke),
Trichuris *Capillaria*
Echinostoma sp. and fish tape-
or undercooked fish or molluscs are eaten. Their
Echinostoma
Capillaria sp. and fish tapeworm in
species that flourish in aquatic environments but

This work was funded by a Social Sciences and Humanities Research Council of Canada Doctoral Award (752-2016-2085) and a Cambridge Commonwealth, European, and International Trust Scholarship.

Food mechanical properties and dietary ecology in sympatric *Pithecia* and *Chiropotes* during a period of preferred food scarcity

[1]Department of Evolutionary Anthropology, Duke University, [2]Department of Anatomy, Kansas City University of Medicine and Biosciences, [3]Department of Organismal Biology and Anatomy, The University of Chicago, [4]Department of Biomedical Sciences, Mercer University School of Medicine, [5]Department of Biodiversity and Conservation, Federal University of Maranhão, [6]Department of Anthropology, Washington University in St. Louis

primates has benefited greatly through the
E
R
E *R*
Pithecia *Chiropotes*
Specifically, it has been demonstrated that
Chiropotes
Pithecia

This research was supported by funding from Washington University in St. Louis (DSS) and an AAPA Professional Development Grant (JAL).

An automated tool for measuring human limb bones using 2D images

[1]Anthropology, University of Illinois at Urbana-Champaign, [2]Computer Science, University of Illinois at Urbana-Champaign

remains. Currently, the most efficient method research in a broad range of fields.

from a sample of 37 individual human skeletons.

of intraclass correlation coefficients and paired

the potential to facilitate field work by eliminating

Predicting glenohumeral range of motion from bone geometry *in silico*, with application to fossil hominins

[1]Mechanical and Materials Engineering, Queen's University, [2]Orthopaedic Surgery, University of California San Francisco

Scapula morphology is thought to reflect loco-

in silico

Specifically, we apply an abduction motion to

a priori

shape variation directly influences the shoulder's

Funding Citation: NSERC RGPIN/04688-2015, NSERC USRA

Estrogen, energy, and skeletal biology: Life history approaches to understanding skeletal phenotype in living women of reproductive age

[1]Department of Anthropology, University of Illinois at Urbana-Champaign, [2]Institute for Genomic Biology, University of Illinois at Urbana-Champaign, [3]Department of Environmental Health, Faculty of Health Sciences, Jagiellonian University Medical College

was not associated with wrist breadth (n=76, p=0.07), but it was associated with wrist breadth adjusted for height (n=76, p<0.001, adj R^2

biomechanical pressures may be significant for

This material is based upon work supported by: NSF GRFP #DGE-1144245, NSF Clancy#1317140, NSF DDRIG Rogers#1650839 and Lee#1732117, Lewis&Clark Fund for Exploration&Field Research, and Wenner-Gren Foundation Dissertation Fieldwork Grants.

High variability and decoupling from phylogenetic effects characterize the human microbiome

[1]Anthropology, University of Colorado, Boulder, CO, [2]Carl Woese Institute for Genomic Biology, University of Illinois at Urbana-Champaign, Urbana, IL, [3]Pediatrics, University of California San Diego, San Diego, CA, [4]Anthropology, Dartmouth College, Hanover, NH, [5]Pathobiological Sciences, University of Wisconsin-Madison, Madison, WI, [6]Environmental Studies Program, University of Colorado, Boulder, CO, [7]Animal Sciences, Colorado State University, Fort Collins, CO, [8]Animal Sciences, University of Minnesota, Minneapolis, MN, [9]Anthropology, University of Illinois at Urbana-Champaign, Urbana, IL, [10]Computer Science and Engineering, University of California San Diego, San Diego, CA, [11]Bioengineering, University of California San Diego, San Diego, CA, [12]Center for Microbiome Innovation, University of California San Diego, San Diego, CA, [13]Anthropology, Northwestern University, Evanston, IL

human colon influences host nutritional status,

These findings indicate that apes are insuffi-

biome than host-microbe co-diversification.

Supported by NSF 0935347

Childhood growth and diet: insights from analysis of deciduous teeth from the Tooth Fairy collection (France)

[1]School of Anthropology and Conservation, University of Kent, UK, [2]UMR5199 PACEA, University of Bordeaux, France, [3]Institute for Oriental and European Archaeology, Austrian Academy of Sciences, Austria

and length, weight measurements during the first

so far have focused on first and second upper

tooth/individual (up to 67% variation). Microwear

track factors influencing growth and diet around

This research was supported by the FYSSEN foundation, the Région Nouvelle Aquitaine (CHROQUI project n°2014-1R40217), and the European Research Council (VAMOS project n°676828).

Population Variation in the Fusion Sequence of Primary and Secondary Ossification Centers in the Human Skeleton

Anthropology, Bryn Mawr College

ossification centers is a promising, yet under

ossification centers in nine globally representa-

National Science Foundation DDIG #0925861; Wenner-Gren Foundation; NYU Graduate School of Arts and Science; New York Consortium in Evolutionary Primatology; Frances Velay Women in STEM research grant

Training Graduate Students To Be Effective Instructors: Our Experience With A Student-Led Pedagogy Interest Group

[1]Department of Anthropology, Pennsylvania State University, [2]Department of Biology, Augustana College

confidence in their abilities as an instructor or

Evidence of *Macrotermes* termites within the *Zinjanthropus* horizon at Olduvai Gorge, Tanzania

[1]Department of Anthropology, Wayne State University, [2]Dialogue on Science, Ethics, and Religion Program, American Association for the Advancement of Science, [3]Department of Archaeology and Heritage, Univeristy of Dar Es Salaam, [4]Museo Arqueológico, Regional de Madrid, [5]Departamento de Prehistoria, Universidad Complutense, [6]Institute of Life and Earth Sciences, Heriot-Watt University

Macrotermes

Zinjanthropus

22) horizon at Olduvai Gorge, dated to about 1.785

Macrotermes

intraspecific saturated hydrocarbon distribution

*n*C$_{22}$ to *n*C$_{27}$)

are consistent interspecific differences in

in situ

Macrotermes

^{3}C

^{3}

This work has been supported by the Leakey Foundation.

A unique pattern of serotonergic innervation in the human amygdala

[1]Anthropology, University of California San Diego, [2]Biological Sciences, University of California San Diego, [3]Laboratory for Cognitive Neuroscience, Salk Institute, [4]MIND Institute, University of California Davis

immunohistochemistry on free-floating sections. SERT-immunoreactive (SERT-ir) axon fiber density

nuclei of the amygdala was quantified using

SERT-ir fiber density in chimpanzees and

for multiple comparisons. Significant differ-

strating an increase in SERT-ir fiber density in

findings suggest that an increased emphasis on

cific specialization, and could contribute to

This research was supported by the National Institutes of Health P01 NICHD033113, 5R03MH103697 and R56MH109587.

Using Elliptical Fourier Analysis to Validate the Use of Upper-Facial Traits in the Construction of the Biological Profile

Biology, University of Indianapolis

may assist in forensic identification.

were acquired for 795 crania from the US,

SPSS® software. Seven significant principle components (PCs) were identified, with eigen-

seven PCs varied significantly by ancestry; speci-

and PC5, the interaction was significant for only

PCs 1 and 2 reflect anterior projection of the

PCs 3 and 4 reflect vertical rhinal positioning

reflect nasal concavity and rhinal projection. PC7 reflects nasal height. These data support the use

lation-specific standards when constructing a biological profile.

Lighten the load: calcanei of leaping galagids have relatively less cortical bone volume than quadrupedal species

[illegible]

[1]Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [2]Human & Evolutionary Biology Section, Department of Biological Sciences, University of Southern California

[illegible]

[illegible] *uoticus*, *Otolemur*, *Galago*, [illegible] *Galagoides*) [illegible]

[illegible] pedal species for the calcaneus (Wilcoxon χ^2 [illegible] $p=.02$); no significant differences were found in [illegible]

This study was funded by the Office of the Provost at the University of Southern California.

Genetic Research of Ancient Human Remains in the Central Plains during Yangshao Period

[illegible] [1] [illegible] [2]

[1]Research Center for Chinese Frontier Archaeology, Jilin University, [2]College of Life Science, Jilin University

[illegible]

[illegible]

Impact of modernization on human gut microbiome diversity on three islands of Vanuatu

[illegible] [1] [illegible] [2] [illegible] [3] [illegible] [4]

[1]Department of Biological Sciences, Binghamton University, [2]Department of Anthropology, Binghamton University, [3]Department of Anthropology, University of Oklahoma, [4]Department of Microbiology, University of Oklahoma

[illegible] and Gaua (n=6) during the summer of 2017. [illegible] taxonomy profiling shows that the Vanuatu gut [illegible] participates. Obese individuals have significantly lower α diversity (Faith PD) than normal and [illegible] able difference among three islands in term of α [illegible]

Rethinking the evolution of the plantar aponeurosis and the medial longitudinal arch

[illegible] [1] [illegible] [2]

[1]Human Evolutionary Bology, Harvard, [2]Human Movement Science and Health, Technische Universität Chemnitz

[illegible] in arch stiffness during walking are influenced [illegible]

Statistical modeling of diurnal biomarker data: Guidelines, challenges, and future directions

[2]

[1]Department of Anthropology, Northern Arizona University, [2]Department of Evolutionary Anthropology, Duke University

rhythms that fluctuate over diurnal periods (e.g., hormone production, body temperature, inflam-

estimations of diurnal profile parameters, hamper

of modeling diurnal profiles. As anthropologists

important that our field contributes to interdis-

Support: Wenner-Gren Foundation for Anthropological Research (#8749, 8476); National Science Foundation (#BCS-1341165, GRF-2011109300); Ryoichi Sasakawa Young Leaders Fellowship Fund; University of Oregon.

Oral and Sinus Infection Among Okhotsk Marine Foragers: Implications for Differential Frailty

[2]

[4]

[1]Archaeology and Anthropology, University of Saskatchewan, [2]Human Biology and Anatomy, University of the Ryukyus, [3]Graduate School of Medicine, Hokkaido University, [4]Integrated Biosciences, University of Tokyo

fishing, particularly of marine resources, their maritime focus intensified as they expanded

-

than did females, possibly reflecting preferen-

with advancing age and are more likely to reflect

Funding was provided by 1) Social Sciences and Humanities Research Council of Canada and 2) Japananese Society for the Promotion of Science

Patterns of Genetic Coding Variation in a Native American Population before and after European Contact

[3],

[4],

[7]

[1]Anthropology, Emory University, [2]Anthropology, University of Illinois at Champaign-Urbana, [3]Anthropology, Northwestern University, [4]Treaty, Metlakatla Treaty Office, [5]Anthropology, Northwestern Community College, [6]Anthropology, Canadian Museum of History, [7]Biology, Pennsylvania State University

-

-

-

subsequent admixture.We also find evidence

-

flow among modern populations.

This research was funded by the National Science Foundation (BCS-1413551 and BCS-1518026).

Habituation Update on Assirik Chimpanzees at Niokolo-Koba National Park, Senegal

[2]

[4]

[1]Department of Anthropology, Purdue University, [2]Département de Biologie Animale, Univeristé Cheikh Anta Diop, [3]Parc National Djoudj, Direction des Parcs Nationaux, [4]Department of Anthropology, University of Florida

-

-

Pan troglodytes verus

-

-

when water was abundant. From June 2017-2018, we completed 41 vigils and 97 patrols,

did not immediately flee. Instead, they exhibited

This study was supported by the National Science Foundation (BCS-1700313), Primate Conservation, Inc., Purdue University, the USC Jane Goodall Research Center, and the Leakey Foundation.

Professor Erik Trinkaus and paleoanthropological studies in China

Key Laboratory of Vertebrate Evolution and Human Origins of Chinese Academy of Sciences, Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Science

from more than 70 sites in China have triggered

fields of study. Notably, their morphological anal-

confirming the emergence of early modern

The related studies have been supported by the grants from the External Cooperation Program of BIC (132311KYSB20160004) of Chinese Academy of Sciences, National Natural Science Foundation of China (41630102, 41672020).

Mutable Environments and Permeable Human Bodies

Department of Social Studies of Medicine and Department of Anthropology, McGill University

field of behavioral epigenetics is introduced

that, in addition to epigenetic findings, subjective

An experimental study of human hand pressures during suspension and implications for fossil hominin locomotion

[1]Center for the Advanced Study of Human Paleobiology, Department of Anthropology, The George Washington University, Washington, DC, USA, [2]Animal Postcranial Evolution (APE) Lab, Skeletal Biology Research Centre, School of Anthropology and Conservation, University of Kent, Marlowe Building, Canterbury, Kent, CT2 7NR, UK, [3]School of Sport and Exercise Sciences, The Medway Building, University of Kent, Chatham Maritime, Kent, ME4 3AU, UK, [4]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, Deutscher Platz 6, Leipzig, 04103, Germany

the significance of arboreal behaviors. Using

and activities. Significant differences in the pres-

Funded by ERC Starting Grant 336301 (TLK, S-CL).

Ontogeny of human cranial vault microstructure

[1]Univ. Lille, EA 4490-PMOI-Physiopathologie des maladies osseuses inflammatoires, Lille, France., University of Lille, [2]UMR 5199, PACEA, université de Bordeaux, 33615 Pessac Cedex, France, University of Bordeaux, [3]PSL University-Paris – Ecole Pratique des Hautes Etudes, University of Paris

specific cortical and trabecular thresholds, 2D and

Endurance activity as a driver of morphological thermal adaptation: the energetics of ultramarathons in extreme temperatures

[1]Department of Archaeology and Anthropology, University of Cambridge, [2]Department of Anthropology, University of Victoria, [3]Childhood Nutrition Research Centre, UCL Institute of Child Health, London, [4]Department of Anthropology, University of Western Ontario, [5]Department of Archaeology, Max Planck Institute for the Science of Human History

of locomotor energetic efficiency, we examined

had significantly longer legs (male & female),

finishers of cold-condition events. Furthermore, hot-condition finishers had significantly longer

imposes significant thermoregulatory demands,

The research leading to these results has received funding from the European Research Council under the European Union's Seventh Framework Programme (FP/2007-2013) / ERC Grant Agreement n.617627

The curious case of goldenhar-gorlin syndrome: Identification and skeletal manifestation

Justice Studies, Florida Gulf Coast University

such as the ear. Previous research has identified the dysplasia of the first and second branchial

births with a male to female ratio of 3:27. Despite

identified as an axial development defect (ADD).

while assisting in a positive identification.

that 37% of the skeleton was notably affected.

Synchrotron radiation holographic nanotomography of ancient human hair: Exploring number, distribution and shape of melanin granules, and their implications as to hair colour

[1]Science and Technology in Archaeology Research Center (STARC), The Cyprus Institute, [2]Beamline ID16A, European Synchrotron Radiation Facility (ESRF), [3]Computation-based Science and Technology Research Center (CaSToRC), The Cyprus Institute, [4]Golestan Branch, RICCHT, [5]ICAR, Iranian Center of Archaeological Research

Iran) from five different individuals (n=5; two modern controls n=2; total n=7) using synchro-

any significant differences between the ancient

17.05 keV at beamline ID16A at ESRF. Our results

scalp hair, when sufficiently preserved, provides

our knowledge, this is the first time holographic

Beamtime awarded by ESRF (HG-137-Lorentz); research travel funding by LAAAMP enabled pre-beamtime test; The Cyprus Institute research travel funds enabled Lorentz, Miyauchi and Lemmers to travel to ESRF for beamtime.

Its elementary my dear anthropologist: using lead and arsenic concentrations and stable carbon and nitrogen isotope analysis to estimate anthropogenic disturbance among free-ranging vervet monkeys (*Chlorocebus pygerythrus*) in South Africa

[1]Anthropology, East Carolina University, [2]Anthropology, University of Wisconsin-Milwaukee, [3]Genetics, University of the Free State, [4]Anthropology, University of Colorado, Boulder

This study combines stable carbon (δ^{13}C) and nitrogen (δ^{15}N

Chlorocebus pygerythrus

the highest δ^{13}C and δ^{15}N

would exhibit the lowest δ^{13}C and δ^{15}N

vervets exhibited the lowest δ^{13}C

and δ^{15}N values (6.7±0.7‰) and the lowest

yielded intermediate δ^{15}N values (7.6±0.9‰) and Pb concentrations (0.77±0.29ppm), the highest δ^{13}C

had the highest δ^{15}N values (9.7±0.8‰) and Pb

δ^{13}C

Climatic variables are strong predictors of allonursing and communal nesting

[1]Anthropology, Hunter College of the City University of New York, New York, [2]Anthropology, University of Massachusetts, Amherst, [3]Graduate Program in Organismic and Evolutionary Biology, University of Massachusetts, Amherst, [4]PhD program in Anthropology, Graduate Center of the City University of New York, New York, [5]Physical Anthropology, New York Consortium in Evolutionary Primatology

the primate order, with nearly 75% of primate taxa

fits received from it (e.g., increased infant survival,

Our study examined how ecology can influence

primate species to ask whether specific AMC

environments were significantly associated with

provisioning and carrying did not have significant

Gut microbial composition differs based on reproductive state in wild Phayre's leaf monkeys

[1]Anthropology, Stony Brook University, [2]Anthropology, Northwestern University

(*Trachypithecus phayrei crepusculus*,

community composition differed significantly

the first part of lactation compared to all other

Research was supported by the Leakey Foundation, the National Science Foundation, Stony Brook University, and Northwestern University.

Comparison of Play Frequency in Four Sympatric Monkey Species in Kibale National Park, Uganda

[1]Anthropology, Hunter College, [2]City University of New York, The New York Consortium in Evolutionary Primatology

Procolobus rufomitratus), *Lophocebus albigena*),

Colobus guereza

(*Cercopithecus ascanius*)

and white colobus (P=0.474), grey-cheeked mangabeys (P=0.783), or redtail monkeys

Department of Anthropology, Hunter College, City University of New York

Black Sea steppe warriors: health status and demographic structure of the Scythians from Moldova (4th-2nd c. BC)

SYLWIA ŁUKASIK
NIEDBAŁA
[1]Department of Human Evolutionary Biology, Faculty of Biology, Adam Mickiewicz University in Poznań, [2]Department of Social Statistics and Demography, University of Southampton, [3]Archaeological Research Laboratory, Taras Shevchenko University in Tiraspol

26.7%, PH=1.4%. Life expectancy, assuming

(conflicts, wars), which contributed to the signif-

NCN Miniatura 2017/01/X/HS3/00234

Treponemal infections: One disease or many?

[1]Medicine & Global Health, University of Washington, [2]Clinical Science, London School of Hygiene & Tropical Medicine

Treponema pallidum

rather than reflecting true biological differences

T. pallidum

National Institutes of Health

Disentangling and Disappropriating Science

Anthropology, University of Oklahoma

people, and ideas, in leading professional fields.

and growth. Among the more challenging fields for these endeavors has been the sciences. Scientific

is key to the identity of science as defined today,

defined in contrast to scientific knowledge; this is

entanglement fosters the disparities in scientific

argue that much of the scientific methods should

Olfactory system anatomy in *Homunculus* and the ecological importance of olfactory cues among stem platyrrhines

[1]Department of Anthropology, University of Texas at Austin, [2]Department of Evolutionary Anthropology, Duke University

significant olfactory system anatomical variation, likely reflecting behavioral variation within

Here, we report the first known occurrence of

Homunculus patagonicus

tally segmented and quantified, relative to skull *Homunculus*

significant relationship between olfactory turbinal *Homunculus* *Homunculus*

area does not reflect close phylogenetic relatedness. These findings support the hypothesis that *Homunculus*

Similarities and differences in cranial trauma in high and low status cemeteries in Colonial Mexico City

[1]Department of Anthropology, University of New Mexico, [2]Department of Sociology, Anthropology, and Social Work, Central Michigan University, [3]Department of Anthropology, Southern Illinois University Edwardsville

City, social stratification is evident between the *Catedral Metropolitano* *Iglesia de la Soledad* *Catedral* *Soledad*

work and physical conflicts. The aim of this study *Soledad,*

Catedral *Soledad*

Chi-squared tests indicated whether significant *Catedral* *Soledad*

are not significantly different (χ^2

Cranial trauma is more common in males (71%) than in females (29%; χ^2 *Catedral* (78%; χ *Soledad*

There were no significant differences in trauma pattern to trauma, conflict was a factor in individ-

Hyksos in Egypt – utilising biodistance methods to interpret archaeological and textual evidence from Tell el-Dab'a

[1]Department of Archaeology, Anthropology, and Forensic Science, Bournemouth University, [2]Department of Archaeology, University of Southampton.

have revealed a fluent mixture of both Egyptian

in the biological affinities of the Tell el-Dab'a popu-

SIP (MD=0.005 with √var(MMD)]=0.13). While

This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program(grant agreement No 668640).

Changing social relationship among aging male chimpanzees Changing social relationship among aging male chimpanzees

[1]Anthropology, Tufts University, [2]Psychology, University of Michigan, [3]Human Evolutionary Biology, Harvard University, [4]Kibale Chimpanzee Project, [5]Anthropology, University of New Mexico

as they age (χ2 = 3.24, df = 1, p = 0.071). However,

(χ2 = 8.17, df = 1, p = 0.004) and they were more

(χ2 = 17.473, df = 1, p < 0.0001). Furthermore,

increased with age (χ2 = 8.22, df = 1, p = 0.004).

Funding from Harvard University, University of New Mexico, Leakey Foundation, National Science Foundation (9807448, 0416125, 1355014), the National Institute on Aging and the Office for Research on Women's Health (R01AG04395).

Dental Pathology and Dietary Intake of Inner Asian Steppe Inhabitants during the Historic Mongol Period- Yuan Dynasty (ca. CE 1200-1400)

[1]Intercultural and Anthropological Studies, Western Michigan University, [2]Biological Sciences, Western Michigan University

non-specific stress (enamel hypoplasia) (n=58).

site locations (range δC¹³ -18.17 to -13.99; range δN¹⁵ 13.88 to 10.99). These results may reflect

and Eng 2017). Comparative dental pathology results between sites indicate no significant asso-

MM funding:Natural Environment Research Council (UK) & Smithsonian NMNH and MCI. JE funding: Fulbright-Hays Doctoral Dissertation Abroad program & University of California Pacific Rim Award.

Great apes and humans evolved from a long-back ancestor

[1]Biomedical Sciences, Joan C. Edwards School of Medicine, Marshall University, [2]Biomedical Sciences, Philadelphia College of Osteopathic Medicine

flexible column observed in generalized Miocene

Hox9 *Hox11*

Wenner-Gren (ALM); NSF GRFP DGE1255832 (ALM), NSF BCS-1650879 (ALM & PLR); NSF IOS-1656315 & BCS-1638812 (PLR)

Relationships between lower limb bone rigidity and whole-limb force and power production: Implications for estimating muscle performance in the past

[1]Department of Anthropology, University of Victoria, [2]Department of Archaeology, University of Cambridge, [3]Department of Anthropology, Western University

i)

ii)

iii)

significant relationships with lower limb

length; r=0.608-0.708; p<0.001). This is attributed

Pmax and Fmax were significantly improved

proximal tibia for thigh MCSA (r=0.478, p<0.001) and at the *midshaft* tibia for calf MCSA (r=0.327, p<0.001).

in vivo

The research leading to these results has received funding from the European Research Council under the European Union's Seventh Framework Programme (FP/2007-2013) / ERC Grant Agreement n.617627 (to JTS)

Toward a volumetric and chronometric measure of tooth wear rates in ovicaprines

[1]Organismal Biology & Anatomy, University of Chicago, [2]Kurahaupo Consulting, Christchurch, New Zealand, [3]Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory

Capra hircus *Ovis aires*

Improving health care accessibility to research participants through point-of-care technologies

[illegible]

[1]Anthropology, Queens College, CUNY, [2]New York Consortium in Evolutionary Primatology, (NYCEP), [3]Anthropology, University of Oregon

[illegible]
sibility in field-based settings. Here, we discuss [illegible] research and provide specific examples of their [illegible] analyze samples at a distance from the field site [illegible] care experience. While clinical benefits of PoC [illegible] fits can be far greater. Through collaborations [illegible] more than a drop of blood from a finger-prick. By [illegible] widespread benefits at research, participant, and [illegible]

No funding sources.

The effects of chewing time on gonial morphology in the mammalian mandible

[illegible]

[1]The Center for Human Evolutionary Studies, Department of Anthropology, Rutgers, The State University of New Jersey, [2]Department of Anthropology, University of California - Davis

[illegible]
suggesting that its morphology is influenced by localized muscular performance. Specifically, [illegible] degree of gonial flare with chew cycle duration [illegible] regression was used to determine if the flaring of [illegible] flaring is more pronounced in species that spend [illegible]

Work for this study was supported by a Bigel award provided by the Department of Anthropology, Rutgers, The State University of New Jersey.

Morphological characteristics of inter-osteonal transverse connections in human Haversian tissue

[illegible]

[1]Department of Anthropology, University of West Georgia, USA, [2]Department of Anatomy, Physiology and Pharmacology, University of Saskatchewan, Canada

[illegible]

[illegible]

Microscopic markers of an infradian biorhythm in human juvenile ribs

[illegible]

[1]Anthropology and Conservation, University of Kent, [2]Archaeology and Anthropology, Australian National University

[illegible]
the RP of permanent first molars was calculated [illegible] Results provide the first evidence that the infra- [illegible] age. Our results provide the first evidence that an [illegible]

Examining the frequency of crenulated premolars and their association with crenulated molars

[illegible]

[1]Department of Anthropology, Eckerd College, [2]Department of Anthropology, University of Nevada, Reno

[illegible]

for crenulated premolars following a modified
Traits scores were examined for significant differ-
tests indicate significantly different frequen-
driving the significance of the chi-square tests.
lation coefficients demonstrate a strong positive

'Basque'ing in Uniqueness: An Examination of Basque Dental Variation

[1]Anthropology, PAR Environmental Services, Inc., [2]Anthropology, University of Nevada, Reno

tion are evident, their outlier status is affirmed by

Variation in butyrate-production pathways across human and nonhuman primates

Department of Anthropology, Northwestern University

cooking, have resulted in reduced fiber intake,
human nutrition and health, as fiber-degrading
mediate host fat deposition and inflammation. Reduced fiber consumption is associated with a loss of gut microbes that degrade fiber, which
genes in human gut microbiomes, influencing
determine if low-fiber diets in humans are asso-
identified in industrialized human (n=20), non-in-
had significantly fewer pathways present
Old World monkeys=3.03±0.76, New World monkeys=2.70±0.82, lemurs=2.27±0.59)
consuming low-fiber diets.

This study was funded by Northwestern University.

The use of enamel and dentine extension rates to estimate crown and root formation time and examine the M1 eruption process in wild chimpanzees

Department of Anthropology, University of Michigan

teeth finished forming. It has been suggested that
times and root extension rates for the M1s of 7
Pan troglodytes schweinfurthii
Pan

A Study on Spondyloarthritis of Individuals from Taosi North Cemetery

School of Archaeology, Jilin University

Spondyloarthritis (SpA) is a chronic inflamma-

ABSTRACTS

Modeling *Varecia* current and future habitat in eastern Madagascar

[1]Anthropology, Graduate Center- CUNY, [2]NYCEP, The New York Consortium in Evolutionary Primatology, [3]NE CASC, Northeast Climate Adaptation Science Center, [4]Center for Conservation and Sustainable Development, Missouri Botanical Garden, [5]Ecology and Evolutionary Biology, Cornell University, [6]Anthropology, Montclair State University, [7]Association Mitsinjo, Association Mitsinjo, [8]Fish & Wildlife Conservation, Virginia Tech, [9]Ecology & Evolutionary Biology, Yale University, [10]Anthropology and Archeology, University of Calgary, [11]Anthropology, Northern Illinois University, [12]Anthropology, George Washington University, [13]Conservation and Reintroduction, The Aspinall Foundation, [14]Anthropology, University of Toronto, [15]Conservation Genetics, Henry Doorly Zoo, [16]Biology, College of Charleston, [17]Anthropology, Hunter College- CUNY

Climate change and habitat modification are

Varecia variegata) *Varecia rubra*)

V. variegata *V. rubra*

Varecia *de novo*

Varecia

influence. Future forest loss scenarios resulted in *Varecia*, with most suitable habitat disappearing by 2070.

Varecia

including containers, coffin hardware, and burial

Demographic reconstruction of health and disease at the St. Lawrence County Poorhouse, Canton, NY

[1]Archaeology, Memorial University, [2]Anthropology, St. Lawrence University, [3]Museum Studies, New York University

identified as having embodied health effects,

presents the first results of the Death in St.

intake records of 1777 adult individuals (1095

Poorhouse (Canton, NY) between 1875 and 1920.

period and indicate that males were significantly

ries than women. Females were significantly

husbands or children. Salvage excavation in 2017

Revisiting the savanna chimpanzee (*Pan troglodytes*) as a referential model for hominin origins: Issa, Tanzania as a case study

[1]Anthropology, Miami University, [2]School of Natural Sciences and Psychology, Liverpool John Moores University

Nearly six decades have passed since field work (*Pan troglodytes*)

the quality and quantity of research findings and

flexibility of savanna chimpanzees. In 2008 a

at the field site of Issa, Tanzania (*Pan troglodytes schweinfurthii*)

et al.

et al.,

Investigating human stature variation in prehistory with per-individual ancient DNA and osteological data

[2], AGATA HAŁUSZKO[3], MIROSŁAW FURMANEK[5], [7], [9], KRISZTIÁN KISS[9], TAMÁS [1], [2] [3]

[1]Department of Anthropology, Pennsylvania State University, [2]Department of Life Sciences, University of Coimbra, [3]Institute of Archaeology, University

of Wroclaw, [4]Archeolodzy.org Foundation, [5]Department of Archaeology, Leiden University, [6]Department of Anthropology, Prague Natural History Museum, [7]Department of Anthropology, Ohio State University, [8]Paleoanthropology, Senckenberg Centre for Human Evolution and Palaeoenvironment, University of Tübingen, [9]State Office for Cultural Heritage Management Baden-Württemberg, Osteology, [10]Department of Biological Anthropology, Eötvös Loránd University, [11]Buffalo Human Evolutionary Morphology Lab, Department of Anthropology, University at Buffalo, [12]Department of Anthropology, University of Vienna, [13]Department of Biology, Pennsylvania State University, [14]DFG Center for Advanced Studies, University of Tübingen

in addition to environmental influences, adult

by combining published ancient DNA data (>0.7X

based on a quality-filtered dataset of 6,864,638

sion-based approach (standard error 1.86-2.73%).

^{2}=0.2025, P=0.0017).

Diagnosing SAPHO syndrome in human remains

[1]Anthropology, The Ohio State University, [2]Division of Anatomy, Department of Biomedical Education & Anatomy, The Ohio State University College of Medicine

diagnosed) inflammatory condition in which

brium, and first ribs from increased symmetric

non-specific infectious response in a paleopathological study. However, the inflammatory nature

with the first ribs from an anatomical bone

Support for this project was provided by The Ohio State University, Division of Anatomy Body Donor Program, with special thanks to the generous donors and their loved ones.

Assessing Fish Consumption in the Ancient Greek World Using Sulphur Stable Isotope Ratios

[1]Department of Anthropology, University of Georgia, Athens, GA 30602, [2]Regional Archaeological Superintendence of Palermo, Italy, [3]Department of Anthropology, University of Northern Colorado, Greely, CO 80639

are imprecise indicators of fish consumption

signatures in fish bones may be indistinguish-

stable isotope ratios (δ^{34}S) more specifically

pret δ^{34}S

if fish were consumed, an idea supported by

δ^{34}S values ranged from +0.64‰ to +7.12‰, showing that at Himera, marine fish were not a significant part of people's diets. Despite Himera's

and Mediterranean fish (e.g., anchovies, sardines), incorporating δ^{34}S

mating the role of fishing and fish consumption

This research was funded by National Science Foundation Research Experience for Undergraduates award numbers 1560227 and 1560158, the University of Georgia, and the University of Northern Colorado.

Can the humeri of the *Adapis* group shed new light on the locomotor repertoire of these early primates? New data using 3D Geometric Morphometrics on the distal humerus

[1]Institut Català de Paleontologia Miquel Crusafont, Universitat Autònoma de Barcelona, Cerdanyola del Vallès, Barcelona, Spain, [2]Centre de Recherches sur la Paléobiodiversité et les Paléoenvironnements (CR2P, UMR 7207), Sorbonne Universités (MNHN, CNRS, UMPC-Paris6), Muséum National d'Histoire Naturelle, Paris, France, [3]Life Science Department, Natural History Museum, London, United Kingdom, [4]Ecole Pratique des Hautes Etudes, PSL, Paris, France

"Adapis parisiensis" *Adapis*

quantified using Levene's tests, and in some of

A. parisiensis."

Tarsius.

Adapis

Protoadapis. *Adapis*

Adapis group specimens, confirming that

Fondation Fyssen; CERCA Programme/Generalitat de Catalunya: 2017 SGR 86 GRC, 2017 BP 00003; Ministerio de Economía, Industria y Competitividad (MINECO/FEDER, UE): CGL2017-82654-P, IJCI-2015-26392.

Eating in or dining out: a multiscale (local to global) examination of stable carbon and nitrogen isotope ratios from the Roman period (AD 200-400) community at Oymaağaç, Turkey

Department of Anthropology, The Ohio State University, Center for Life Sciences Education, The Ohio State University

imperial influence and immigration on local,

Oymaağaç, in northern Anatolia, a community on

and interregional (n=892)—examination of $\delta^{13}C$ and $\delta^{15}N$

level, ANOVA demonstrate both significantly ($p<0.05$) enriched $\delta^{13}C$

and Anatolian samples and enriched $\delta^{15}N$

Levene's tests indicate greater variance in $\delta^{15}N$ level, no significant differences in variances were observed, despite significantly higher $\delta^{13}C$ and $\delta^{15}N$ values in Oymaağaç samples. Finally, on a

of isotopic results indicates that dietary profiles at Oymaağaç, while relatively homogenized

Proliferative periosteal reactions: assessment of trends in Europe over the past two millennia

[1]Research Centre for Anthropology and Health (CIAS), Department of Life Sciences, University of Coimbra, Coimbra, Portugal, [2]Department of Anthropology, William Paterson University, USA, [3]Department of Economic History, University of Tübingen, Germany

going major transitions. Exploring the PR profile

shows that PR scores were significantly higher in

graphic and spatial variables were non-significant.

Investigating covariation between cranial vault thickness and brain size

Anthropology, University of Central Missouri

A new method for obtaining tibial torsion in living humans

[1]Anthropological Sciences, Radford University, [2]Biology, Radford University

with a correlation between measures of r = 0.778

Differences in dietary habits between papionins and hominins from the Shungura Formation, Ethiopia: evidence from an improved Dental Microwear Texture Analysis based on surface sampling on phases I and II molar facets

[1]PALEVOPRIM, CNRS and University of Poitiers, France, [2]School of Geology, Aristotle University of Thessaloniki, Greece, [3]Institut Prime, CNRS, Université de Poitiers, ISAE-ENSMA, France, [4]Centre Français des Etudes Ethiopiennes (CFEE) – USR 3137, CNRS/Ministère de l'Europe et des Affaires Etrangères, Ambassade de France en Ethiopie, ADDIS ABABA, Ethiopia

By the means of a modified Dental Microwear surface for each of 17 parameters. From those are produced generating thus 272 variables per

From a routine, the most significant statistic *Theropithecus gelada*, *Papio hamadryas*, *Chlorocebus aethiops*, *Colobus guereza*

approach discriminates more significantly these *Theropithecus* *Papio* *Theropithecus*, *Papio*,

Australopithecus *Paranthropus* *Homo*

The authors thanks the French National Research Agency, ANR (Projects EVAH, TRIDENT, OLD and DIET-SCRATCHES), French Ministry of Foreign Affairs, Fondation Fyssen, Erasmus+ program, and CNRS-INEE/ PALEVOPRIM.

Ecological predictors of allomaternal care across human societies

Anthropology, Emory University

remains difficult to test directly, the relative impor-

how local ecology influences this behavior. Here

biogeographical research. We fit a Bayesian

Mandibular third premolar root morphology in *Rudapithecus hungaricus* and its implications for diet

[1]Department of Anthropology, University of Toronto, [2]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, [3]Max Planck Weizmann Center for Integrative Archaeology and Anthropology, Max Planck Institute for Evolutionary Anthropology

Rudapithecus hungaricus is

P_3 *Rudapithecus hungaricus*

oblique mesiobuccal-distolingual configuration, a

Pan troglodytes verus,

Hom

Rudapithecus hungaricus

This research was supported by the Natural Sciences and Engineering Research Council of Canada, the Department of Anthropology (University of Toronto), and the Max Planck Society.

What do Denisovans look like? Looking into the Middle and Late Pleistocene hominin fossil record from Asia

[1]Hominin Palaeobiology, CENIEH (National Research Center on Human Evolution) Spain, [2]Anthropology, University College London, [3]Key Laboratory of Vertebrate Evolution and Human Origins, Institute of Vertebrate Paleontology and Paleoanthropology, [4]CAS Center for Excellence

in Life and Paleoenvironment, CAS Center for Excellence in Life and Paleoenvironment

H. erectus

Homo sapiens

fossil studies have helped to refine the morphological definition of classic *H. erectus* (

2017). In this context, hominin fossils like those

H. erectus s.s

whether Denisovans deserve specific distinction

894–97

teeth of the Peking Man. Scientific Reports 8.

337-355.

Chinese Academy of Sciences (XDPB05, 132311KYSB20160004), National Natural Science Foundation of China (41630102, 41672020), Ministerio de Economía y Competitividad (CGL2015-65387-C3-3-P), British Academy (International Partnership and Mobility Scheme PM160019), Leakey Foundation

Finding heterochronic signals through the noise: can statistical reduction of landmark datasets find a heterochronic relationship in the pannins?

[1]Department of Integrative Biology and Physiology, University of Minnesota Medical School, [2]Department of Anthropology, University of Minnesota - Twin Cities

Pan paniscus

P. troglodytes

a priori

to find consistent examples of them, we designed

Using three separate statistical "filters," we identified landmarks that played significant roles in

Pan troglodytes & *paniscus*

Pan

Public health policies, inequality, and industrialization in 20th century Cleveland health outcomes: a study from the Hamann-Todd Osteological Collection

Anthropology Department, University of Massachusetts Amherst

Within the United States, economic intensifi-

labor pool flooding industrial cities. Rising

diseases including tuberculosis and influenza,

inequalities. Specifically, this project seeks to

Todd collection (HTC) (N=57) show high rates

Looking for Neandertal derived traits: new data from the Le Moustier 2 Neandertal neonate (Le Moustier, France)

UMR PACEA, CNRS

Discovered in 1907 and excavated first by the

tant part of his scientific life to the description

versus Trinkaus 1987)). But, he did not have the

With this poster, we produce the first set of

This research is supported by the ANR project NéMo of the LabEx Sciences archéologiques de Bordeaux, nº ANR-10-LABX-52 and the project "NATCH" convention 2016-1R40240-00007349-00007350 of the Région Nouvelle Aquitaine.

Reinterment of the human remains excavated from the Erie County Poorhouse Cemetery: persons never to be forgotten again

[1]Anthropology, University at Buffalo, SUNY, [2]Anthropology, SUNY Buffalo State

In 1907, the University at Buffalo purchased

tified individuals were excavated from the Erie

tion. Between 2012 and 2017 extensive research

ences. In Spring of 2017, a collaboration was

Preliminary Investigation of Aging Effects on Cross-Sectional Geometric Properties of Adult Ribs in a Medieval Polish and Modern Skeletal Sample

Anthropology, Skeletal Biology Research Laboratory, The Ohio State University

area, or quantity of bone, reflecting age-related

tions were taken from ribs 4-7 at approximate

Identification of Extant Cercopithecid Isolated Molars using 3D GM

Department of Anthropology, CUNY, New York Consortium in Evolutionary Primatology (NYCEP), NYCEP Morphometrics Group, Leibnitz-Institut für Evolutions- und Biodiversitätsforschung, Museum für Naturkunde Berlin, Germany

168 semi-landmarks on 7 curves) in Landmark

(CS) and the first 30 PC scores were used as

about 85% of specimens were identified as the

Funded in part by NSF 0966166 (NYCEP IGERT)

Expression of the μ-opioid receptor gene in the frontal cortex of a mouse model for the evolution of human endurance running

[1]Anthropology, University of Illinois at Urbana Champaign, [2]Anthropology, University of Illinois at Urbana Champaign, [3]Biology, University of California, Riverside, [4]Anthropology, University of Illinois at Urbana Champaign, [5]Psychology, University of Illinois at Urbana Champaign

been selected for if ER was beneficial for hunting

μ-opioid receptor gene expression (*Oprm1*)

Oprm1

Significantly elevated *Oprm1*

New cranial capacity estimates for Sts 19 and Sts 25 (*Australopithecus africanus*)

Department of Biological Sciences, Benedictine University

A. africanus

mates between 350-375 cc based on cranial *A. africanus*

A. africanus

mens (Sts 5, MLD 37/38, Taung) produced point estimates between 430-477 cc for Sts 19 and 407-481 cc for Sts 25. New estimates for Sts 19

A. africanus

intraspecific sources of variation.

Methods for the excavation of unmarked burials located beneath an historic structure

[1]Archaeology, AmaTerra Environmental, Inc., [2]Archaeology, TRC Companies, Inc.

cation of 37 unmarked burials was required.

guidance on the most effective and efficient

Identifying Intracranial Complications of Sinusitis From Skeletonized Remains: Forensic and Bioarchaeological Implications

Anthropology, University of Florida

Sinusitis, or inflammation of the sinuses, is

diagnosis involves inflammation of one or

the CA Pound Human Identification Laboratory

inflammation on the lateral cranial walls. These

Keeping their cool: Behavioral thermoregulation and body temperature patterns of wild vervet monkeys

[1]Anthropology, University of Wisconsin-Madison, [2]Physiology, University of the Witwatersrand, [3]Psychology, University of Lethbridge, [4]Animal, Plant and Environmental Sciences, University of the Witwatersrand, [5]Anatomy, Physiology and Human Biology, University of Western Australia, [6]ABEERU, University of South Africa

(*Chlorocebus pygerythrus*

than heat stress as reflected in their wide ampli-

(Z=17.54, P<0.001). Vervets show remarkable efficiency in keeping their body temperature stable, and avoid significant bouts of hyper-

temperatures (Z=5.27, P<0.001), but only a weak

after swimming events (-1.04±0.47ºC, N=9).

Claude Leon Fellowship (RM); NSERC Discovery grant (PH and LB); Canada Research Chair funding (LB); NRF grants (SPH and DM); Carnegie grant (AF); Harry Oppenheimer Fellowship (DM).

Skeletal aging in Virunga mountain gorillas (*Gorilla beringei beringei*) from Volcanoes National Park, Rwanda

[1]Center for the Advanced Study of Human Paleobiology, The George Washington University, [2]Department of Archaeology, University of Sheffield, [3]Department of Social Psychology and Quantitative Psychology, University of Barcelona, [4]Department of Basic Medical Sciences, University of Arizona College of Medicine-Phoenix, [5]Department of Archaeology, University of Oulu, [6]Karisoke Research Center, Dian Fossey Gorilla Fund International, [7]Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine, [8]Departments of Biomaterials and Biomimetics, New York University College of Dentistry, [9]Mountain Gorilla Veterinary Project, University of California at Davis, [10]Department of Tourism and Conservation, Rwanda Development Board

percent dentine exposure significantly increases

olar bone loss, increases significantly with age

gorillas and other primates may be influenced by

NSF BCS 1316104, 0852866, 0964944, 1520221; Wenner-Gren Foundation 8657; LSB Leakey Foundation; NGS 8486-08; Andrew Sherratt Fund and Petrie Watson Grant; Government of Rwanda and RDB Tourism and Conservation.

Using Novel 3D Techniques to Visualize and Quantify Primate Neck Anatomy

[1]Pathology and Anatomical Sciences, University of Missouri, [2]Medical and Anatomical Sciences, Western University, [3]School of Human Evolution and Social Change, Arizona State University

scale values and fascicle diameter in Avizo Xfiber. Outputs from Xfiber (fascicle length, pennation

joints for flexion, extension, lateral flexion and

increasing muscle force. This workflow provides a

A Woman's World: Approaches to exploring obstetrical dilemmas in past populations

Archaeology, University of Reading

of a contracted pelvis are difficult to establish in

birth hazardous. Additionally, 37.6% (n=151)

which can influence birth success. Overall, this

Enamel growth variation corresponds with LEH defect depth in great apes

[1]Center for the Advanced Study of Human Paleobiology, The George Washington University, [2]PACEA, Université de Bordeaux, [3]Department of Anthropology, The Ohio State University, [4]Paleoanthropology, Senckenberg Center for Human Evolution and Paleoenvironment, Universität Tübingen, [5]Mountain Gorilla Veterinary Project, Baltimore Zoo, [6]Dian Fossey Gorilla Fund International, Zoo Atlanta, [7]Department of Biomaterials and Biomimetics, New York University College of Dentistry, [8]Department of Tourism and Conservation, Rwanda Development Board,

[9]Division of Mammals, National Museum of Natural History, Smithsonian Institution

to represent episodes of nonspecific stress in
in
or smaller striae angles, reflecting differences
intraspecific variation in enamel growth corre-
(*Gorilla beringei*, *Gorilla gorilla*, *Pan troglodytes*, *Pongo*
-
[2]
suggest that enamel growth variation influences
-

NSF (IGERT 0801634, BCS 0852866, 0964944, 1520221, 1613626); Leakey Foundation; National Geographic Society Committee for Research and Exploration (8486-08); Ministerium fur Wissenschaft, Forschung und Kunst Baden-Württemberg; Lewis N. Cotlow Award.

Living in Dust and Smog: Identity, Inequality, and Mortality During England's Industrial Revolution

Department of Anthropology, The Ohio State University

-

as a proxy for health. Specifically, the correlation
-
sex, stature, environment, and SES. No signifi-
females in this study had significantly higher ages
-

This research was funded by OSU's Department of Women's, Gender and Sexuality Studies Coca-Cola Critical Difference for Women Research Grant and OSU's Alumni Grant for Graduate Research and Scholarship.

Microbial mismatch: The evolution of the primate microbiome

Department of Applied Ecology, North Carolina State University

health, is strongly influenced by the species that
outside: 1056 OTUs, inside: 1015 OTUs; χ^2 =
P
-
body-associated taxa (approximately 27% of
Staphylococcus
Streptococcus
-

-

This work was funded by UCSD/ SalkCenterforAcademicResearch, Training in Anthropogeny (CARTA), NSF Career grant no. 0953390, NSF STEM-C MSP grant no. 1319293, NSF DDIG grant no. 1455848.

Spatial differences in Late Neolithic to Early Bronze Age hunter-fisher-gatherer diet in Lake Baikal's Little Sea micro-region, Siberia

[1]Department of Anthropology, MacEwan University, [2]Department of Archaeology and Anthropology, University of Saskatchewan, [3]Department of Anthropology, Western Ontario, [4]Laboratory of Archaeology and Paleoecology, Institute of Archaeology and Ethnography, Siberian Branch of Russian Academy of Science, Irkutsk State University

Extensive stable carbon (δ^{13}C) and
(δ^{15}N)
of prehistoric hunter-fisher-gatherers from the
-
rally refined dietary reconstructions. Within this
spanning the Late Neolithic (LN) (~5570–4600 calBP) to Early Bronze Age (EBA) (~4600-3730
-
Island have significantly higher δ^{15}N
δ^{13}C
from the Mainland (15.6‰, -17.6‰; U=47.5,
seal and/or fewer littoral fish. In the EBA, there is no longer a difference in δ^{13}C
extent of the δ^{15}N
vs. 14.2‰), suggesting the amount of littoral fish

trading patterns, group affiliation, and/or social

The authors gratefully acknowledge support from the Social Sciences and Humanities Research Council of Canada (Insight Development Grant 430-3013-743), as well as from University of Saskatchewan, and MacEwan University

Media interpretations of "Palaeo-diets" for pregnant women, babies, and toddlers: Relationships to anthropological evidence and public health guidelines

[1]Anthropology, McMaster University, [2]Biochemistry and Biomedical Sciences, McMaster University, [3]MRC Lifecourse Epidemiology Unit, Southampton University, [4]Paediatrics, McMaster University, [5]Obstetrics, McMaster University, [6]Farncombe Institute for Digestive Health, McMaster University

emerging from 25 high-traffic websites outlining

infant foods, and 7) breastfeeding cessation.

and ethnohistoric records present significant

marketing appears unjustified.

Identifying a new dwarf lemur(*Cheirogaleus*) species from southern Madagascar

[1]Biology and Chemistry, SUNY Polytechnic Institute, [2]Grewcock Center for Conservation and Research, Omaha's Henry Doorly Zoo and Aquarium, [3]Global Wildlife Conservation, [4]Madagascar Biodiversity Partnership

Cheirogaleus (previously identified as the *C. major*)

field for later evaluation. Subsequent analyses of

Cheirogaleus

Briefly, we observed that this lineage formed a

C. major

group individuals surveyed, and 12.7%±0.009%

soensis *C. crossleyi*

C. sp. nov.

Wild platyrrhine quadrupedal kinematics on multiple and inconsistent substrates

[1]Anthropology, University of Texas at Austin, [2]Anatomy and Neurobiology, Northeast Ohio Medical University

gait flexibility and further understand the adap-

quantified kinematic adjustments to substrate

Saimiri sciureus

gaits were used significantly more than symmet-

diagonal sequence was used significantly more

occurred significantly more frequently in strides

and hindlimbs both significantly increased in

that quadrupedal walking is diverse and flexible

Funding provided by National Science Foundation Grants BCS-1640552, BCS-1640453

Taxonomic variation in the large catarrhines from Rusinga and Mfangano Islands

Anthropology, University of Minnesota

diversification of Hominoidea. Nevertheless,

Nakembo

This work was funded by grants from the National Science Foundation (BCS #1241807), Leakey Foundation, and the University of Minnesota.

Identifying plantigrade adaptations in Miocene hominoids with implications for hominin bipedalism

Ecology, Evolution, Ecosystems, and Society Graduate Program, Dartmouth College, Anthropology, Dartmouth College

classified as digitigrade (wolves), semi-digitigrade

morphometric analyses of 407 calcanei from 20

Proconsul, *Ekembo*, *Dendropithecus*, *Limnopithecus*, *Rangwapithecus*, *Oreopithecus*

Limnopithecus, *Dendropithecus*

Ateles, *Hylobates*, *Pongo* *Proconsul*, *Ekembo*, *Oreopithecus*)

This research was supported by the National Science Foundation, grant number 1730822.

Untangling the Osteological Paradox: Using Discordance in Dental and Skeletal Age Estimates to Identify Periods of Heightened Biosocial Stress

[1]School of Anthropology, University of Arizona, [2]Arizona State Museum, University of Arizona

played by agricultural intensification in shaping

skeletal evidence of biosocial stress. Significant

influenced demographic patterns observed in the

Incorporating Histological Methods to Examine the Response to Famine in Mid-19th-Century Ireland

Anatomy, University of Otago

Ireland. The burials, which date between 1847 and 1851, contained the remains of at least 970

unique in the field of bioarchaeology as it can be

values, which would have been influenced by

that d13C may have had an influence on the rate

This research is funded in part by the Royal Irish Academy and the National Monuments Service

Living with a permeable body: corporeal plasticity and its politics from ancient medicine to epigenetics

Alfred Deakin Institute, Deakin University

problematize contemporary identification of

Sexual Dimorphism of Cranial Fluctuating Asymmetry in a Historic Hispanic Population

[1]Anthropology, University of Florida, [2]Anthropology, Michigan State University, [3]Center for the Study of Cultural Landscapes, Statistical Research, Inc.

such as fluctuating asymmetry. Analyzing differ-

are expected to have a lower degree of fluctuating

examine sex-based differences in fluctuating

Surprisingly, the level of fluctuating asymmetry

fully capture the degree of fluctuating asymmetry

to define curves may better capture variations in

10,000 years of mandibular evolution in southern South America: Implications for morphological diversification

[1]Evolutionary Anthropology, Konrad Lorenz Institute, [2]CONICET-División Antropología, Universidad Nacional de La Plata, [3]INCUAPA-CONICET, Universidad Nacional del Centro de la Provincia de Buenos Aires

human diversification. For this, a total of 28 3D

diversification driven by selection and/or genetic

This research and presentation was possible thanks to a fellowship from the Konrad Lorenz Institute for Evolution and Cognition Research.

The Influence of Breeding System and Group Size on the Probability of Extinction in Diurnal Lemurs

[1]Department of Anthropology, University of Toronto, [2]School of the Environment, University of Toronto

Eulemur mongoz, *fulvus*
Propithecus coquereli;

vortex

ability of extinction (Pr. E.= 0.84 and 0.76, T = 100

a theoretical framework to refine and explore the

Financial support for this work was provided by the School for the Environment at the University of Toronto, the Ontario Government, and the Natural Science and Engineering Research Council.

Diet, Grit and Dental Microwear Textures: the facts

[1]PALEVOPRIM, CNRS and University of Poitiers, [2]Department of Earth & Environmental Sciences, Vanderbilt University, [3]Department of Anthropology, University of Arkansas

reflect differences in food fracture properties.

Theropithecus gelada and *Cercocebus atys*, *Trachypithecus cristatus* and *Macaca fascicularis*

The authors thanks NSF FAIN 1455198 (to DeSantis), the French National Research Agency ANR (Project TRIDENT ANR-13-JSV7-0008-01 to Merceron) and NSF SBR 0315157/0948283 and the LSB Leakey Foundation (to Ungar).

4.2 Ma *Australopithecus anamensis* axial remains: the oldest australopith vertebrae in the fossil record

[1]Department of Anthropology, Chaffey College, [2]Center for the Study of Human Origins, Department of Anthropology, New York University, [3]New York Consortium in Evolutionary Primatology

A. anamensis

and evolution of the first australopiths.

H. sapiens *A. anamensis*

apes. The retroflexed C2 dens and very long C6 nathism, long clivus and retroflexed foramen magnum of australopiths, rather than reflecting *Homo*

A. anamensis

A. afarensis. However, here we find many aspects *A. anamensis* *A. afarensis.* *A. anamensis*

tionary significance of *A. anamensis.*

Severe skeletal lesions associated with a documented case of juvenile leukemia

[1]Archaeology, Simon Fraser University, [2]First Nation Studies, Simon Fraser University

Rothschild et al. (1997). Opportunities to study ples of confirmed juvenile leukemia. As such, it

Covariation across the thoracolumbar vertebral column in hominoids

Anthropology, University of Wisconsin-Milwaukee

Homo, n=317; *Pan*, n=87; *Hylobates*, n=67) using linear metrics to selection equation. Confidence intervals based *Hylobates* to *Pan* and *Homo* hominoid taxa exist and are potentially reflective

Grant support for data collection was provided by the Wenner-Gren Foundation, the Leakey Foundation, and New York University.

Conservation to Coexist: Participatory Action Research for Wildlife Conservation, Economic Development, and Biological Anthropology Research

[1]Anthropology, Washington University in St. Louis, [2]Department of Life Sciences, Imperial College London, [3]Makerere University Biological Field Station, Makerere University

Human-wildlife conflict is one of the greatest
source of this conflict is crop raiding – when
fields causing subsistence farmers to suffer
human-wildlife conflict on conservation around
changes to mitigate this conflict. During our initial
Compliance with land-use changes was signifi-
ventions to human-wildlife conflict and primate

Funding was provided by the The Nacey Maggioncalda Foundation Goldberg Conservation Grant, American Society of Primatologists Conservation Grant, The Rufford Foundation, and International Primatological Society Conservation Grant.

Landscape Survey of Potential Combustion Features at FxJj20 Site Complex in Koobi Fora, Kenya

[1]Ecology, Evolution, Ecosystems, and Society, Dartmouth College, [2]Anthropology, University of Georgia - Athens, [3]Anthropology, The George Washington University, [4]Anthropology, Rutgers University

logical sites have previously been identified with

of exposure to high temperatures. Twenty-five
features suggests a possible environmental influ-

Sex-specific cervical vertebral growth in height & depth: A study using computed tomography

[1]Vocal Tract Development Lab, Waisman Center, University of Wisconsin-Madison, [2]Computer Sciences, University of Wisconsin-Madison, [3]Anatomy, Academic Affairs, School of Medicine and Public Health, University of Wisconsin-Madison

bral maturation index (CVMI), which identifies
from 122 (79M; 43F) modern typically devel-
to 20 years, this study quantified sex-specific
to C7. Sex-specific growth trends were identified
In C3-C7, anterior heights were smaller than
depths than males at all ages.These findings

National Institutes of Health, National Institute on Deafness and Other Communicative Disorders grant (R01 DC6282) and National Institute of Child Health and Human Development core grant (P30 HD03352, U54 HD090256).

Refining our understanding of human diets: Using bulk and compound-specific amino acid stable isotope data to investigate pre-Columbian dietary practices of Lake Titicaca, Bolivia inhabitants (1500 BC – AD 1100)

[1]Anatomy, University of Otago, New Zealand, [2]Archaeological Research Facility, University of California, Berkeley, [3]Organic Geochemistry Unit, University of Bristol, [4]Anthropology, University of California, Berkeley

the nuances of specific dietary components are
often difficult to resolve using these bulk data
sets. Compound-specific amino acid stable
of detail to dietary studies, allowing identification
food sources. This is the first study to combine
from South America, specifically focusing on
-plant, and fish from
Lake Titicaca, which have enriched δ
nitrogen isotope data, and compound-specific
data show increases in the δ
fish from Lake Titicaca. This work highlights the

Miller was supported by a grant from the European Association of Organic Geochemists.

An Intra-site Biodistance Analysis of the Maya: Dental Evidence for Urbanism at Copan

Department of Sociology, Anthropology, and Geography, Indiana University East

statistically significant differences between and
complex social system that was influenced

Funding was provided by the National Science Foundation BCS-1207533 and Arizona State University.

Skeletal microstructure growth dynamics in ancient humans and fossil rats from Indonesian islands

[1]School of Archaeology & Anthropology, Australian National University, [2]School of Anthropology & Conservation, University of Kent, [3]Australian Centre for Human Evolution, Griffith University, [4]Archaeology & Natural History, Australian National University

upper first and second human molar histology. Results reveal significant (p
min. = -0.891, max. = -0.976). The DSR of 3.9µm (mid-enamel) to 4.6µm (outer enamel) for the
but the daily extension rate of 7.61µm over the first 2 mm of root growth is faster than the rate

bone deposition (21.18–27.86#/mm^2)

Tracing Racial Formations: Camper's, Blumenbach's, and Morton's Skulls and the Construction of Race in Anthropology

Anthropology, University of Pennsylvania

scientific knowledge about race, but closer
scientific construction of race. Skulls from three
science from about 1790-1850 were considered here: 1) those of Petrus Camper (1722-1789), in Groningen, the Netherlands, who was the first
Blumenbach (1752-1840), in Göttingen, Germany,
3) those of Samuel George Morton (1799-1851),
first to measure large samples of human skulls

This research was funded by the Wenner-Gren Foundation and the Deutscher Akademischer Austauschdienst (DAAD).

A 3D analysis of sacroiliac joint surface topography among primates

[1]Anthropology, Stony Brook University, [2]Interdepartmental Doctoral Program in Anthropological Sciences, Stony Brook University

of the SIJ reflect differences in positional behav-

Stony Brook University Undergraduate Research and Creative Activities Summer Research Program (PM); NSF DDIG BCS-1156016 (GAR), Leakey Foundation General Research Grant 7169524 (GAR).

Contribution of tree-fall canopy gaps to variation in nitrogen content of fruits and leaves from *Varecia* and *Eulemur* food trees in northeastern Madagascar

[1]School of the Environment, Portland State University, [2]Department of Anthropology, Portland State University, [3]Department of Animal Biology, University of Antananarivo, [4]Institute for Conservation Research, San Diego Zoo Global

Madagascar's fruits provide significantly less
Varecia *Eulemur*

Park, Madagascar from December 2017 through

Despite high abundance overall, we had diffi-

not statistically significant, further investiga-

Varecia rubra

Varecia

Eulemur

Varecia

This research was funded by San Diego Zoo Global; Primate Conservation, Inc; the Edward D. and Olive C. Bushby Scholarship, and Scion Natural Science Association.

Exploring sources of variation in inter-observer reliability scoring of facial expressions using the ChimpFACS

Anthropology, University of California, Los Angeles

pass a species-specific certification test and are then considered reliable coders. After certifica-

bles like video length, apex identification, AU

Two ChimpFACS certified researchers inde-

of video of 17 chimpanzees (*Pan troglodytes*)

bility on the certification test). Preliminary results

sociality effects could have significant effects

This research was supported by the National Institute of General Medical Sciences of the National Institute of Health under award number R25GM055052 awarded to T. Hasson.

Unexcused abscesses: the unexpected demographics of dental abscesses at Ancón, Peru

Anthropology, University of Illinois at Chicago

Period (AD 1000-1476). My earlier work on this

al. 2017). Surprisingly, this expectation proved not the case at Ancón. Out of a sample of 76 adults, 27 individuals (36%) had abscesses. Less than

showed a two-sided p-value of 0.047. This high

Photogrammetry in the field: Visualizing pathological lesions in a case of metastatic carcinoma from Antiochia ad Cragum, Turkey

[1]Sociology, Anthropology & Criminology, Eastern Michigan University, [2]Department of Anthropology, University of Nebraska-Lincoln, [3]Independent Emerging Media Technologist for the Antiochia ad Cragum Archaeological Research Project, [4]School of Art, Art History & Design, University of Nebraska-Lincoln

throughout the skeleton is significantly aided by

Lumix G7 camera, 20mm lens, and processed

The impact of environmental grit on dental wear at Tell el-Amarna, Egypt: Investigating the windblown sand theory

Anthropology, University of Arkansas

2017. Four collection surfaces per tower were

materials such as light, fibrous plant matter.

Tell el-Amarna, a finding which is in opposition

Funding for this study was provided by the King Fahd Center for Middle East Studies.

Similarities and differences of femoral diaphyseal ontogeny in modern humans and Neanderthals

[1]Laboratory of Physical Anthropology, Kyoto University, [2]Anthropological Institute and Museum, University of Zurich, [3]Laboratory of Prehistory, St. Petersburg, Laboratory of Prehistory, St. Petersburg, [4]Research Center, Kochi University of Technology, [5]Department of Biological Sciences, Graduate School of Science, University of Tokyo

Financial support was provided by JSPS with Grants-in-Aid for Young Scientists (A) to NM (no. 15H05609).

Metameric variation of upper molars in extant hominoids

[1]Institute of Biotechnology, University of Helsinki, [2]Faculty of Dental Medicine, Hokkaido University, [3]Graduate School of Science, Kyoto University, [4]Faculty of Letters, Keio University, [5]The University Museum, The University of Tokyo

may reflect phyletic inertia. On the other hand, humans show a specific pattern, which suggests considerable developmental modification was

Financial support was provided by JSPS with Grants-in-Aid for Young Scientists (B) to WM (no. 17K15202).

Junk DNE: How Surface Simplification and Scanning Resolution Affect Measures of Dental Crown Sharpness

[1]Evolutionary Anthropology, Duke University, [2]Exercise Science, High Point University, [3]Physician Assistant Studies, High Point University

pling may influence a surface's DNE, potentially inflating it at higher resolution as microscopic

Here we test how scan resolution and simplifica-

Pan troglodytes

(9, 18, and 36 µm), and processed them under

µm/voxel scans were simplified to produce series

were simplified to identical face counts, mirroring

was consistent among the three simplified

resolution (9 µm) surface began to diverge from

scanning resolution and surface simplification

higher scan resolution and less simplification,

Bite Force Analysis of the Human Mandible: Assessing Jaw Capabilities of Human Ancestors

Anthropology, SUNY Geneseo

capabilities of 17 individuals were assessed

and occlusal surface area were significantly

Population diversity, diet and epigenetics

[1]Department of Anthropology, Western Washington University, [2]Laboratory of Biological Anthropology, University of Kansas

cific) begin *in utero*

the influence of high protein intake, however,

nism. We examined sex-stratified data (M21/F31)

a sex-specific epigenetic response modified by

sympathetic nervous system and influenced by

Allostatic load predicts chronic disease in New Mexicans of Spanish-speaking descent

Anthropology, University of New Mexico

into five categories (0+1, 2, 3, 4, and ≥5). Using logistic regression models fitted to estimate odds ratios (OR) and 95% confidence intervals, we

AL scores of 3 (4.17) and ≥5 (8.42) were significantly associated (p≤0.05) with gallbladder

scores of 2 (2.24), 3 (3.13), 4 (5.19) and ≥5 (4.59) were significantly more likely to have abdom-

AL score was not significantly associated with

National Science Foundation (BCS 0962825) and the University of New Mexico Graduate Research Development Grant.

Was *Homo heidelbergensis* in Africa?

[1]UMR7194 HNHP, Musée de l'Homme, CNRS-MNHN, [2]LCHES, Department of Archaeology, University of Cambridge, [3]Turkana Basin Institute, Kenya

Homo heidelbergensis

Homo erectus *Homo heidelbergensis*

700,000 to 500,000 years ago, and this ancestor *Homo heidelbergensis*.

Therefore, the first part of this study re-states the *Homo heidelbergensis*, *Homo sapiens* *Homo neanderthalensis*, *Homo heidelbergensis*.

Differential adaptation of cortical and trabecular bone to mechanical loading and its dependence on age

[1]Department of Archaeology, University of Cambridge, United Kingdom, [2]Department of Anthropology, University of Western Ontario, Canada

were quantified. Torsional rigidity (J) and relative

significant in female %CA. Torsional rigidity did

we did not find the expected correlation between

childhood as clearly as hypothesized. These find-

The After the Plague project is funded by the Wellcome Trust

Creating opportunities for K-12 outreach with undergraduate mentors

Anthropology, Fort Lewis College

Science Center in Durango, Colorado. Benefits

Countering the Invisibility of Disability in Bioarchaeology

Anthropology, Ithaca College

intentional modifications in human skeletal

Aggression, coalition formation, and aging in wild chimpanzees

[1]Anthropology, University of New Mexico, [2]Human Evolutionary Biology, Harvard University, [3]Anthropology, Tufts University

threat displays and fierce contact aggression.

the aging process. We specifically tested the

This research was supported by National Science Foundation grants BCS-0849380, BCS 1355014 and IOS-LTREB1052693, NIH grant AI058715, Harvard University, University of New Mexico, and the Leakey Foundation.

Epigenetics, gene expression, and stress in mothers and offspring in the Democratic Republic of Congo: A biocultural investigation of the intergenerational effects of stress

[1]Anthropology, University of Florida, [2]Genetics Institute, University of Florida, [3]Anthropology, University of Washington, [4]Psychology, University of Florida

The field of social and behavioral epigenetics

expression that in turn influence health and

Republic of Congo, where 20 years of conflict and post-conflict violence have subjected women to

from offspring up to five years of age, in three

2015 cohort, n=77). Using DNA extracted from

We find that epigenetic aging is accelerated
In contrast, telomere length is significantly

Research was supported by NSF BCS-1231264, BCS-1540372 and BCS-1719866, University of Florida (UF) College of Liberal Arts and Sciences, UF Clinical and Translational Science Institute, and UF Research Opportunity Seed Fund.

Comparison of two Alaskan cultural groups during the 1918-19 influenza pandemic using social network modeling

Anthropology, University of Missouri

populations is heavily influenced by interactions
Inuit in Western Alaska during the 1918-19 influ-
their increased influenza mortality rates when

The ontogeny of termite gathering among chimpanzees in the Goualougo Triangle, Republic of Congo

[1]Department of Anthropology, Washington University in Saint Louis, [2]Department of Psychology, Franklin and Marshall College, [3]Lester E. Fisher Center for the Study and Conservation of Apes, Lincoln Park Zoo, [4]Congo Program, Wildlife Conservation Society

the potential to improve diet and increase fitness. *Pan troglodytes troglodytes*
brush-tipped fishing probes to gather termites
termite fishing among chimpanzees at Gombe,
at Goualougo insert probes by 2.7 years, but they do not manufacture brush-tipped fishing probes
from Gombe, where chimpanzees make fishing probes before or during the year when they first
reflect the design complexity and material selec-

The Wenner-Gren Foundation, The National Science Foundation, The Leakey Foundation, Lambda Alpha

Evaluating the evidence of treponemal disease from India

Department of Archaeology, Deccan College Post Graduate and Research Institute

infection was identified on one male skeleton
Nagaland, radiocarbon-dated to c. 17th
superficial cranial lesions, circumvallate cavita-
of lesions identified as caries sicca. Stellate scar-
nasal bridge. Bone remodeling and superficial
Treponema pallidum

Estimation of archaic hominin haplotype frequencies in contemporary Aleuts

[1]Anthropology, University of Kansas, [2]Natural Sciences, Haskell Indian Nations University

objective of this study is to re-evaluate the find-
hominin haplotypes, and specifically look for
SLC16A11,
TBX15/WARS2
SLC16A1

a significantly higher frequency in contemporary
d *TBX1*

Funding for this research is provided by the National Institute of General Medical Sciences (NIH NIGMS), grant number R25GM060182.

Exploring adaptive functions of geophagy across non-human primates: Considering the role of sexual selection

Anthropology, Ball State University

the effects of specific infections and toxins due
is detoxification and digestion. The secondary
hypothesis and current findings in humans, adult
may be biased given the difficult nature of deter-

The blood must flow: vertebral artery size relative to transverse foramen size in the tarsier cervical spine

[1]Department of Medical Anatomical Sciences, Western University of Health Sciences, [2]School of Human Evolution and Social Change, Institute of Human Origins, Arizona State University, [3]Department of Pathology and Anatomical Sciences, University of Missouri, [4]Department of Anatomy and Cell Biology, Indiana University School of Medicine

such injuries. Specifically, we predicted that there
arlito syrichta)

Preliminary insights into human femoral bone remodelling at Late Bronze Age multiple burials from Iran

[2] and ARKADIUSZ SOŁTYSIAK[3]

[1]Department of Archaeology, University of Zabol, [2]School of Archaeology and Anthropology, Australian National University, [3]Department of Bioarchaeology, University of Warsaw

No statistically significant relationships between
(p = 0.005, Rho = 0.975), and when anterior (Rho

Quantifying growth faltering across the first year of life in rural Gambian infants

[1]Department of Anthropology, University of Colorado Boulder, [2]Institute of Behavioral Science, University of Colorado Boulder, [3]Department of Applied Mathematics, University of Colorado Boulder, [4]Department of Pathology, University of Cambridge, [5]Department of Paediatrics, University of Cambridge School of Clinical Medicine, [6]MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine, [7]MRC Unit The Gambia, London School of Hygiene and Tropical Medicine, [8]Department of Women and Children's Health, King's College, London

frequently, faltering is described or identified by
through the identification of specific param-

of rural Gambian infants across the first year of
uals (N=69 (F=36, M=33)). We calculated the first derivative of a 25-knot cubic spline fit to growth data, and identified the initiation, duration, and
trough) of faltering events using the 'find_peaks'
faltering episodes in their first year of life, and spent 21-26% of their first year of life in faltering.
variables showed a significant effect on faltering

Funded by the Bill and Melinda Gates Foundation (OPP1066932)

Developing a Rapid Technique for Identifying Human Bone in Bioarchaeological and Forensic Contexts: ZooMS and the Battle of Towton

[1]Department of Anthropology, Fort Lewis College, [2]Department of Archaeology, University of York

conventional field methods with other sources
human graves and sites of conflict. The site of
72 a determination of human/nonhuman. A total

applications of this methodology to the fields of
significant and widespread.

Woody cover in modern African ecosystems: Implications for hominin landscape dynamics

[1]CASHP, The George Washington University, [2]Division of Earth Sciences, National Science Foundation, [3]Department of Anthropology, University of Chile

aerial imagery. Results of the δ³
that there are significant differences (One way
linear relationship is observed between the δ³ C
be used in making more refined interpretations of

Home range and territoriality suggest that venom as a weapon in slow lorises

[1]Nocturnal Primate Research Group, Oxford Brookes University, [2]Faculty of Forestry, University of Gadjah Mada

Nycticebus javanicus
the influence of sex, body weight, presence of
radio collars, we conducted follows from 1700h
from 2012-2017, taking GPS locations every 15
method with fixed smoothing factor. We defined
that aggressive animals had fewer wounds (ΔAIC 2.87). We found overlap between home ranges
=
70%; HR
=0.73 and UDOI
not exhibit any. Range fidelity was high for settled

The Leverhulme Trust, Cleveland Zoo and Zoo Society, People's Trust for Endangered Species, Columbus Zoo, Disney Conservation Fund, Primate Action Fund, Margot Marsh Biodiversity Fund, Augsburg Zoo, Henry Doorly Zoo

Do teeth forming in different early life periods show differential discrepancy with known age?

[1]Department of Anthropology, University of Alberta, [2]Department of Anthropology, Brandon University, [3]Department of Archaeology, Simon Fraser University

are more resilient to environmental influences

significant (p=0.013) and indicates that age based

uous dentition. This reflects increased variation

Funding for this project was provided by SSHRC - Social Sciences and Humanities Research Council of Canada

The Science of Biomarkers and the Nuance and Noise in Biocultural Data

Anthropology, Santa Clara University

with ethnographic inquiry. Using findings from

vasive biomarkers, specifically salivary analytes,

these findings. The instruments we use to assess

understand familial dynamics in light of financial uncertainty, should influence what biomarkers

This research was funded by The Wenner Gren Foundation (Gr.8349) and Santa Clara University

Particle Based Modeling (PBM) Geometric Morphometric Analysis of the basioccipital bone in *Pax7*-deficient mice

[1]Anthropolohy, University of Florida, [2]Anthropology, Boston University, [3]Center for the Advanced Study of Human Paleobiology, The George Washington University, [4]Greehey Children's Cancer Research Institute, University of Texas Health Science Center, [5]Scientific Computing and Imaging Institute, University of Utah, [6]Department of Pediatrics, Children's Cancer Therapy Development Institute, [7]Department of Pediatrics, Albert Einstein College of Medicine

Pax7

Pax7

Pax7

deficiency. The basiooccipital bone is broader and shows an antero-inferior inflection of its *Pax7*-deficient mice. This

Pax7-deficient mouse may

opmental genetics influencing basioccipital

This work was supported by an award to the Center for Integrative Biomedical Computing (NIH/NCRR 5P41RR012553) an NSF IGERT grant (0801634), and a George Washington University Selective Excellence Program award.

A Forensic Anthropological Perspective on Latin American Genetic Diversity

[1]Defense POW/MIA Accounting Agency, SNA International, [2]Anthropology, Texas State University, [3]Anthropology, University of California, Santa Cruz

identification of unidentified skeletal remains.

these region of origin trends are reflected in

Identification (*OpID*)

remains identification effort, with previously published genetic data from 27 Latin American

was generated and tests of significance were run

OpID

statistically significant differences (*p*

for identification methods of skeletal remains and

methods from STR data towards identification of

The authors would like to thank the Grady Early Foundation for their contribution to this research.

Effectively teaching primary literature comprehension in bioanthropology

Anthropology, Indiana University

tific literature. For most undergraduate students this is their first time reading primary literature.

izing primary scientific literature. This project

Survivorship from historical death records and skeletal remains from the Oakwood Cemetery in Austin, Texas (1866-1914)

[1]Anthropology, Trinity University, [2]Anthropology, University of Nevada, Reno, [3]Anthropology, Texas State University

etal remains often produce conflicting profiles

biological profile data collected from thirteen of

shed light on the demographic profile of early

This project was supported by the McNair Scholars Program.

Genomic ontologies provide evidence against environmental adaptation during the Beringian standstill

Anthropology, University of New Mexico

environment first encountered by the founding

lab has identified a unique genetic architecture

> 0.30

fied from whole genome scans in the Thousand

(3) ontological class, and (4) clinical significance.

matched African specific SNPs, which serve as

The Genomic Landscape of the Peruvian Andes

[1]Laboratorio de Genomica para la Biodiversidad, Unidad de Genomica Avanzada CINVESTAV, [2]School of Human Evolution and Social Change, Arizona State University, [3]Laboratories of Molecular Anthropology and Microbiome Research, University of Oklahoma, [4]Department of Biomedical Data Science, Stanford University, [5]Department of Genetics, Stanford University, [6]Colorado Center for Personalized Medicine, University of Colorado, [7]Department of Medicine, University of California San Francisco, [8]Direccion, Instituto Nacional de Enfermedades Neoplasicas, [9]Emeritus Professor, Facultad de Ciencias Biologicas, Universidad Nacional Mayor de San Marcos, [10]Laboratorio de Genomica y Biologia Molecular Evolutiva, Facultad de Biologia, Universidad Ricardo Palma

sample of 17 indigenous or traditional lifestyle

ecozones: the desert Pacific Coast, the Highlands

findings indicate that most communities have

tified Afro descendant groups. We did not find significant differences in global ancestry patterns

nation methods and ancestry-specific PCA to

National Science Foundation SBE Postdoctoral Research Fellowship 1711982 and grant BCS-024958, National Cancer Institute R01CA204797, Instituto Nacional de Enfermedades Neoplasicas Peru, International Centre for Genetic Engineering and Biotechnology Italy CRP/MEX15-04_EC.

A Symposium in Honor of Erik Trinkaus: Talk to the Hand

Anthropology, CSUSB

hypotheses. I had no specific research agenda in

to find a focus for my paper. With the deadline looming, I finally broke down and went to ask

his office, returned with a stack of publications,

Covariation bone biomechanics and entheseal changes in reindeer long bones – implication of activity?

Archaeology, University of Oulu

and superficial and deep digital flexor) and in radioulna (anconeus, flexor profundus, biceps brachii, and flexor profundus digiti) and mid-shaft

enthesis, and statistically significant differences

next. Differences were mostly statistically signifi-

or fibrous versus fibrocartilaginous enthesis were observed. This relationship was not confined

This research was funded by European Research Council Starting Grant 756431, Academy of Finland grant number 308322 and University of Oulu.

Intraspecific variation in ebony langurs: the importance of long-term data and broad geographic coverage

Anthropology and Geography, Oxford Brookes University

Trachypithecus auratus

forests up to 3,700 masl. While the species

expected flexibility in behaviour and ecology,

from five in Lombok to >25 in coastal forest;

Presbytis comata.

wide variety of habitats, the intraspecific variation

Morphometric affinities of a new fossil ulna from Buluk, Kenya

[1]Interdepartmental Doctoral Program in Anthropological Sciences, Stony Brook University, [2]Department of Anthropology, Stony Brook University, [3]Turkana Basin Institute, Stony Brook University, [4]Department of Anthropology, Wake Forest University

we explore the morphological affinities of a new

broad sample of 37 extant anthropoid species

sum, our findings indicate hominoid and suspensory affinities for this Buluk taxon.

Funding support was provided by The Leakey Foundation and the National Geographic Society.

Sexual Dimorphism in the Proximal Phalanges of the Hand: Verification of Logistic Regression analysis methods

Anthropology, Fort Lewis College

of 91% on the right hand and 73% on the left hand

resulting in 100% of individuals being classified as

The Physical and the Digital: a test of the reliability of craniometric data collection from 3D models

Office of the State Archaeologist, University of Iowa

The University of Iowa, Office of the State

landmark placement ranged from 10.79 to 0.21,

Pigmentation variation and in admixed populations and associated genetic loci

[1]Anthropology, University of Cincinnati,
[2]Anthropology, University of Michigan,
[3]Anthropology, University of Toronto, Mississauga

Palenque, n=101). All three samples are signifi-

are also significantly different ($p<1x10^{-9}$
also differs significantly among the three popu-

significantly lighter than the Palenque and African

American (n=147) and US Hispanic (n=48)

are significantly different ($F=20.882$, $p<2.2x10^{-}$

Data collection was supported by a grant to HLN and EJP by the US Department of Justice (2013-DN-BX-K011).

Rich grave goods, bad health? The preliminary results of the bioarchaeological study of the Middle Bronze Age cremation burials from Jagodnjak, Eastern Croatia

[1]NA, Institute for Anthropological Research, [2]NA, Kaducej Ltd.

excavations of the Jagodnjak-Krčevine site (AN 7) in the Osijek-Baranja County in Eastern Croatia

ence of the cemetery dated to the final periods

At least 37 individuals were present in the sample:

This study was funded by the Croatian Science Foundation grant HRZZ IP-2016-06-1450.

Runs of homozygosity and admixture dynamics in the African-derived Brazilian *quilombo* populations

Genetica e Biologia Evolutiva, Universidade de Sao Paulo

whereas short ROH reflect the background relat-

We also identified many cases where ROH had

ROH of mixed ancestries. These findings show

FAPESP 2012/18010-0, FAPESP-CEPID 13/08028-1 and NIH GM-075091.

Anticipating turns: How many steps are affected?

[1]Anthropology, University of Washington, [2]Department of Orthopaedics and Sports Medicine, University of Washington, [3]Center for Functional Anatomy and Evolution, The Johns Hopkins University School of Medicine

side GRFs are not (p≥0.097). More braking and

Neanderthal thermoregulation: old ideas and new

Anthropology, University at Albany

activity and locomotor inefficiency may have provided a thermoregulatory benefit in glacial

Funding for part of the data discussed in this abstract was provided by the Leakey Foundation.

Adolescent female orangutans benefit from associations with their mother in Gunung Palung National Park, West Kalimantan, Indonesia

[1]Human and Evolutionary Biology, University of Southern California, [2]Genome Diversity and Diseases Laboratory, Eijkman Institute of Molecular Biology, [3]Department of Anthropology, Boston University

Pongo pygmaeus wurmbii,

to have a social encounter (β=0.095, F=3.742,

the most affiliative interactions occur between

other classes (β=0.141, F=4.086, p<0.05), and in

mother (70% of the time). Contrary to our predic-

terized as affiliative. Instead, most associations

affiliative interaction, adolescent females seek

suggesting that they benefit from maternal asso-

involved in the most affiliative interactions, with unflanged males as their primary partner (36% of all affiliative events). We propose that a lack

BU GRAF, National Geographic Society (9447-14, ECO690-14, GEFNE68-13), US Fish and Wildlife Service (F12AP00369), Disney Wildlife Conservation Fund, Wenner-Gren Foundation, Nacey-Maggioncalda Foundation, Primate Conservation Inc., BOS-Canada

The infancy-childhood transition in rural Gambian infants

[1]Department of Applied Mathematics, University of Colorado Boulder, [2]Institute of Behavioral Science, University of Colorado Boulder, [3]Department of Anthropology, University of Colorado Boulder, [4]Department of Pathology, University of Cambridge, [5]Department of Paediatrics, University of Cambridge School of Clinical Medicine, [6]MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine, [7]MRC Unit The Gambia, London School of Hygiene and Tropical Medicine, [8]Department of Women and Children's Health, King's College, London

measures during the first year of life as a way

tion. The transition is identified by a change in

Gambian infants taken across the first year of life

Pearson correlation coefficients for adjacent

Funded by the Bill and Melinda Gates Foundation (OPP1066932).

Does dental fluctuating asymmetry predict lesion status in systemic stress indicators? Kind of…

[1]Anthropology, University of New Mexico, [2]Laboratory of Human Osteology, Maxwell Museum of Anthropology

non-specific indicators of developmental stress

coded as present or absent. We found no signifi-

p=0.009). FA was not a significant predictor of active PH lesions (OR=1.5, p=0.8). These findings

Partial funding provided by the Center for Regional Studies, University of New Mexico.

Comparative two-dimensional relative enamel thickness (RET) of South African hominin premolars

[1]Department of Anthropology, Ohio State University, [2]School of Anthropology and Conservation, University of Kent, [3]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, [4]Evolutionary Studies Institute, University of Witwatersrand

Homo naledi *Paranthropus robustus*, *H. naledi* *P. robustus* *H. naledi* *P. robustus* *Australopithecus africanus* *H. naledi* *P. robustus* .

P. robustus *H. naledi* *A. africanus*

A. africanus had significantly lower RET than *H. naledi* *P. robustus*

were combined, the only significant difference *A. africanus* *P. robustus* *robustus* averaging significantly thicker enamel.

H. naledi *P. robustus*, two species do not differ significantly otherwise. These findings suggest that, like the molarization *H. naledi* *robustus*

This research was supported by a workshop grant from the Wenner-Gren Foundation and NSF GRFP DGE-1343012 to Mackie O'Hara, and the Max Planck Society.

Comparative palaeodemography of medieval British archaeological populations, with reference the Libben Site, Ottawa County, Ohio

[1]School of Natural Sciences & Psychology, Liverpool John Moores University, [2]Department of Physical Anthropology, Cleveland Museum of Natural History

profiles demonstrated higher subadult and lower

sites along the first principal component (PC1) that reflected the differing mortality rates. The

Variation in enamel formation front angles and enamel thickness in anterior and posterior cercopithecoid teeth

Anthropology, The Ohio State University

has not been sufficiently explored, even though

thicker enamel. More specifically, wider angles have been hypothesized to reflect a slowing in

posterior (N = 12) teeth. We find that the largest

Cercocebus atys and *Cercocebus torquatus*.

Cercocebus

Science Engagement with Religious Institutions and Publics

Dialogue on Science, Ethics, and Religion Program, American Association for the Advancement of Science

as religious or spiritual, and affirm that religion

and practitioners. Most (4/7) institutions in the

Both AAAS-DoSER projects are supported by grants from the John Templeton Foundation and individual donors.

Large mammal community structure and habitat variation in southern African *Paranthropus* and *Australopithecus*

Anthropology, School of World Studies, Virginia Commonwealth University

Paranthropus and *Australopithecus*

Paranthropus and *Australopithecus*

used to retrodict community affinities that would

P. robustus

seasonal grasslands influenced by seasonality

ation in the Plio-Pleistocene was influenced by

Muscle myosin heavy chain content and the evolution of hominin walking costs

[1]Anatomy, Midwestern University, [2]Kinesiology, University of Michigan

chain (MHC) I fibers (i.e. 'slow-twitch fibers') in

mammals, which exhibit a significantly lower

muscle over the past 7-8 million years, enhancing

cific three-dimensional pelvis and lower limb

fiber dynamics were derived from forces and

NSF BCS-0935321 and BCS-0935327

Metric and Non Metric Comparative Study of Sexual Dimorphism of the Zygomatic

Anthropology, Georgia State University

of the face has received attention for its efficacy

on 27 crania housed at Georgia State University
significant difference between the two observers
show a significant difference between males
function analysis yields a classification rate of
temporal bone. Sex differences were identified in
chaeologcial fieldwork.

Enamel thickness in the deciduous dentition of humans and great apes

[1]Institute of Human Origins, School of Human Evolution and Social Change, Arizona State University, [2]Center for the Study of Human Origins, Department of Anthropology, New York University, [3]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, [4]School of Anthropology and Conservation, University of Kent

Homo sapiens *Pan troglodytes* (n=27 teeth), *Gorilla* *Pongo*
crown. Our results reveal no significant differ-

Humans, on the other hand, possess significantly
great apes does not possess significantly thicker

This research was supported by the Wenner-Gren Foundation, the Institute of Human Origins, and the Max Planck Society.

Using commingled and fragmentary remains to reconstruct social interaction and social change

[1]Anthropology and Middle Eastern Cultures, Mississippi State University, [2]Department of Anthropology, University of Nevada Las Vegas, [3]Department of Anthropology, Skidmore College

since individuals can rarely be identified within
the Gusića Gomila II site (ca. 2200-2000 BCE)

Arboreality and fruit-feeding in Bwindi mountain gorillas (*Gorilla beringei beringei*)

[1]Center for the Advanced Study of Human Paleobiology, The George Washington University, [2]Department of Primatology, Max Planck Institute for Evolutionary Anthropology

2017. Consistent with previous studies, we find
years (e.g., yearly averages ~7-20%, with highest monthly values per year ranging from 25-70%).
reported for the Virungas (adult females, 7%; silverbacks, 2%; Doran, 1997), likely due to greater

This research is supported by the National Science Foundation (BCS 1753963), The Max Planck Society, The Leakey Foundation, and The George Washington University.

Sexual dimorphism in absolute and relative entheseal length in *Colobus guereza* and *Hylobates lar*

Geography and Anthropology, Louisiana State University

Colobus guereza d *Hylobates lar* *C. guereza* *H. lar* *guereza* *H. lar* males are significantly larger than females in *C. guereza* None of the 10 variables is significantly different *H. lar*

Using whole mitochondrial genomes from 100 ancient Indigenous British Columbian individuals to infer the impacts of European colonization

[1]Program in Ecology, Evolution, and Conservation Biology, University of Illinois at Urbana-Champaign, [2]Anthropology, University of Illinois at Urbana-Champaign, [3]Carl R. Woese Institute for Genomic Biology, University of Illinois at Urbana-Champaign, [4]Anthropology, Emory University, [5]College of Life Sciences, Jilin University, [6]Metlakatla Treaty Office, Prince Rupert, British Columbia, [7]Armed Forces Medical Examiner System's Armed Forces DNA Identification Laboratory (AFMES-AFDIL), Department of Defense DNA Operations, [8]ARP Sciences, LLC, Rockville, MD, USA, [9]Research Division, Canadian Museum of History

Human remains from more than 270 individuals

haplogroup composition of 74.2% A, 11.1% D, and

Funding for this project was provided for by the National Science Foundations' Doctoral Dissertation Research Improvement Grants (BA-DDRIG).

Adventures in museuomics: The use of next generation sequencing to uncover great ape host and microbial genomes

[1]Center for Evolution and Medicine, Arizona State University, [2]School of Human Evolution and Social Change, Arizona State University, [3]Institute of Human Origins, Arizona State University

calcified dental plaque removed from skeletons in

and microbial genetic variation; specifically, how

DNA facility, followed by shotgun amplification

collected. We also report significant differences in *Porphyromonas gingivalis* *Treponema denticola*

cations of these findings on our understanding

Funding for this research was provided by the Center for Evolution and Medicine at Arizona State University and the Extreme Science and Engineering Discovery Environment (XSEDE) (NSF ACI-1548562).

Violence and the "other": migration and sacrifice in pre-Hispanic central Mexico

School of Human Evolution and Social Change, Arizona State University

upheaval and social reorganization. 173 individ-

histories of a sample of sacrificed individuals (*n* = 72) to examine if and how the perception

tion as sacrificial victims. Radiogenic strontium

while 27% were foreigners, and only 14% of sacrificed individuals were locals. The high proportion

sacrificial victims suggests that victims were

between specific social identities; complex social

This research was supported by grants from the National Science Foundation (#2013155229, 1744335) and the Center for Bioarchaeological Research at Arizona State University.

The ontogeny of infant aye-aye (*Daubentonia madagascariensis*) vocalizations

Biological Sciences, North Carolina State University

their first days of life. The aye-aye (*Daubentonia madagascariensis*

files. Adobe Audition was used to listen to and

Agatha emitted her first vocalization within two

Funding generously provided by NCSU's Biological Sciences Support for Undergradate Research Experiences and the Office of Undergraduate Research.

The mechanical and nutritional properties of African savanna vegetation: potential implications for early hominin feeding behavior

[1]Anthropology, University of Colorado Boulder, [2]Department of Ecology and Evolution, State University of New York, Stony Brook, [3]Faculty of Archaeology, Leiden University, [4]Florisbad Quaternary Research Department, National Museum, South Africa, [5]Centre for Environmental Management, University of the Free State

Paranthropus boisei

significant amounts of C_4

P. boisei.

and nutritionally deficient for hominins lacking

or otherwise) and how they may have influenced

Africa during wet and dry seasons. We find that

is higher in protein, lower in dietary fiber, and

find strong differences between the C_4

tions for the contrasting dietary signals we find

Paranthropus

Factors associated with cardiovascular diseases in men and women: epidemiological transition in traditional Brazilian African-derived communities (*quilombos*)

[1]Institute of Biological Science, University of Brasilia, [2]Science and Technology of Tocantins, Federal Institute of Education, [3]Departament of Antropology, University of South Florida

quilombos *quilombos*

quilombos

Cocalinho (a non-isolated rural village; n = 70),

obesity (p≤0.001) were higher in the non-isolated

obesity (10.91% vs 3.26%), and diabetes (3.57%

an epidemiological transition, with modification

FAPDF; UNB; CAPES; MEC; Prefeitura de Cavalcante

Insights into the paleobiology of early Colobinae: new views from the Late Miocene of Central Africa, Chad

[1]PALEVOPRIM: Laboratoire Paléontologie, Évolution, Paléoécosystèmes, Paléoprimatologie, Université de Poitiers, [2]Département de Paléontologie, Université de N'Djamena

i.e

affinities of those early colobines relative to the

i.e

Mercopithecoides bruneti sp. nov.

ca. 7 Ma.

phylogenetic affinities of early African Colobinae.

In addition to filling a gap in the spatial and

e.g.

also clarify the phylogenetic affinities of the genus *Cercopithecoides*

Applying BayesModelS to body mass prediction; comparisons with traditional approaches and recommendations for future paleontological reconstructions

[1]Exercise Science, High Point University,
[2]Physician Assistant Studies, High Point University,
[3]Evolutionary Anthropology, Duke University,
[4]Mathematical Sciences, High Point University

Homo

identified by the contrast between the observed

Scientific Racism: From Dissident Professionals to Citizen Science

Institute for Society and Genetics, UCLA

facing effective scientific and ethical opposition

have relied on these scientists for scientific racist

academic scientific racists, reinterpreting osten-

represent the true spirit of scientific objectivity

This project is supported by NIH grant R21 HG010258-01.

Coping strategies of maternal and infant feeding practices after a natural disaster among Zapotec peoples in Oaxaca, Mexico

Anthropology, Michigan State University

September 7, 2017 in Oaxaca. **Methods:**

Results:

susto,

formula sacrificing their own consumption.

atole,

to fill-up the infant. **Conclusion:**

infants at risk for insufficient or unsafe food and

National Science Foundation Graduate Reasearch Fellowship Program; Tinker Research Grant for Graduate Research in Latin America

Timing of reproductive onset among female vervet monkeys (Chlorocebus pygerythrus) in wild and human-impacted populations

[1]Anthropology, Boston University, [2]Anthropology, University of Texas

influenced by variation in energetic status,

context. Plasticity in age at first reproduction is,

Here, we explore differences in age at first repro-

at first birth occurs in accordance with predicted

which have significantly lower subcutaneous

Ancestral determination of crania from the ancient Roman necropolis of Sanisera

[1]Biology, University of Indianapolis, [2]Archaeology, Sanisera Archaeology Institute

During the 2018 field season at the Roman
400-700 AD), three intact crania were recovered

population is reflective of the broad geographical

Selective mortality of tuberculosis after the 1918 influenza pandemic in two Newfoundland regions

Anthropology, University of Missouri

1918 flu pandemic was one of the highest in the

bronchitis, pneumonia, and influenza combined.

quential of co-infection with influenza and/or

mortality for two specific regions: the urban
mortality in the Avalon region (years 1910-1917)

yearly TB mortality was significantly less than
(years 1910-1917) was 33.5 and 33.4 deaths per
there were no significant decreases in mortality

Current and proposed qualifications for forensic anthropologists

[1]Anthropology and Sociology, Western Carolina University, [2]Anthropology, University of Nevada, Reno

The qualifications for a discipline are composed

no standards for the qualifications of a forensic

In order to examine the range of current qualifica-

ization, but less than 20% were certified by the

from respondents in terms of proposed qualifica-

the standardization of qualifications will become
as for the certification of its practitioners. This

establishing their own qualification standards

Differences in fore- vs. hindlimb autopod function in extant hominoids is reflected in pollical vs. hallucal metapodial strength properties

[1]Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [2]Human and Evolutionary Biology Section, Department of Biological Sciences, University of Southern California, [3]Molecular Imaging Center, Department of Radiology, Keck School of Medicine, University of Southern California, [4]Department of Geology and Paleontology, Georgian National Museum, [5]Department of Cell and Developmental Biology, University of Colorado School of Medicine, [6]Department of Anthropology, University of Colorado Denver

in *Homo* *Pan* (n=47), *Gorilla* *Pongo* *Symphalangus* and *Hylobates*
between bones, and interspecific comparisons
and Mc1 for all variables were significantly larger
$p<0.05$). Significant
in *Pongo* *Gorilla*
Homo, *Pan*, *Hylobates* *Symphalangus*

findings support the hypothesis that the Mt1 is

reflected in hallucal and pollical metapodial

Funded by the National Science Foundation (BCS-1317047; BCS-1317029; BCS-1539741), Wenner-Gren Foundation, and Leakey Foundation.

Validating foundational assumptions of dental morphology using quantitative genetics

[1]School of Human Evolution and Social Change, Arizona State University, [2]Department of Sociology and Anthropology, East Tennessee State University, [3]Department of Sociology/Anthropology, The State University of New York College at Cortland

efficacy of morphological data rests upon foun-

Here, we present the first robust estimates of

significant models were moderate to high (anterior=0.34; postcanine=0.75). Results of covariate

NSF Research Grants: BCS-1063942 and BCS-1750089; IRB: ASU Exemption 45CFR46(4) and The Ohio State University

Engaging students in anthropology through the exploration of ancestry identity

Anthropology, Pennsylvania State University

at the end of the term. In the first half of the initial

of The College of the Liberal Arts. Preliminary find-

Prediction of humerus length from the insertions of pectoralis major and the deltoid

Department of Anthropology, University of New Mexico

bottom of the deltoid) ± 17.576 mm (R^2

Arthropathic changes in the human skeletal remains from the Eastern Zhou China

[1]Anthropology, Queens College, CUNY, NYCEP, [2]Archaeology, Henan Provincial Institute of Cultural Relics and Archaeology

Plains of China, reached its florescence during the Eastern Zhou dynasty (770-221 BC) that preceded the unification of China and the rise

skeletal record of its stratified urban population

reaction to subsequent inflammation. Among the remaining cases two were identified as diffused

idiopathic skeletal hyperostosis (Xinghong M17

-

-

Caves in the Classroom: Explore Hominid Fossils with Virtual Reality in DinalediVR

[1]Center for the Exploration of the Human Journey, Perot Museum of Nature and Science, [2]Evolutionary Studies Institute, University of the Witwatersrand, [3]Department of Sociology and Anthropology, Georgia Southern University, [4]Department of Anthropology, University of Washington, [5]CSIC, Museo Nacional de Ciencias Naturales, [6]Middle School Science, St Marks School of Texas

field. DinalediVR contributes to an open access

-

and identify specific Texas Education Knowledge

profiles, FAQs, and other materials are also

Homo naledi

find a skull, mandible, femur fragment, and an

-

from the field.

We gratefully acknowledge support of the Perot Museum, the Lyda Hill Foundation, National Geographic Society, and the University of the Witwatersrand.

The evolution of body size in Strepsirrhine primates

Anthropology, University of Texas San Antonio

role in primate origins and diversification theory.

-

ranges from ~30g (mouse lemurs) to ~7g (indri),

-

-

we integrate data from 17 fossil and 105 living

-

dwarfism between members of Cheirogaleidae

Penna, A. is supported by UTSA Presidential Distinguished Research Fellowship

Raising the Roof: Assessing Global Frequencies of Palatine Torus

Anthropology, University of Nevada, Reno

-

absence using a global sample (k=180) of 9,467

frequencies of 47.7% and 51.8%, respectively. The

most frequent in Arctic populations (79.2%) and

-

-

the Pacific Northwest (63.6%), California (57.1%),

-

Impact of gait selection on potential limb interference in primates and cats

Evolutionary Anthropology, Duke University

-

-

-

Propithecus

displaced its foot significantly farther resulting

This research was supported by the Duke Lemur Center, NSF BCS-1751686, and NSF BCS-1517561.

Anthropology-parasitology-microbiome perspectives on human evolutionary medicine

[1]Anthropology, Penn State University, [2]Biology, Penn State University, [3]DFG Center for Advanced Studies, University of Tübingen

identified.

Biological distance at the center of the Viking world

[1]Anthropology and Archaeology, University of Calgary, [2]Cell Biology and Anatomy, University of Calgary

the Viking Age. Specifically, I investigate whether

Sweden are indicative of gene flow with popu-

gene flow from the rest of Scandinavia, the island

influences of the Swedish mainland. In particular,

The reproductive ecology of the Kinda baboon: female synchrony and male reproductive skew

[1]Anthropology, New York University, [2]NYCEP, New York Consortium in Evolutionary Primatology, [3]Anthropology, University of Massachusetts Amherst

ductive access to females, which is influenced

(*Papio kindae*) morphology is more reflective of

and pregnancy as confirmed from fecal hormone

term, 7 years of paternity) in this population.

This research was supported by NSF (DDRIG 1732321, DGE 0966166 to NYCEP IGERT), Leakey Foundation, Fulbright US Student Program, Sigma Xi, SICB, Explorer's Club, ASM, DAAD, AAUW, & NYU MacCracken.

Sacral vertebral count and locomotor behavior of extant primates: An evaluation of selective constraint that locomotion exerts on sacral vertebral formula

Institute of Human Origins, Arizona State University

posture via flexibility of the lower back. Since

the spine is likely to influence the other regions,

the standard deviation and the coefficient of vari-

mode (p=0.0077 and p=0.00039, respectively).

Individual Variation in Long-Tailed Macaque (*Macaca fascicularis*) 'Robbing and Bartering' Practices at Uluwatu Temple, Bali

Anthropology, University of Notre Dame

This study identifies individual variation in

site from May 2017 to March 2018. Here we present data totaling 197 observation hours

=44.773,

$X2$=16.783, df=3,

$_s$=0.78) and Celagi (r_s=0.75),

may be influenced by social position. This is the first study to investigate the relationship between individual behavioral profiles and robbing and

This research is funded by a National Geographic Society Waitt Grant (WW-082R-17).

Covariance among zygomatic bone shape, eye orbit shape, and the zygomaticotemporal space

Anthropology, University of Nevada Las Vegas

tion. The zygomatic bone makes up a significant

vision, but also makes up a significant portion of

require a specific shape and structure of the

software Checkpoint. For this study, specific

that the zygomatic reflects functional constraints

Science and Anthropology in Underrepresented Spaces: Discovery Program and Full STEAM Ahead

[1]Anthropology, School of World Studies, Virginia Commonwealth University, [2]Integrative Life Sciences, Virginia Commonwealth University

and graduate students on their fields, and then

Nonspecific Stress and Age-at-Death in Colonial Period North Coast Peru

Department of Sociology and Anthropology, George Mason University

Mórrope and Eten (1535-1750), contempora-

ecogeographic diversity and Spanish influence.

presence or absence of nonspecific early-life

Eten (χ^2 = 8.335; p = 0.004). However, significant without periostosis at Mórrope (χ^2 longer (χ^2 = 47.27 years) than those without (χ^2 = 33.62 years). These findings illustrate complex possible heightened immune/inflammatory

Trade-offs between Reproduction and Immunity in Wild Female Chimpanzees (*Pan troglodytes schweinfurthii*) of Kibale National Park, Uganda

[1]Anthropology, University of New Mexico, [2]Veterinary Medicine & Pathobiological Sciences, University of Wisconsin - Madison, [3]Anthropology, Tufts University, [4]Anthropology, Pennsylvania State University, [5]Kibale Chimpanzee Project, Uganda, [6]Human Evolution and Social Change, Arizona State University, [7]Anthropology, University of Michigan - Ann Arbor, [8]Human Evolutionary Biology, Harvard University

ment in reproduction is predicted to leave deficits were collected from 70 chimpanzees (N=313) *Oesophagostomum* *Oesophagostomum*

(F(1/170) = 2.94, p = 0.087), but revealed no *Oesophagostomum*

NSF (1613185), NIH (R01AG049395), the Leakey Foundation, University of New Mexico, University of Wisconsin - Madison, Harvard University, Tufts University, and University of Michigan - Ann Arbor

Social structure, postmarital residence, and mortuary practice at Hualcayán, Peru

[1]Sociology and Anthropology, Metropolitan State University of Denver, [2]Center for Bioarchaeological Research, Arizona State University, School of Human Evolution and Social Change, [3]Anthropology, University of Minnesota-Twin Cities

and figuratively by the living to reify sociocultural

Hualcayán exemplifies a tradition where the *machays* *chullpas*

Results indicate a pattern of biological affinity tically significant. These preliminary results

Estimating Body Mass for Subadults: A Radiographic Study of the Femur

[1]Department of Anthropology, Humboldt State University, [2]Buffalo Human Evolutionary Morphology Laboratory, Department of Anthropology, University at Buffalo, [3]Department of Anthropology, Binghamton University, [4]Department of Radiology, Children's Mercy Hospital

aspects of biological profiles, i.e., estimation biological profiles, thus sometimes making profiles more complicated to complete. The to 17 years old, along with the weight reported there was a highly statistically significant relationthe femur (P<0.001, R-square =0.75-0.87), with

Strategic risk portfolios in humans: Are preferences for new between-community social relationships a function of a chronic lack of resources and existing between-community relationships?

Department of Anthropology, Washington State University

Amazon, I find that participants who were hard

Funding for this study provided by the Max Planck Institute for Evolutionary Anthropology.

An ethological investigation of the evolutionary causes and consequences of fasting in humans

Anthropology, Ball State University

proximate causes, ontogeny, fitness value, and

fitness value, and evolutionary history were coded, entered into an Excel file, and qualitatively

for the psychological and social benefits, this

however, should focus on the reproductive fitness

How much does size dimorphism in *Australopithecus afarensis* reflect changes in male or female body size?

Anthropology, University of Arkansas, Fayetteville

Australopithecus afarensis may reflect selection

contributions to size dimorphism is difficult,

to what degree dimorphism reflects changes in

size reflects an ecological optimum. The results

sex do not reflect a more complex interaction

Funded by NSF SBR 9616671

Kenyan biology teachers' experiences teaching evolution

[1]Anthropology, Smithsonian Institution, [2]Center for the Advanced Study of Human Paleobiology, George Washington University, [3]Biological Sciences, Marshall University, [4]Anthropology, New York University

of the Theory of Evolution) score of 65.71 was

This project is supported by the European Society for Evolutionary Biology and Marshall University.

Navigational demand and how it's linked to olfaction and spatial memory in primates

Sensory Morphology and Genomic Anthropology Lab, Anthropology Department, Boston University

need to move towards a specific goal over a

cation with predators and conspecifics, while

immobile diet composition, sleep site fidelity, and

R^2=0.50) and sleep site fidelity (R^2=0.47). These

How did the Neanderthal juxtamastoid eminence come into being although it does not exist?

Dept. of Anthropology, University of Zurich

defined in various and often contradicting ways. For example, Santa Luca (1978) – often cited in

The future of craniometrics in archaeology?: A focus on diversity

Archaeology, University of Sheffield

p=0.0001). In contrast, CRANID6 classified 52.5%

and medieval European reference groups, 27.1%

classifications offered by CRANID6 is limited. This

Funded by the University of Sheffield Doctoral Academy

Inter- and intra-group variation in infant transport in wild Weddell's saddleback tamarins (*Leontoebus weddelli*) in northwestern Bolivia

[1]Department of Anthropology, Northern Illinois University, [2]Department of Anthropology, Rutgers University

in infant care. The costs and benefits of allo-

Leontocebus weddell

on activity and infant transport (n=2,537 focals, n=3,074 group scans) on 175 days between

ported infants significantly more than breeding

likely benefit most from this costly behavior, but

fits. Additional research is needed to evaluate the benefits different group members receive in

This research was supported by the Leakey Foundation, a Goldberg Research Grant from the Nacey Maggioncalda Foundation, and the Primate Action Fund of Conservation International.

Hohlenstein-Stadel mitochondrial DNA and the "Middle Pleistocene Out of Africa Model"

[1]Department of Archaeogenetics, Max Planck Institute for the Science of Human History, Jena, Germany, [2]Institute for Archaeological Sciences, University of Tübingen, Tübingen, Germany

a Middle Pleistocene gene flow from Africa into

to ~270,000 years BP. Our analysis of the highly

Neandertals between 410,000 and 270,000 years

Revisiting Heterozygous Advantage for Phenylketonuria Carriers

[1]Knight Diagnostics Laboratory, Oregon Health and Science University, [2]Anthropology Department, Portland State University

PAH

cally significant features. PKU prevalence varies

in reduced fertility, fecundity, and significant

tional population specific lines of research which

the adaptive significance of and evolutionary

The making of a paleoanthropologist: The influences of Erik Trinkaus

Human Origins Program, Smithsonian Institution

Erik Trinkaus has also influenced students and

seminars and lectures at Harvard in 1975,

other fields, was central to understanding the

fields that bear on hominin evolution. Trinkaus's first and perhaps most wayward student thus

Homo

findings in each of these domains, exemplified

evolution. Among many influential aspects of

opment of international field projects and public

Activity, labor demands, and sex shape sleep patterns among Himba pastoralists

[1]Department of Anthropology, UCLA, [2]Department of Psychiatry and Biobehavioral Science, UCLA

To remedy this deficiency, we report actigra-

agropastoralists in northern Namibia. Using 721 days of actigraphy data from 75 participants, we find that this group has among the lowest

that sex and age specific patterns drive inter-individual variation and reflect differences in the

other adults show benefits to sleep duration and

This material is based upon work supported by the National Science Foundation under Grant No. (BCS-1534682)

Morphometric affinities of the Burtele hallux with implications for inferring hominin pedal grasping capabilities

Center for the Study of Human Origins (CSHO), Department of Anthropology, New York University, New York Consortium in Evolutionary Primatology (NYCEP)

The discovery of the BRT-VP-2/73 partial foot

Australopithecus afarensis.

Ardipithecus-

affinities of the Burtele first metatarsal (MT1) and first proximal phalanx (PP1) in a comparative

Ardipithecus ramidus

Au. afarensis *P. robustus*

Au. afarensis.

This research was supported by a Wenner-Gren Foundation Dissertation Fieldwork Grant.

Assessing craniofacial variation and sexual dimorphism in a skeletal sample from medieval Prussia

[1]Department of Anthropology, Humboldt State University, [2]Department of Anthropology, Binghamton University (SUNY), [3]Institute of Archaeology, University of Gdansk, [4]Department of Anthropology, Lakehead University

exhibited by a skeletal sample from Bezławki, a

able male, 3 indeterminate) crania from Bezławki.

study, there are no published findings focusing on

generate population-specific data on human

None.

The effects of diet on chewing muscle ontogeny in lemurs

Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine

fitness. In primates, diet influences the pacing of

differences might be a result of selection for effi-

assess the influence of diet on chewing muscle

We examined fiber length, mass, and physiolog- *Varecia rubra*, *Lemur catta*, *Eulemur macaco*, *Propithecus coquereli*)

considered relative to skull length. These find-

influenced dental development and masticatory

level coordination and efficiency.

This work is supported by the Duke Lemur Center Director's Fund Award to KAP.

Transmigration of impacted mandibular canines in ancient Nubia

[1]Center for Bioarchaeological Research, School of Human Evolution and Social Change, Arizona State University, [2]Department of Sociology, Anthropology, and Social Work, Texas Tech University

rates typically between 0.07 and 0.44%), and

1.67%. One example is a female, age 18-20 years,

Phylogenetic Analysis of Miocene Apes and Early Hominins Using Qualitative and Quantitative Morphological Characters

Anthropology, The Graduate Center, CUNY, New York Consortium in Evolutionary Primatology, (NYCEP)

Ardipithecus ramidus, *Ar. kadabba*, *Orrorin tugenensis* *Sahelanthropus tchadensis*

Dendropithecus, and *Ekembo* were constrained as sequential outgroups. Hylobatids were left unconstrained in order to assess the position of taxa relative to the crown hominoid node. Maximum parsimony methods were used to infer phylogeny in the program TNT. Preliminary analyses find *Morotopithecus, Afropithecus, Equatorius*, and *Nacholapithecus* to be stem hominoids. *Kenyapithecus* and most Eurasian fossil species are found to be stem hominids, while *Ouranopithecus* and *Sivapithecus* group with crown hominids. Support is found for the hominin status of *Ardipithecus, Orrorin*, and *Sahelanthropus*. A resolved phylogenetic tree is essential for inferring polarity of key features, hominid ancestral morphotypes including the *Pan-Homo* last common ancestor, and Miocene ape biogeography, which future work will address using the relationships inferred here.

Funding for this project was provided by the NSF (BA-DDRIG-1613434), Wenner-Gren Foundation (9297), The Leakey Foundation, Sigma Xi, and CUNY Doctoral Student Research Grant.

Critical ages of development: Impacts of post-natal early-life stress at the Greek colony Himera (Sicily)

MUSTAFA QUADIR[1,2], CAREY J. GARLAND[3], LAURIE J. REITSEMA[3], STEFANO VASALLO[4] and BRITNEY KYLE[5]

[1]Department of Anthropology, Beloit College, [2]Program in Biochemistry, Beloit College, [3]Department of Anthropology, University of Georgia, [4]Archaeological Heritage Section, Superintendency of Palermo, [5]Department of Anthropology, University of Northern Colorado

The Developmental Origins of Health and Disease approach posits that experiencing early-life stress impacts later-life health outcomes. This research examines how the timing and frequency of enamel micro-defects impacts mortality-risk in 60 skeletons (6^{th}-5^{th}c.BCE) at the Greek colony Himera (648-409 BCE).

Stress during dental development disrupts enamel production, creating micro-defects known as Wilson bands (WB). Enamel is layered systematically and does not remodel; therefore, stress leaves a permanent record on the dentition. This allows for a life-history approach to understanding the effects of early-life stress on mortality. In Greek culture the following childhood life-phases were defined based on cognitive development: Babyhood (approximately 0–1.99 years), Early-Preschool (2–3.99 years), and Real-Preschool (4-6 years). To examine stress during these life-phases, 60 thin-sectioned permanent canines were microscopically analyzed for evidence of WB, and stress chronologies were developed for 15 of these individuals.

At Himera, mean number of WB is 6.3 in adults (90% prevalent; n=39) and 8.2 in individuals who died as subadults (95% prevalent; n=21) [W=332.5, p=0.3]. Individuals with more defects died younger [χ^2=2.9, p=0.23] and a significant negative correlation exists between age-at-first-defect and age-at-death [p=0.03, r=-0.57]. All individuals experienced most WBs in Babyhood or Early-Preschool; no significant differences existed in mean age-at-death between individuals who experienced more stress in either of these life-phases [W=31, p=0.68]. Stress most frequently occurred between 2-3 years, likely associated with weaning. This study underscores the role bioarchaeology can play in identifying critical-periods during early-life growth and development when stress has the greatest impact on mortality.

This research was funded by National Science Foundation Research Experience for Undergraduates award numbers 1560227 and 1560158, the University of Georgia, and the University of Northern Colorado.

Using a Mouse Model to Study the Evolution of a Bipedal Trait: Characterizing the Regulatory Landscape of Muscles with Divergent MHC I Expression

SAMANTHA R. QUEENO[1], MARIEL YOUNG[2], DANIEL RICHARD[2], MATTHEW C. O'NEILL[3], TERENCE D. CAPELLINI[2,4] and KIRSTIN N. STERNER[1]

[1]Anthropology, University of Oregon, [2]Human Evolutionary Biology, Harvard University, [3]Anatomy, Midwestern University, [4]Broad Institute, MIT and Harvard

Recent research suggests that selection for more efficient bipedal locomotion has decreased relative fiber length and increased the expression of MHC I (i.e., slow twitch fibers) in human skeletal muscle over the past 7-8 million years. These traits differentiate humans from many other primates, including African apes. Across mammals the gastrocnemius and soleus muscles of the lower leg, although originating from the same somitic myotome, express divergent levels of MHC I. The soleus predominantly expresses MHC I, whereas the gastrocnemius predominantly expresses MHC II (i.e., fast twitch fibers). Here, we begin by characterizing the regulatory landscape of mouse skeletal muscle tissue to define genomic regions that shape MHC I expression. We dissected gastrocnemius and soleus tissue from three *wt* mice and isolated active genomic regions of open chromatin using ATAC-seq. We used peak calling algorithms to identify thousands of regulatory regions (i.e., open chromatin) that are conserved across 3 biological replicates for each muscle. We identified a subset of regulatory sequences unique to gastrocnemius (n= 259) or soleus function (n= 2571), and 1476 that are active in both muscles. We annotated these sequences using Genomic Regions Enrichment of Annotations Tool and found a significant association with skeletal muscle phenotypes (e.g., actin filament bundle) and disease (i.e., rhabdomyosarcoma). These loci display evidence of differential regulatory activity in soleus and gastrocnemius muscle. Open chromatin regions specific to the soleus constitute loci of potential importance to the evolution of MHC I expression in human skeletal muscle.

Selection at adenylyl cyclase genes associated with tanning response in populations of the Americas

ELLEN E. QUILLEN[1], NINA G. JABLONSKI[2] and MARK D. SHRIVER[2]

[1]Internal Medicine - Molecular Medicine, Wake Forest School of Medicine, [2]Department of Anthropology, Pennsylvania State University

Facultative, rather than constitutive, pigmentation is the primary means through which human skin interacts with the environment. A robust and persistent tan in response to intense summer ultraviolet radiation would offer protection in a seasonally variable environment and could act as a convergent adaptation to high levels of UVR in equatorial regions of the Americas.

We have recently identified several genes associated with increased tanning response and persistence among 91 Mexican Americans with indigenous American and European ancestry. Association with 2950 candidate SNPs within and upstream of KEGG-defined melanogenesis pathway genes was assessed in PLINK while controlling for basal pigmentation and biogeographic ancestry calculated in FRAPPE. All tests were treated as independent, yielding a Bonferoni-corrected α of 5.6x106. SNPs in eight genes were associated with persistence, including two members of the ubiquitous adenylyl cyclase family found on the surface of melanocytes (*ADCY8* and *ADCY9*). Associated SNP rs378200 (C > T) is an eQTL for *ADCY9* in unexposed skin based on data from the Genotype-Tissue Expression (GTEx) Consortium (p = 0.0022) with the derived allele associated with a reduction in gene expression. *ADCY9* regulates the *MC1R*-cAMP signaling pathway which plays a critical role in the regulation of melanocyte development and survival.

Our previously work indicates that selection at *ADCY9* occurred after the split between East Asian and American populations. Functional studies of adenylyl cyclases suggest that decreased expression may be associated with an increased ability to tan via similar pathways as *MC1R* variant-associated suppression of tanning response.

This work was support by a Post-PhD Research Grant to E. Quillen from The Wenner-Gren Foundation for Anthropological Research.

The Milky Ways: Studying hormones, growth factors and immune function as normal human biological variation in human milk

Anthropology, Washington University in St. Louis

Quinn's research is supported by NSF BCS #1518013

Isotopic Estimation of Diet and Water Sources at the Archaeological Site of Tumilaca la Chimba, Peru

[1]Anthropology, University of California, Riverside, [2]Anthropology, Georgia State University, [3]Morgue Central de Lima, Ministerio Publico, Peru

(N=27) from the Moquegua Valley of southern

late manifestation of Tiwanaku-affiliated culture

and mortuary practices, suggesting significant

of the Late Intermediate Period (A.D. 1250-1470).

using bone collagen ($\delta^{13}C$, $\delta^{15}N$) and bone carbonate ($\delta^{13}C$, $\delta^{18}O$)

people. In both populations, $\delta^{13}C$ and $\delta^{15}N$

C_4 plants (maize). $\delta^{15}N$

as llama and vizcacha. In addition, $\delta^{18}O$

sents the first attempt in reconstructing diet and

Diverse and distinct histories of admixture in East African Nilotic speakers

[1]Anthropology, Lehman College, [2]The New York Consortium in Evolutionary Primatology, [3]Biochemistry and Sports Science, Makerere University, [4]Pharmacy, Makerere University

data to create a working dataset with 1,587 indi-

non-African ancestry were identified by local

histories, but reflect instead significant gene flow

Funding provided by The Leakey Foundation and PSC-CUNY.

Can muscle activity be predicted from surface and internal entheseal morphology?

[1]Surgery (Division of Anatomy), University of Alberta, [2]Biology, Chatham University, [3]Center for the Advanced Study of Human Paleobiology, The George Washington University

PCSA) and histological data (e.g., fibre type)

were determined to have significant correlations

fibre type distribution with different activity and

This research was supported by the University of Alberta and Chatham University.

Socio-communicative behaviors of West African chimpanzees (*Pan troglodytes verus*) in a savanna habitat at Fongoli, Senegal

[illegible]
[1]

[1]Ecology, Evolution, and Organismal Biology, Iowa State University, [2]Anthropology, Texas State University

[illegible] *Pan troglodytes verus* [illegible] nicate with conspecifics would likely increase an individual's fitness. Additionally, the use of visual [illegible] tions, revealing social affiliations maintained [illegible]

This project was funded by the National Geographic Society Early Career Grant EC-410R-18.

Allomaternal Care by Conspecifics Influences Activity Budgets of *Colobus guereza* Mothers

[illegible]
[2]

[1]Anthropology, Rutgers University, [2]Anthropology, Hunter College, City University of New York, [3]Anthropology, New York Consortium in Evolutionary Primatology

[illegible] by conspecifics, to alleviate the burden of infant [illegible] was to determine the potential feeding benefits [illegible] *Colobus guereza* [illegible] the model (p=0.06). Activity budgets significantly [illegible] when their infants were handled by conspecifics [illegible] *Colobus guereza* [illegible]

ABC Grant for Thesis Research, Psychology Department, Hunter College; National Science Foundation, (1521528, J. Rothman)

Reconsidering human origins in light of striatal neurochemistry

[illegible]

Anthropology and School of Biomedical Sciences, Kent State University

[illegible] on this novel path long before significant brain [illegible] *Homo* [illegible]

primates. Our striatum's neurotransmitter profile [illegible]

This research was supported by National Science Foundation grants BCS-0921079 and BCS-1316829.

Locomotor ontogeny and trabecular architecture within the hands and feet of great apes

[illegible]

Division of Vertebrate Paleontology, Richard Gilder Graduate School, American Museum of Natural History

[illegible] *Pan troglodytes*, [illegible] [illegible] *Gorilla gorilla* [illegible] [illegible] *Homo sapiens* [illegible] *Pongo pygmaeus* [illegible] [illegible] *Pan* [illegible] *Homo* [illegible] *Pongo* [illegible] [illegible] *Gorilla* [illegible] of dentally-defined age groups representing [illegible] tification of trabecular alignment, was used to [illegible] [illegible] *Pan*. [illegible]

hand versus the foot. DA only showed significant

Gorilla *Homo* *Homo*

Ancient Genetic Analysis of the Northwest Alaskan Birnirk to Thule Archaeological Transition

Anthropology, University of Kansas

people, the archaeologically defined Birnirk

"Beringian-specific" haplogroups: A2a, A2b, and D4b1a2a1a. Thus far, only five Birnirk individuals

The first hypervariable segment of the mito-

North Slope of Alaska, Nunavak, Piġniq, Kugok,

identified in individuals within the Inuit tradition:

This research was supported by NSF grant #1523160 and the University of Kansas Ancient DNA Research Facility.

When did families in Kodinhi (Kerala State, India) start having unprecedented numbers of twins? Preliminary results

[1]Anthropology., University of South Florida, [2]Anthropology, Kannur University

government welcomed another scientific team

of the region. Our current sample size is n=873

2. 1940-1959: 97%-3%, 3. 1960-1979: 86%-14%,

This increase in twinning is highly significant

^{2} =

Funded by the NSF EAGER grant #1720091 and by the USF CAS Faculty Travel Grant.

Spatial autocorrelation of bone material stiffness and its implications for skeletal toughness

[1]Mechanical Engineering, Union College, [2]Anthropology, Ohio State University, [3]Anthropology, University of Florida

Macaca

(*AJPA*

mechanical benefits is not well understood, but

which can be quantified as stored strain energy.

specific localized variations in stiffness func-

Problem-solving with regard to age in Barbary macaques

Cognitive Ethology Laboratory, German Primate Center

was to investigate how age influences different

behavioral flexibility and persistence. Therefore,

Macaca sylvanus

The study was funded by the Deutsche Forschungsgemeinschaft (DFG, German Research Foundation, project number 360742713)

Population history of southern Italy during Greek colonization inferred from dental remains

[redacted]

[1]Paleoanthropology, University of Tübingen, [2]DFG Center for Advanced Studies 'Words, Bones, Genes, Tools', University of Tübingen, [3]Anthropology, University of Northern Colorado, [4]Classical Archaeology, University of Tübingen

[redacted]

to precolonial (900-700 y BC) and postcolonial periods (700-200 y BC). For both time periods, [redacted]

Bayesian classification was used to identify indi- [redacted]

disciplinary synergy between the academic fields [redacted]

This research was funded by the Gerda Henkel Foundation, by the State Ministry for Science, Research and Arts of Baden-Württemberg, Germany, and by the German Research Foundation (DFG FOR 2237).

A test of Wescott's second cervical vertebra sex estimation method on a middle-aged to senescent sample

[redacted]

Anthropology, Binghamton University, State University of New York

[redacted]

individuals by sex; correct classification occurred 76.9% of the time. In a validation study by Bethard [redacted]

the sample. Overall, function 3 classified individ- [redacted]

tion 4 correctly classifies males 30% of the time [redacted]

An award from the National Institute of Justice (2016-DN-BX-0155) supported a larger project involving the procurement of the samples used here.

A Retrospective Analysis of Qualitative Postmortem Interval Estimation in Louisiana

[redacted]

Department of Geography and Anthropology, Louisiana State University

[redacted]

files of the Louisiana State University Forensic [redacted]

PMI estimates were considered (n=79). Results [redacted]

estimated PMI for 69/79 cases (87%). Of the 10 [redacted]

Biogeography and paleoenvironments of *Paranthropus* and early *Homo*

[redacted]

Anthropology, School of World Studies, Virginia Commonwealth University

Paranthropus [redacted] *Homo* [redacted]

and space, and potentially both first appeared in [redacted]

Paranthropus in the [redacted]

Paranthropus [redacted]

[redacted] *Homo* [redacted]

likely influenced their diverging habitats.

[redacted] *Paranthropus* [redacted] *Homo* [redacted]

[redacted] *Paranthropus* [redacted]

Homo

resemblance indices of >75 eastern and southern African fossil assemblages spanning the last 7+

Paranthropus

Homo

Paranthropus *Homo* existed in significantly different ecological and

The development of male chimpanzee reproductive strategies

[1]Department of Anthropology, University of Michigan, [2]School of Human Evolution and Social Change, University of Arizona, [3]Department of Anthropology, University of Texas at Austin

conducted a 17-month study on a cohort of 20

with females and female parity influenced young

males used a combination of affiliation and sexual coercion to mate with specific females.

increased with age, while the impact of affilia-

that rank influenced paternity success only for

a combination of affiliation and aggression to

This research was supported by the National Geographic Society, the National Science Foundation (BCS-1540259; DGE-1256260), the Nacey-Maggioncalda Foundation, the Louis. B. Leakey Foundation, and the University of Michigan.

Childhood morbidity and mortality in the rising urban environments of the Industrial Era

Anthropology, University of Massachusetts, Amherst, Sociology, Criminal Justice, and Anthropology, Quinnipiac University

reflecting biological female buffering. However,

display more CO and PH, reflecting maternal

This research was funded through the Cultural Heritage in European Societies and Spaces (CHESS) Program, University of Massachusetts, Department of Anthropology, NSF grant IIA-1261172.

The impact of locomotor function and phylogeny on biomechanical neck length of the femur

Anthropology Department, Central Connecticut State University

directly compared and the conflicting conclu-

test the influence of phylogeny and locomotor

This study was funded by the Volkswagen Foundation (86 049) and a CSU-AAUP Faculty Research Grant.

Telomere length analysis from minimally invasively collected samples: promises and pitfalls

[1]Anthropology, University of Washington, [2]Center for Studies in Demography and Ecology, University of Washington

storage requirements, and increase "field-friend-

Since TL measurement is difficult and results are

blood TL, and age. Though getting sufficient DNA

r=0.48-0.72), while correlations with buccal TL were heterogeneous (two studies: r=NS-0.74).

ment is difficult and we advise against assaying

Supported by NSF BCS-1519110.

Predation at Denisova cave during the Middle Paleolithic: a story of human and beasts

[1]PACEA, cnrs, [2]Department of Anthropology, NYU, [3]IAET, Siberian Branch of the Russian Academy of Sciences

a specific place in this topic with its stratigraphy

Chambers. This paper proposes the first zooar-

tives: firstly to discuss the respective contribution

on every carnivore species different confirm their

Part of this research was funded by CemeNTAA program from the Agence Nationale de la Recherche (French National Research Agency) - ANR-14-CE31-0011 [Rendu] and by the LIA Artemir

Tracking early human migrations through the Americas

[1]Department of Archaeology, Anthropology & Forensic Science, Bournemouth University, [2]School of Natural Sciences and Psychology, Liverpool John Moores University, [3]Department of Anthropology, Santa Barbara Museum of Natural History

especially along the pacific coast and inland

collected using the definitions made my Howells

Mexican, and South American samples are ≥1kya

Evolutionary and developmental perspectives on human toe reduction

Bio-Medical Sciences, Philadelphia College of Osteopathic Medicine

and humans are distinguished by short fingers

flexors during toe-off. Finger reduction has been

then human fingers and toes should show similar

fingers and toes was collected for a large sample

Homo naledi, *Ardipithecus ramidus* *Australopithecus afarensis*

that demonstrates the remarkable specificity of

human fingers and toes evolved independently in

Support provided by NSF BCS-1638812 & IOS-1656315.

A new mouse model predicts the evolutionary effects of an ancient deletion polymorphism in the human growth hormone receptor gene

Biology, The University at Buffalo

GHR

GHR

GHRd

GHRd3

GHRd3,

GHRd3

GHRd3

of genes which are significantly enriched for

GHRd3

Examination of nutritional, endocrinal, and metabolic effects on skeletal development and maturation

Department of Sociology & Anthropology, Metropolitan State University of Denver

by over-, under-, and sufficient nutrition. It then

Spitalfields Crypt known skeletal population to

The world-wide distribution of the C677T allele of the MTHFR gene

[1]Anthropology, University of South Florida, [2]Engineering, University of South Florida

C677T allele frequencies in indigenous populations. Our sample consists of n=176 populations

there is a significant excess of TT homozygotes.

is the excess of TT homozygotes significant.

Bony labyrinth morphology of the Broken Hill, Eyasi I, and Kabua I hominin fossils

[1]DFG Center for Advanced Studies "Words, Bones, Genes, Tools", University of Tübingen, [2]Centre for Human Evolution Research, Department of Earth Sciences, Natural History Museum, London, [3]Paleoanthroplogy, Senckenberg Centre for Human Evolution and Palaeonvironment, University of Tübingen

Pleistocene Africa had in the diversification

Homo sapiens

quantify their morphological affinities in a series

Pleistocene hominins. Eyasi I exhibits affinities to

(posterior classification probability up to 94%),

Broken Hill and Kabua show more variable affin-

This study was supported by the German Research Foundation (DFG grants FOR-2237 and INST 37/706-1), the Cavella Foundation, and the Human Origins Research Fund.

Mitochondrial DNA Demonstrates the Significance of a Western Gateway in Uganda for Eastern Chimpanzee (*Pan troglodytes schweinfurthii*) Gene Flow

[1]Anthropology, Boston University, [2]Anthropology, Indiana University

location of transboundary gene flow between the eastern chimpanzee (*Pan troglodytes schweinfurthii*) stronghold of DRC, the rest of Uganda, and into Rwanda, Burundi, and Tanzania. We used mitochondrial haplotype diversity to examine gene flow between protected areas (PAs), with special attention paid to four "gateway" PAs. We sequenced a 299-bp segment spanning HV1 of the mitochondrial genome for 80 individuals sampled in Toro-Semliki and compared them to published chimpanzee sequences from both closed-forest and savanna habitats in East Africa. Of the 56 haplotypes across sites, one novel haplotype was unique to Toro-Semliki. A Mantel regression of genetic distance against geographic distance showed a significant positive correlation, suggesting relatively consistent gene flow throughout East Africa. Toro-Semliki and Itwara demonstrated close genetic similarity (Φ_{st}=0.09). An AMOVA showed that genetic variation within and between four PAs in the heart of the Western Gateway was best accounted for when Toro-Semliki and Itwara (but no other PAs) were counted as a single population, suggesting that chimpanzees range between the two reserves. The apparent high levels of gene flow between forested reserves and a savanna-mosaic habitat like Toro-Semliki raise a number of questions and concerns, both calling into question the purportedly deep distinction between "savanna" and "closed-forest" chimpanzees. These results emphasize the pivotal geographic position of protected areas along the western-most edge of Uganda for maintaining the genetic diversity of chimpanzees throughout East Africa.

Supported by Pittsburgh Zoo, American Society of Primatologists, Animal Behavior Society. At Indiana University: Center for the Integrative Study of Animal Behavior, College of Arts and Sciences, Anthropology Skomp Fund.

Comparative morphology of the Herto 16/5 juvenile cranium (Middle Awash, Ethiopia)

GARY D. RICHARDS

Biomedical Sciences, AA Dugoni School of Dentistry, University of the Pacific

In 1997 the remains of two adults and a juvenile were recovered from the Herto-Bouri locality. Radioisotopic assessments suggest an age of 160-154,000 years for this material. Initial assessments in 2003 showed clear affinities with *Homo sapiens*, making them the earliest anatomically modern humans. An in-depth comparative assessment of these fossils was completed in 2015. Here I present an overview of the morphology of the 16/5 juvenile cranium based on this assessment.

Comparative samples comprise fossil individuals (*n*=69) from a wide region of Europe and Western Asia and a recent human sample (*n*=43). Developmental ages range from 2-17 years for the fossil and 6-8 years for the recent sample. A total of 154 craniometric dimensions were taken, with ≈65 used for metric comparisons. Detailed assessments of relevant morphological features were made between the fossil and comparative samples. Some observations rely on a new virtual reconstruction and endocast.

Herto 16/5 is typical of Late Pleistocene *H. sapiens* juveniles: it has a wide upper face, weakly developed zygomatics, and a supraorbital region lacking torus/sulcus development. The midface possesses a canine fossa, and the zygomaxillary orientation is as in *H. sapiens*. It lacks the distinctive maxillary, nasal, and orbital morphology of contemporaneous Neanderthals. The cranial vault is most similar to recent human juveniles, with vertical parietal walls, developed eminences, and near equal postorbital and maximum cranial vault dimensions. Temporal morphology is mainly consistent with recent humans. In comparison to mid-Pleistocene to recent juveniles, Herto 16/5 is morphologically most similar to the latter.

The role of the precuneus in accurate long-range projectile throwing: a transcranial magnetic stimultion study

JAMES K. RILLING[1,2,3,4], LYNNET RICHEY[1], DANIEL GRAF[5], MINWOO LEE[1] and CHARLES EPSTEIN[5]

[1]Anthropology, Emory University, [2]Psychiatry and Behavioral Sciences, Emory University, [3]Center for Behavioral Neuroscience, Emory University, [4]Center for Translational Social Neuroscience, Emory University, [5]Departmemt of Neurology, Emory University

Over the last 300,000 years, the hominin skull evolved a more globular shape involving parietal bulging. Parietal bulging may reflect expansion of the underlying medial parietal lobe within a brain region called the precuneus. The precuneus is relatively larger in humans than chimpanzees. During the last 100,000 years, evidence for projectile weaponry becomes more prominent in the archeological record. The precuneus is involved in visuospatial integration skills that we hypothesize are involved in accurate long range projectile throwing. We used transcranial magnetic stimulation (TMS) to temporarily inhibit the precunues of human subjects and evaluated its impact on throwing accuracy. In a randomized, double-blind, within-subject design, 23 adult male subjects with high school or greater baseball experience threw 20 baseballs at a target both before and after either TMS or Sham treatment to the precuneus, and throws were scored for accuracy. For each subject, we compared the pre to post treatment scores across TMS and Sham conditions to generate the contrast [TMS (pre-post) – Sham (pre-post)]. The average value of this contrast across all subjects was compared with zero using a one sample t-test. Initial results show a trend for TMS to impair throwing accuracy more than Sham (p=0.15). Subsequent analyses will utilize a mixed effects regression model to account for potential confounding and moderating variables such as throwing experience, TMS stimulation intensity and treatment order. Significant effects of TMS treatment would support the possibility that precuneus expansion in recent human evolution evolved to support accurate long range projectile throwing.

Supported by a grant from the Emory University Research Committee.

How conflicting messages during pregnancy affect U.S. women's self-reported and biological stress levels

GENEVIEVE T. RITCHIE-EWING and BARBARA A. PIPERATA

Anthropology, The Ohio State University

Although stress during pregnancy increases pregnancy/birth complications, few studies have investigated cultural reasons for increased stress levels. Specifically, no studies have explored how conflicting messages pregnant women receive about "appropriate" behaviors affect self-reported and biological stress levels. To address this gap, we collected hair samples and survey responses from 23 women in early (7-13 weeks) and mid-pregnancy (21-27 weeks) and an additional 24 women in mid-pregnancy only. All participants were married, "white," of middle to upper socioeconomic status and lacked prior pregnancy-related complications to control for other potential stressors. Based on participant responses about emotional reactions to messaging, we divided our sample into two groups: participants who reported anxiety due to messaging (n=25) and participants who did not report anxiety due to messaging (n=22). To measure self-reported stress, participants completed the Perceived Stress Scale (PSS) for general stress and the Pregnancy-specific Anxiety Scale (PSA) for stress associated with pregnancy-specific concerns such as fetal health. Hair samples were analyzed for total cortisol. The group who reported messaging anxiety had significantly more general stress in mid-pregnancy (t=2.407; *p*=0.02). The same group also had significantly more pregnancy-specific stress than women in the other group, but only in early pregnancy (t=2.733; *p*=0.012). Hair cortisol levels did not differ between groups. Our results suggest conflicting messages affect women's self-reported stress, but not their cortisol levels. Our continued work explores sources of conflicting messages including how competing messages from the biomedical and natural childbirth communities affect pregnant women's self-reported and biological stress levels.

Funding for this research provided by National Science Foundation (BCS Award No. 1528292), Larsen Award (OSU Department of Anthropology), National Center for Advancing Translational Sciences (Grant UL1TR001070)

Diachronic change in the Holocene Baltic head: the effects of farmed and aquatic foods on skull and tooth morphology

[illegible] [1], GUNITA ZARIŅA[2], [illegible] [3]

[1]Department of Archaeology, University of Cambridge, [2]Institute of Latvian History, University of Latvia, [3]Department of Anthropology, University of Western Ontario

[illegible]

Our case study demonstrated how significant [illegible] vaults reconfigured to become more globular, b) [illegible] This last finding, though unanticipated, may [illegible] significantly under specific environmental, dietary [illegible]

We thank the Universiy of Cambridge and Sigma Xi Research Society for grants awarded to carry out this research.

New insight on the Neandertal pelvis: Virtual reconstruction of the pelvis of Regourdou 1 specimen

[illegible] [1], [2], [3], [4], [5], [6], VELEMÍNSKÁ [illegible] [1]

[1]UMR 5199 PACEA, University of Bordeaux, [2]Department of Anthropology and Human Genetics, Charles University, Prague, [3]Departamento Estratigrafía y Paleontología, Euskal Herriko Unibertsitatea, [4]Centro UCM-ISCIII de Investigación sobre Evolución y Comportamiento Humanos, [5]Department of Anthropology, Tulane University, New Orleans, [6]Musée national de Préhistoire, Les Eyzies

[illegible] answer to many scientific questions. We present [illegible] to find matching areas between the right ilium [illegible] on a sample of sufficiently preserved Neandertal [illegible]

Supported by Grant Agency of Charles University (10882), Irene Levi Sala Archaeological Foundation; the LabEx ANR-10-LABX-52, project „NéMo" and the project "NATCH" convention 2016-1R40240-00007349-00007350 (Région Nouvelle Aquitaine).

Understanding Heterogeneity in Urban Mortuary Behavior: Between Action and Symbolic Meaning in the Indus Age

[illegible]

Anthropology, Appalachian State University

[illegible] are reified and renegotiated and the material [illegible] a rich field for anthropological ventures. This [illegible]

This research was funded by USIEF Fulbright-Nehru Research Fellowship

Treponemal disease in Europe: A critical review of the skeletal evidence

[illegible]

Archaeology, Durham University

[illegible] able evidence, or evidence that needs verification. [illegible]

Ecological context of the South African Middle Stone Age from Sibudu, KwaZulu-Natal

Anthropology, University of South Carolina

change at Sibudu. The pre-Still Bay (> 73,000 rest of the sequence. Late and final Middle Stone however, are identified in the Sibudu record graphic changes were presumably as significant

Air travel and analyses for this project were supported by a Rust Family Foundation Grant (RFF-2017-31) to JRR.

The embodiment of social experience: How social support and workplace incivility vary with health indicators in female scientists of color

[1]Department of Anthropology, University of Illinois, Urbana-Champaign, [2]Beckman Institute for Science and Technology, University of Illinois, Urbana-Champaign, [3]Department of Sociology and African-American Studies, University of Illinois, Urbana-Champaign, [4]College of Medicine, University of Illinois, Urbana-Champaign, [5]Department of Educational Psychology, University of Illinois, Urbana-Champaign

(r=-0.207, p=0.001), friends (r=-0.133, p=0.027), and family (r=-0.178, p=0.003). Somatic symp- use (r=0.246, p<0.001). In the first GLMM, talking to partners was significantly negatively asso- p=0.017). In the second GLMM, talking with partners was significantly negatively associated with =4.007, p=0.046). Our findings highlight the positive health benefits of as a stronger influence than support from friends samples for cortisol concentrations and inflam-

Research was funded by a Beckman Institute Postdoctoral Fellowship, and an American Association of Physical Anthropologists Professional Development Award.

Effects of particle concentration and size on tooth wear

[1]Materials Science and Engineering, Universidad de Extremadura, Spain, [2]Department of Biology, Saint Michael's College, VT, [3]Materials Measurement Laboratory, National Institute of Standards and Technology, MD

in-vitro

vs.

This study was supported by Junta de Extremadura, Spain, and FEDER/ERDF funds (grant IB16139)

Superarchaic admixture confirms a deep separation of Neanderthals and Denisovans

Anthropology, University of Utah

We argued in 2017 for an early separation of confirms our earlier results that Neanderthals

This work was supported by grant BCS-638840 from the National Science Foundation.

The relationship between stress, gene methylation, and reproductive function

[1]Carl R. Woese Institute for Genomic Biology, University of Illinois, Urbana-Champaign, [2]Department of Anthropology, University of Illinois, Urbana-Champaign, [3]Beckman Institute, University of Illinois, Urbana-Champaign, [4]Institute of Public Health, Jagiellonian University Medical College, Krakow, Poland

CYP19A1

CYP19A1
CYP19A1
methylation. We first found that average follicular phase cortisol concentrations were significantly
CYP19A1
CYP19A1
CYP19A1
(β=0.30, p=0.05), and *CYP19A1*
phase E1G concentrations (β=-0.28, p=0.04).
and reproductive outcomes, this study is the first
CYP19A1

Research support provided by: NSF GRFP #DGE-1144245, NSF Clancy#1317140, NSF DDRIG Rogers#1650839 and Lee#1732117, Lewis and Clark Fund for Exploration and Field Research, and Wenner-Gren Foundation Dissertation Fieldwork Grants.

Homo heidelbergensis: what do we need to set the question of the validity of this taxon to rest

[2]

[1]Department of Anthropology, University of Winnipeg, [2]Department of Anthropology, University of Hawai'i

Homo heidelbergensis
definite conclusion in sight. Does it represent
Homo
H. sapiens

(Africa, Asia, Europe). We suggest that redefined, *H. heidelbergensis*

The work was supported by Natural Sciences and Engineering Research Council of Canada [grant no DDG-2017-00012]

Examining fluctuating asymmetry in *Macaca fascicularis*

[2],

[1]Department of Anthropology, University of Arkansas, [2]Department of Biomedical Sciences, Marquette University, [3]Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine, [4]New York Consortium in Evolutionary Primatology, Morphometrics Group

fluctuating asymmetry (FA) and its implications
ences in craniofacial fluctuating asymmetry
characterize fluctuating asymmetry in primate
Macaca fascicularis fascicularis
craniofacial fluctuating asymmetry. These data
Gorilla gorilla gorilla) and 37 chimpanzee (*Pan troglodytes troglodytes*
G. gorilla gorilla
M. fascicularis
troglodytes
troglodytes exhibits significantly less FA than
cific indicator of stress, these results could result

Further investigation into specific stressors

Funding provided by NSF BCS-1551722.

Variation in Long Bone Diaphyseal Morphology in Coastal and Inland Hunter-Gatherers from Prehistoric Alaska

Department of Sociology and Anthropology, George Mason University

may have influenced these properties. Ct-scans
five sites along the Alaskan coastline and inte-
(♂p0 ♀p
♂p < 0.001) were significantly larger among the
and MA (p < 0.011) were significantly larger in

Lifespan changes in macaque social and economic decision making

Depts. of Psychology and Anthropology, University of Michigan

ical basis and evolutionary significance of

Macaca mulatta
Macaca sylvanus
information; and exhibit deficits in the ability to
others vary across species. These findings will

This work was supported in part by NIMH (R01MH096875).

A complex genotype-phenotype map underlies the generation of genetic variation in murine molars

[1]Department of Animal Biology, University of Illinois, [2]Department of Cell Biology and Anatomy, University of Calgary, [3]Department of Anthropology, University at Stony Brook, [4]Department of Anthropology, University of Arkansas, [5]Department of Biology, Loyola University, Chicago

population genotyped for ≈ 2,400 SNPs spaced

than expected. We identified 47 quantitative trait
to be insufficient to constrain evolutionary trajec-

National Science and Engineering Council of Canada, University of Illinois Research Board, NIH (AR054224 and RR015116 to J.M.C.), and The McCaig Institute.

Facultative fatherhood? Parental and alloparental caretaking tradeoffs in Cebu, the Philippines

[1]Anthropology, Northwestern University, [2]Institute for Policy Research, Northwestern University, [3]Office of Population Studies, University of San Carlos, [4]Department of Anthropology, University of Notre Dame, [5]Eck Institute for Global Health, University of Notre Dame

a flexible assortment of caretakers that can
cared for them, and 87.7% of mothers and 83.9%
(mean=4.79, SD=2.07), incidences of paternal
lies (n=289). These findings in Cebu challenge

This study was funded by the Wenner-Gren Foundation (7356; 8186) and the National Science Foundation (BCS-0962212; BCS-1317133)

Mechanisms for avoiding sand-laden foods in a population of coastal foraging monkeys (Macaca fascicularis)

[1]Department of Anthropology, Dartmouth College, [2]Primate Research Unit, Department of Biology, Faculty of Science, Chulalongkorn University, [3]National Primate Research Center of Thailand, Chulalongkorn University, [4]Department of Anthropology, Durham University

on health and fitness. Primates perform wide
questions, we conducted field experiments on
of sand on the surface: low (mean: 0.17 mg
total, we conducted 97 trials and 854 food-han-
animals were progressively significantly more
60-90%. Taken together, our findings agree well
grit in the oral cavity can influence dental wear with potential fitness costs.

This research was supported by the Claire Garber Goodman Fund, Department of Anthropology, Dartmouth College and the Mark A. Hansen Undergraduate Research, Scholarship, and Creativity Fund, Dartmouth College.

Strain regimes in the ramus of *Macaca mulatta* estimated using finite element modeling

[1]Department of Organismal Biology and Anatomy, University of Chicago, [2]Department of Oral Biology, University of Illinois Chicago, [3]Department of Basic Science, Touro University, [4]Department of Biomedical Sciences, Texas A&M University College of Dentistry, [5]Department of Comparative Biomedical Sciences, The Royal Veterinary College, [6]Department of Anatomy and Developmental Biology, Monash University

in vivo

recordings. Our validated finite element model

Macaca mulatta

Strain regimes in the finite element model during

of fields of similarly high strains in the lingual face

Funding was provided by: CIHR MOP-4918; NIH RO1DE023816 and R24 HD050837-01; Brain Research Foundation; ERG-MACACA 267207; The University of Queensland, NSF BCS0962677.

Walking with hominins and chewing with lemurs in K-12 classrooms: Incorporating 3D digital repositories into state-specific lesson plans

[1]Evolutionary Anthropology, Duke University, [2]Department of Molecular Biomedical Sciences, North Carolina State University

for middle and high school biology. The first

The influence of anthropogenic forest edge on the social cohesion of mantled howler monkeys in Costa Rica

[1]Department of Biology, Regis University, [2]Maderas Rainforest Conservancy, [3]Department of Anthropology, Central Washington University, [4]Department of Anthropology, University of Toronto at Mississauga, [5]Department of Anthropology, University of Toronto

to predictions, there were significantly fewer indi-

significantly closer to their nearest neighbor in

Paleoclimatic legacies structure present-day mammal communities in the global tropics

[1]Department of Anthropology, University of Massachusetts Amherst, [2]Institute of Human Origins, Arizona State University, [3]Department of Biosciences, Rice University, [4]Program in Ecology and Evolution, Rice University, [5]Program in Organismic and Evolutionary Biology, University of Massachusetts Amherst

community diversity, historical influences – such as late Quaternary climate fluctuations – may

the relative influence of modern versus paleo-

This research was funded by the National Science Foundation (NSF SBE Awards 1551799 and 1551810).

Shape analysis of the pubic symphyseal outline in a modern human sample

[1]Department of Chemistry, University of Southern Maine, [2]Department of Anthropology, University of California, Davis, [3]Department of Applied Forensic Sciences, Mercyhurst University, [4]Department of Anatomy, Des Moines University

yses. Significant sex and ancestry differences

fied as White displayed a relatively longer and

significant difference between Asian and White

variation (significant R^2

The Evolution of Human Body Size and Shape

Functional Anatomy and Evolution, Johns Hopkins University School of Medicine

humans (RMA slopes of 0.46-0.47) but nega-

Australopithecus afarensis

specimens (A.L. 288-1 and A.L. 827-1) have

Au. afarensis *Ardipithecus ramidus*

Homo,

influences, including not only locomotor behavior,

Amylase copy number analysis in several mammalian lineages reveals convergent adaptive bursts shaped by diet

[1]Department of Oral Biology, University at Buffalo, [2]Department of Biological Sciences, University at Buffalo, [3]Institute of Computer Science (ICS), Foundation for Research and Technology – Hellas, Heraklion, Crete, Greece, [4]Cornell Center for Animal Resources and Education, Cornell University, [5]Center for Earth and Environmental Science, Plattsburgh State University, [6]Friedrich-Löffler-Institut, Greifswald - Insel Riems, Germany

Diet has been a significant adaptive force in

AMY

AMY

AMY

AMY

fications evolved in multiple mammalian lineages

AMY

found that copy number amplifications were a

argue that lineage-specific, convergent adaptive

Our findings underscore the overall importance of gene copy number amplification as a flexible

This study was funded by The National Science Foundation NSF Grant No. 1714867 (OG) and National Institute of Dental and Craniofacial Research grants DE019807 and DE025826 (SR).

Macaque Y-chromosome introgression: Proteomic analysis of four Y-genes between rhesus (*Macaca mulatta*)and cynomolgus (*M. fascicularis*) macaques

School of Biomedical Sciences, Department of Anthropology, Kent State University

Macaca

ABSTRACTS

Macaca mulatta
fascicularis
RBMY, XKRY,
CDY.
yses did not detect a definite signal of positive

Ateles species differences in limb bone properties, body length, and sexual dimorphism

[1]

[1]Biological Sciences, Ohio Northern University, [2]Center for Functional Anatomy and Evolution, Johns Hopkins University School of Medicine

Ateles
belzebuth, *chamek*, *hybridus*, *paniscus* *geoffroyi*.
paniscus
geoffroyi.
( )
Geoffroyi

Geoffroyi
paniscus *Geoffroyi*
geoffroyi
Hybridus
chamek
belzebuth *hybridus*
paniscus
geoffroyi
geoffroyi
belzebuth *paniscus*.

Reconstructing Mobility and Workload in Guale Populations from the Georgia Coast

[1]
[2]

[1]Center for Functional Anatomy & Evolution, Johns Hopkins University School of Medicine, [2]Department of Anthropology, The Ohio State University

(total n=178).

This research was supported by the St. Catherines Island Foundation, The Ohio State University, and Johns Hopkins University School of Medicine.

An ape partial postcranial skeleton from the Middle Miocene of Napudet, Turkana Basin, Kenya

[2]
[3]

[1]Department of Anthropology, Stony Brook University, [2]Department of Pathology and Anatomical Sciences, University of Missouri, [3]Turkana Basin Institute, Stony Brook University

Nacholapithecus *equatorius*
Nyanzapithecus,
Nacholapithecus,
Ekembo,
Morotopithecus.
Ekembo.
Nacholapithecus.

National Geographic Society, The Leakey Foundation (Gordon Getty)

Phylogenetic Affinities of Sivaladapidae within Adapoidea

Sackler Educational Laboratory for Comparative Genomics and Human Origins, American Museum

of Natural History, Department of Anthropology, Hunter College, City University of New York

fication of new species and an ever-expanding

eses surrounding the phylogenetic affinities of

adapids and any other specific adapoid family is

Mechanical stimulus vs. selection in determining enthesis morphology in mice

Pathology and Anatomical Sciences, University of Missouri School of Medicine

artificially selected for high levels of voluntary

Mineralized and unmineralized fibrocartilage

fibrocartilaginous entheses do not respond to

alized or unmineralized fibrocartilage thickness,

Support: Department of Pathology and Anatomical Sciences; MU School of Medicine

Genes, race and identity: a brief history

Genes, Evolution and Environment, University College London/BBC

entwined with scientific racism and eugenics. Francis Galton was one of the first people to

doing so, made significant contributions to the emerging fields of psychology, heredity, behav-

sterilisation and genocide; yet he spawned a field

historical figure worth revisiting.

What goes around: Mothers' birth condition influences daughters' age at first pregnancy and uterine size in the common marmoset (*Calithrix jacchus*)

[1]Women, Children, and Family Health Science, University of Illinois at Chicago, [2]Biology, Texas A&M University, San Antonio, [3]Southwest National Primate Research Center, Texas Biomedical Research Institute, [4]Barshop Institute for Longevity and Aging Studies, University of Texas Health Science Center, San Antonio, [5]Wisconsin National Primate Research Center, University of Wisconsin, Madison

Reproductive outcomes are incompletely defined

a role. We asked whether age at first reproduc-

marmosets are influenced by their mother's birth

first pregnancy (n=12) and on nulliparous adult

circumference each significantly predicted later age at first pregnancy; greater F0 (i.e. maternal) birth weight played an independent and signifi-

8 (r=0.88, p=0.05) and 10 (r=0.78, p=0.02). At

lower birth weight (r=-0.76, p=0.01); additionally,

the first time, these effects on the uterus had

Funding: "Womb to womb: Programming reproductive development in female common marmoset monkeys" (NIH 1R01HD076018; Rutherford, PI)

Germline epigenetic inheritance: Challenges and opportunities for linking paternal experience with offspring biology and health

CALEN P. RYAN[1] and CHRISTOPHER W. KUZAWA[1,2]

[1]ANTHROPOLOGY, NORTHWESTERN UNIVERSITY, [2]INSTITUTE FOR POLICY RESEARCH, NORTHWESTERN UNIVERSITY

Recently, novel experimental approaches using model organisms and advanced molecular techniques have demonstrated that a father's experiences can be transmitted through the paternal germline via epigenetic processes. These findings suggest that paternal exposures might influence phenotypic variation and health across multiple generations. However, despite support for paternal germline epigenetic inheritance (GEI) in several species, evidence in humans remains largely unconvincing. Here, we will briefly review the evidence for paternal GEI in non-human animals, and the state of evidence for similar effects in humans. Drawing on epidemiological data, molecular embryology, and reproductive biology, we will outline a framework for the study of GEI in human populations, emphasizing some of the major challenges that researchers in this area still face.

CPR funded by the Natural Sciences and Engineering Research Council of Canada (NSERC).

Near-Infrared Spectroscopy to Predict Collagen Yield

CHRISTINA M. RYDER[1], MATT SPONHEIMER[1], SAHRA TALAMO[2], HELEN FEWLASS[2], ERIN SMITH[1] and WILLIAM J. PESTLE[3]

[1]Department of Anthropology, University of Colorado, Boulder, [2]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, [3]Department of Anthropology, University of Miami

Researchers across anthropology's diverse subdisciplines use collagen, the protein component of bone, to answer an array of questions. Paleodietary studies and radiocarbon dating often use protocols dependent upon the presence of collagen. The chemical alteration of bone due to its interaction with the environment, known as diagenesis, presents a colossal problem for methods based on the organic tissue in bone. Here, we employ near-infrared spectroscopy to predict the collagen yields of unprocessed bone in a timely, cost-efficient, and non-destructive manner that can be used by researchers across anthropology and related fields. Near-infrared spectra span 780 – 2,500 nanometers and have wide and overlapping bands which require multivariate processing for chemometric analysis. We used a portable LabSpec 4 with a fiber optic probe to complete the measurements. The near-infrared device introduces a broad-spectrum light, and the absorbance pattern of the material reflects the molecular structure of chemical functional groups. Here we show, the applications of near-infrared spectroscopy to collagen preservation in 88 ground and whole bone samples dating from 1750 AD to 49 KYA. A partial least squares regression on a calibration subset (n = 44) generated an R^2 value of 0.92, and a root mean square error of prediction of 2.0%. In the validation set, 24 of 25 specimens were accurately determined to preserve over 3% collagen. We anticipate our probe to be a starting point for more complex analyses including museum-wide surveys and in-field site surveys to monitor the preservation of collagen and other proteinaceous molecules.

1. Center to Advance Research and Teaching in the Social Sciences at the University of Colorado at Boulder
2. CU Boulder Anthropology Department Graduate Student Funding

Virtual Dissection of Complex Masticatory Muscles with DiceCT

RICHARD SAAVEDRA[1], RANGER KILE[2] and RACHEL A. MENEGAZ[2]

[1]Department of Anthropology, Texas State University, [2]Center for Anatomical Sciences, University of North Texas Health Science Center

Weaning is a critical stage in the life history of altricial mammals, with far-reaching impacts on growth trajectories and survival. Post-weaning diet(s) are known to affect craniofacial skeletal morphology as well as masticatory muscle volumes, PCSA, and fiber type ratios. These muscles and their subparts can be functionally grouped into vertical elevators, protractors, and retractors. However, the extent to which these functional groups differ in their responses to dietary changes is currently underappreciated, particularly where they are difficult to isolate through traditional dissection methods. Here we use diffusible iodine-based contrast-enhanced computed tomography (diceCT) to perform digital dissections of small, complex masticatory muscles to assess the effects of longitudinal variation in diet on the growth of functional groups of these muscles.

Sprague-Dawley rats were raised from weaning to adulthood (12 weeks), and randomly sorted into hard and/or soft dietary treatment groups. Post-sacrifice, cranial tissues were fixed in 4% PFM for 36 hours and stored in 70% EA at 4□. Specimens were stained in 11.25% Lugol's solution (I_2KI) for 48 hours before microCT scanning. In 3D Slicer, muscles were manually segmented every 10 slices, the "Fill Between Slices" function was applied, and volumes were quantified. Results suggest that, contrary to our expectations, animals raised on soft diets have larger temporalis and superficial masseter muscles than those raised on hard diets. DiceCT is a promising method for soft tissue analysis that complements CT analyses of bone. Volumetric data can be obtained for small and/or complex musculature where limitations exist for traditional dissection methods.

Funding was provided by the NSF (BCS-1061368), the Wenner-Gren Foundation and the American Society of Mammalogists.

Sex differences in adrenal hormone production throughout development among Kanyawara chimpanzees (*Pan troglodytes schweinfurthii)* at Kibale National Park, Uganda

KRIS H. SABBI[1], MARTIN N. MULLER[1,4], ZARIN P. MACHANDA[2,4], EMILY OTALI[4], RICHARD W. WRANGHAM[3,4] and MELISSA EMERY THOMPSON[1,4]

[1]Anthropology, University of New Mexico, [2]Anthropology, Tufts University, [3]Human Evolutionary Biology, Harvard University, [4]Co-Director, Kibale Chimpanzee Project

Adrenal hormones including cortisol and DHEA/S mediate individuals' responses to environmental conditions through their direct effects on metabolism and behavior. They may also help regulate the coordination of brain, somatic, and behavioral development (Wudy et al. 2007, Campbell 2011). In apes, extended development is associated with adrenarche, a unique developmental stage that marks the maturation of the adrenal gland accompanied by increasing DHEA/S production. Adrenal hormones therefore represent plausible mechanisms that structure critical stages of behavioral maturation before puberty. Small cross-sectional investigations among captive individuals established that chimpanzees experience adrenarche (Cutler et al.1978, Smail 1982), but the timing and magnitude of developmental shifts in DHEA/S and cortisol have not been studied in wild populations. Here, we use noninvasively collected urine samples from chimpanzees (individuals: cortisol=76, f=48, m=28; DHEA-S=52, f=32, m=20) at Kanyawara in Kibale National Park, Uganda, between 1998 and 2017 to investigate changes in DHEA-S and cortisol production throughout development. Adrenarche, indicated by increasing DHEA-S (n=866), began prior to the typical weaning age in both sexes. Thereafter, males exhibited a steep increase in DHEA-S, plateauing in early adolescence. Female DHEA-S levels increased more gradually, continuing into adulthood. Surprisingly, cortisol (n=13,206) levels were at their minimum at approximately weaning age. Cortisol levels increased through the juvenile period, and males began exhibiting significantly higher levels than females during adolescence. Thus, social development is accompanied by

This project was supported by NIH R01-AG045395, and NSF 1355014, 9807448, and 0416125, the Wenner-Gren Foundation, Nacey P. Maggioncalda Foundation, American Philosophical Society, and the Leakey Foundation.

Correlations between low resolution pQCT and high resolution µCT scanning of trabecular bone: what are potential limits of inference from living people?

[1]Department of Biological Anthropology, University of Cambridge, [2]Department of Anthropology, Pennsylvania State University, [3]Molecular Imaging Center, Department of Radiology, Keck School of Medicine, University of Southern California, [4]Department of Geology and Paleontology, Georgian National Museum, [5]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [6]Evolutionary Studies Institute, University of the Witwatersrand, [7]Department of Anthropology, University at Albany, SUNY, [8]Department of Anthropology, Western University

age. These questions are difficult to address

significant but less strong (R^2:

(R^2=.70) and 2D Tb.Sp (R^2

RCUK/BBSRC grant BB/R01292X/1, NSF BCS-1719187, NSF BCS-1719140, European Research Council under the European Union's Seventh Framework Programme (FP/2007–2013)/ERC Grant Agreement n.617627

A haplotype-level analysis reveals adaptive polymorphic gene duplications in humans affecting pigmentation and hair morphology

Biological Sciences, University at Buffalo

tive function, metabolism, detoxification and

haplotype reaches up to 75% allele frequency

dogenes, HERC2P9, significantly lowering this

posed skin. Overall, our study provides a first look

This study is supported by MS's fund from Astellas Foundation for Research on Metabolic Disorders, Graduate Program for Leaders in Life Innovation.

Stable isotope analysis reveals nutritional impacts of anthropogenic food sources in a group of dumpster-feeding Barbary macaques (Macaca sylvanus)

Anthropology, University of Notre Dame

conflicts with humans. Because isotope compositions reflect dietary differences, stable isotope

compared δ13C and δ15N values of five groups

found significant differences in both stable

individuals (N = 146). We compared δ15N and δ13C values between groups categorized into three ecological niches, reflecting varying expo-

in and around a garbage dump. While δ13C values did not significantly differ across groups, we found significant differences in δ15N values,

reflected significantly higher δ15N values than the

influences on primate feeding ecology in specific and beneficial manners.

The Effects of Orthopedic Pathologies on the Prevalence of Hip Osteoarthritis

[1]Department of Anatomy & Neurobiology, Boston University School of Medicine, [2]Department of Anthropology, Boston University

(Kremers et al. 2015), of which 70% attribute OA

and prostheses. The proximal femora of 179

is a statistically significant relationship (p<0.000)

Funded through thesis research budget of the Forensic Anthropology Program at Boston University's School of Medicine, Department of Anatomy & Neurobiology

Skeletal growth in wild chimpanzees: urinary bone biomarkers capture age variation in bone turnover

[1]Department of Anthropology, University of Texas at Austin, [2]Ngogo Chimpanzee Project, [3]Institute of Biomedicine, University of Turku

gated growth in primates due to the difficulty of

adolescent (9–12 yrs), 11 adult (27–37 yrs), and

niles. These findings confirm that urinary bone

The Leakey Foundation, the University of Michigan, the Nacey-Maggioncalda Foundation, the National Science Foundation Doctoral Dissertation Research Improvement Grant (1540259), and the National Science Foundation Graduate Research Fellowship (F031543).

A Comparison of Gunshot Wound Trauma between Physical Crania and 3D Printed Models

Anthropology, Binghamton University

45 donated fleshed human heads with experi-

suggests that there is no significant difference

This research was supported by a grant from the National Institute of Justice: 2016-DN-BX-0155.

Biogeographic study of human gut associated crAssphage suggests impacts from industrialization and recent expansion

[1]Laboratories of Molecular Anthropolgy and Microbiome Research, University of Oklahoma, [2]Department of Microbiology and Plant Biology, University of Oklahoma, [3]Department of Anthropology, University of Oklahoma

riophage that was first discovered in human

Bacteroides

with specific human populations. Gut metagen-

de novo assembled. Of these, 755

with matches to ≥50% of crAssphage reference

phage. For these studies, we find that crAssphage

identified 33 crAssphage sequence clusters,

This study was supported by the National Institutes of Health (NIH R01 GM089886).

Exploring Provincial Interactions in the Tiwanaku State (C.E. 500-1100) Using Paleodiet Reconstruction

[1]Anthropology, University of California, San Diego, [2]Anthropology, Arizona State University

Five Omo M10 individuals had a dietary profile
M10A-7 (buried in an isolated group of tombs)
cemetery context. One hypothesis for M10A-7 is

Validation of the auricular surface method for sex estimation in non-adult human remains

[1], ÁLVARO M. MONGE
[3]

[1]Life Sciences, CIAS, University of Coimbra, Portugal, [2]Faculty of Odontology, University of Buenos Aires, Argentina, [3]IMHICIHU, CONICET, Argentina

this issue. In 2017, a new approach based on

(ICC>0.92; K>0.74). The discriminant function classified correctly 86.7% of the males and 71%
and 74.2%. The percentage of accuracy of both
76.7% for males and 80.6% for females, and the
least 76.7% of males. The method was equally
influenced by the cause of death (*e.g.*
confirms the usefulness of auricular surface

Research Centre for Anthropology and Health—UID/ANT/00283/2013—FCT

Detecting shifts in the trophic niches of sympatric Verreaux's sifaka (*Propithecus verreauxi*) and ring-tailed lemurs (*Lemur catta*) using stable isotope analyses

[1]Department of Anthropology, East Carolina University, [2]Department of Anthropology, University of Colorado, Boulder

primate dietary patterns are flexible and reflect
(*Propithecus verreauxi*)
(*Lemur catta*)
we analyzed the fecal stable carbon (δ^{13}C)
nitrogen (δ^{15}N)
sifaka (n=224), and the δ^{13}C and δ^{15}N
transformed the δ^{13}C and δ^{15}N
δ-space as a proxy of their trophic niche. The δ-space of the lemurs was large, encompassing the δ-space of the sifaka. The δ-space of each primate overlapped with the δ^{13}C and δ^{15}N
with our observations. The fecal δ^{13}C and δ^{15}N values and δ-space for each species revealed significant differences between groups, habitat,

This project was funded by the National Science Foundation (BCS 0525109).

Sensory cues related to short distance foraging choices in a nocturnal, folivorous primate

[1]Nocturnal Primate Research Group, Anthropology and Geography Department, Oxford Brookes University, [2]Faculty of Science & Engineering, School of Sciences, University of Wolverhampton, [3]Department of Anthropology, Durham University, [4]Little Fireface Project, Indonesia, [5]Departement Biologie Animale, Universitie d'Antananarivo

Avahi meridionalis
A. meridionalis.
Avahi meridionalis
in 44% of FAs. We found a significant difference
Harungana madagascariensis, *Cynometra* and *Canephora madagascariensis* (
Cynometra
Canephora madagascariensis
VOC=3.7), compared to *Harungana madagascariensis*
Avahi meridionalis
H. madagascariensis), *A. meridionalis*
(*Cynometra* *C. madagascariensis*

How to save anthropology: Lessons from primatology and human origins research

Southwest National Primate Research Center, Texas Biomedical Research Institute

overspecialization and narrow definitions

chimpanzees in fields, and rhesus monkeys on

ioral flexibility that underlies everyday primate life;

This work was funded in part by grants from the Leakey Foundation, National Science Foundation, and National Institutes of Health.

Influence of physical activity on aging and frailty in human foragers

[1]Department of Anthropology, University of Arizona, [2]Department of Evolutionary Anthropology, Duke University, [3]Department of Anthropology, University of California Los Angeles, [4]Departments of Psychology and Psychiatry, University of Arizona, [5]Evelyn F. McKnight Brain Institute, University of Arizona, [6]Neuroscience Graduate Interdisciplinary Program, University of Arizona, [7]Physiological Sciences Graduate Interdisciplinary Program, University of Arizona, [8]BIO5 Institute, University of Arizona, [9]Arizona Alzheimer's Consortium

age, but not PA, were significantly associated

p<0.001, *p<0.05*). Sex and PA level was significantly

<0.01 *<0.01*

Supported by NSF Awards 1440867 (Raichlen) and 1440671 (Wood) and the Max Planck Institute for Evolutionary Anthropology, Department of Human Behavior, Ecology, and Culture.

Violence and Geographic Fluidity: Using Incremental Strontium Isotopes to Track Geographic Residence Throughout the Life Course in Prehistoric Arequipa, Peru

[1]Archaeological Chemistry Laboratory, Arizona State University, [2]Geological Sciences, University of Florida, [3]School of Earth and Space Exploration, Arizona State University, [4]Anthropology, University of Nevada Las Vegas, [5]Archaeological Chemistry Laboratory, Arizona State University, [6]Archaeological Chemistry Laboratory, Arizona State University, [7]Anthropology, University of Florida

the impact of a period of intense violent conflict

– 700 AD); most experienced antemortem or

σ) range is 0.70818 – 0.70832 (mean = 0.70825, SD = 0.00032). All

range, and 58% (7/12) were statistical outliers. Of the non-decapitated population, 23% (11/47) fell

t =1.79, *p*

geographic fluidity predisposed men to fatal inju-

Isotope analysis was funded by Sigma Xi Grants-in-Aid, Research-in-Residence (Integrated Training for Continental Scale Ecology, NSF award #1137336), and the Nell I. Mondy Fellowship, Graduate Women in Science.

Sex differences in behavioral coordination in white-bellied spider monkeys

[1]Department of Anthropology, Sacramento State University, [2]Department of Biological Sciences, Universidad Nacional de los Andes, [3]School of Management, Universidad Nacional de los Andes, [4]Fundación Proyecto Primates, Fundación Proyecto Primates, [5]Department of Anthropology, University of Texas at Austin

assessment of the relative benefits of alternative

Ateles belzebuth

potential conflicts of interest over mutually exclu-

distances daily. The fluid association patterns

to fission into subgroups rather than requiring

intervals. We fitted generalized linear mixed-ef-

Funded by NSF (BCS 0726133, 1062540, 1638822), the L.S.B. Leakey Foundation, the Wenner-Gren Foundation, the Harry Frank Guggenheim Foundation, the National Geographic Society, and the University of Texas at Austin.

Husband, Lover, Pater, Genitor: Concurrency and Paternity in Himba Pastoralists

[1]Anthropology, UCLA, [2]Anthropology, UC Davis, [3]Ecology and Evolution, SUNY Stony Brook, [4]Analytical and Translational Genetics, Harvard Medical School, [5]Stanley Center for Psychiatric Research, Broad Institute of Harvard and MIT, [6]Human Behavior, Ecology and Culture, Max Planck Institute for Evolutionary Anthropology, [7]School of Medicine, University of Namibia

conflict with the anthropological literature, which

conflict occurs in part because the nonpaternity

benefits to women of engaging in concurrent

married couples and paternity confidence for

is 49%, significantly higher than any previously reported rate. Paternity confidence, the percent

(71% and 76% respectively). These data demon-

This material is based upon work supported by the National Science Foundation under Grant No. (BCS-1534682)

Community Outreach: Engaging the Public While Hosting a World Lemur Festival Event at Salt Lake Community College

Anthropologyg, Salt Lake Community College

or better on a modified 1-4 Likert scale). Results

Response to selection on facial coloration in *Mandrillus sphinx*

[1]Anthropology, University at Albany-SUNY, [2]Centre de Primatologie, Centre International de Recherches Médicales, [3]Anthropology, Behaviour Ecology and Evolution Research (BEER) Centre, Durham University

but this is difficult to measure in natural primate

(*Mandrillus sphin*

reproductive success (fitness) measurements

redness over 17 years. We calculate response

genetic covariance between the traits and fitness.

as fixed effects. Results show significant (alpha =

and fitness measurements in both sexes. Results

either sex that influence these patterns.

Microhaplotypes: New markers in Anthropological Genetics

[1]Forensic Science, The George Washington University, [2]Genetics, Thermo Fisher Scientific, [3]Department of Genetics, Yale University School of Medicine

Asian [N=37]).

(35.7%) (Considered to be the threshold of significance [Wright]) and none had a signifi-

0.05 (0.051- 0.278, mean 0.103)(64.3%), and 12/18 (66.7%) had significant Chi-square after Bonferroni correction (Fst =0.099 – 0.278). There were no significant differences in Fst signifi-

significant Fst 78.6% compared to 50% for the

of population affinity indicating that they maybe

Research was funded through NIJ grant 2017-DN-BX-0164

Species distribution models at different scales: Predicting the chimpanzee geographical distribution at continental and country levels

[1]Anthropology, Purdue University, [2]Département de Biologie Animale, Université Cheikh Anta Diop, [3]Anthropology, Texas State University, [4]Anthropology, University of Florida

of field surveys. Several chimpanzee niche

Pan troglodytes)

P. t. verus

diagnostics (e.g., Matthews correlation coeffi-

(MCC = 0.796), and Multilayer Perceptron (MCC = 0.79). At the smaller scale, the independent

-

diagnostic tools best reflecting modeling goals.

Funding for this research was provided by Purdue University's Department of Anthropology (SML) and College of Liberal Arts Exploratory Research in the Social Sciences Grant (EOC).

Missing identities: Identifying burned and cremated remains in bioarchaeological and forensic settings

[1]Anthropology, University of Indianapolis, [2]Anthropology, SUNY Buffalo

-

fractures via profilometry. The following archaeological case study exemplifies the value of

had significantly more warping and delamina-

Forelimb and hindlimb peak forces in *Gorilla*

[1]Evolutionary Anthropology, Duke University, [2]Department of Biology, James Madison University

Pongo *Pan*,

Gorilla

-

Gorilla

This may reflect terrestrial locomotor behavior

hindlimb reflect arboreal locomotor habits even

Research supported by the National Science Foundation Grant BCS-1517561

Intra-Population Dietary Variation at Himera

[1]Department of Anthropology, University of Michigan, Ann Arbor, MI 48109, [2]Department of Anthropology, University of Georgia, Athens, GA 30602, [3]Regional Archaeological Superintendence, Palermo, Italy, [4]Department of Anthropology, University of Northern Colorado, Greely, CO 80639

sex, osteoarthritis (OA), and stable carbon ($\delta^{13}C$

and nitrogen isotope indicators (δ[illegible]

present at two or more joints (7 male, 5 female, 1 unidentified), and 11 individuals observed to have no OA at any joint (7 male, 4 female), were isotopi-

no statistically significant isotopic differences between OA and non-OA groups (p=0.9547 for δ³ C, p=0.6085 for δ[illegible]
exhibit outlying δ³ C and δ[illegible]
no statistically significant isotopic differences between the sexes (p=1.0000 for δ³
for δ[illegible]
influenced individuals' diets at Himera, at least in
protein in religious and sacrificial contexts, with these sacrifices equalizing individuals' access to

This research was funded by National Science Foundation Research Experience for Undergraduates award numbers 1560227 and 1560158, the University of Georgia, and the University of Northern Colorado.

Absolute brain size correlates very strongly with social group size in Primates

Cognitive Science and Anthropology, Indiana University

larger brains (DeCasien et al., 2017; Powell et al., 2017). However, both exclusively analyzed rela-

allow

brains, and don't have a direct causal influence

This research was supported in part by grant 52935 from the Templeton Foundation titled: "What Drives Human Cognitive Evolution?"

Tibial torsion and patterns of metatarsal robusticity in humans: an osteometric study

[1]Anthropological Sciences, Radford University, [2]Biology, Radford University

extent to which tibial torsion actually influences

Brain size, body size, and time allocation strategies in primates

Department of Anthropology, University of Oregon

and studies (n=47 species). Using phylogenetic least squares regression, we find that resting is

locomotion (ΔBIC=26.03), and resting is much

foraging (ΔBIC=34.49). These patterns persist

expensive behaviors may influence the structure

The path to *Homo,* revisited

[1]Department of Anthropology, University of Toronto Mississauga, [2]Human Evolution Research Institute, University of Cape Town, [3]Department of Archaeology, University of Cape Town

Australopithecus *Homo*

Homo

Homo

Australopithecus
Hom

were conducted to identify the specific traits that

consistent with previous findings that a scenario

Au. africanus—Au. sediba—Homo,
Au. africanus
Homo *Au. sediba*
Au. afarensis
find that selection needs to be invoked to explain
Au. afarensis *Homo.*
Homo

Reappearance Diversity: Quantifying Musicality in Primate Vocalizations

[1]Anthropology, University of Washinton, [2]Biology, Pacific University

trill rate, consistency, repertoire size, song bout length, *complexity*

tone, interval, transposition, repetition, rhythm, *syllabic diversity*

cally defined as the expected number of syllables reappearing within a call. Specifically it is the

reappearance diversity

Historic *Treponema pallidum* genomes: Towards a reconstruction of the evolution of treponemal diseases using ancient DNA

Institute of Evolutionary Medicine, University of Zurich, Institute for Archaeological Sciences, University of Tuebingen

pallidum

Recently, the first historic *T. pallidum*
pallidum *pallidum*
T. pallidum *pertenue*

in Mexico City, operational between the 17th
T. pallidum

T. pallidum *pertenue,*

T. pallidum *T. pallidum*

T. pallidum

Periodical increase of dust load reduces chewing efficiency in forest dwelling Western chimpanzees (*Pan troglodytes verus*)

[1]Max Planck Weizmann Center for Integrative Archaeology and Anthropology, Max Planck Institute for Evolutionary Anthropology, [2]Clinic for Zoo Animals, Exotic Pets and Wildlife, Vetsuisse Faculty, University of Zuerich, [3]Department of Primatology, Max Planck Institute for Evolutionary Anthropology, [4]Taï Chimpanzee Project, Centre Suisse de Recherches Scientifiques

and chewing efficiency. While the findings of

Pan troglodytes verus)

efficiency and compared with feeding ecolog-

efficiency compared to the rest of the observa-

efficiency, the dust particles led to increased

features and a higher density of fine furrows. Our findings indicate that a periodical increase in dust

This research was founded by the Max Planck Society.

Genetic History of Los Floridanos, Florida's First Spanish Families

[1]Anthropology, University of Pennsylvania, [2]Cultural Heritage, Los Floridanos

with 127 members of the Los Floridanos commu-

Y-chromosome data also largely confirmed this

being identified, except for the Americas. In the

in particular the establishment of the first colony

This research was supported by University Research Funds and Faculty Research Funds to T,.G.S,. and by Los Floridanos.

Through thick and thin: Tooth crown strength and enamel thickness variation in apes and fossil hominins

[1]Institute of Human Origins, Arizona State University, [2]Department of Anthropology, Washington University in St. Louis

RET is significant predictor of tooth strength, and

Prf scales with significant positive allometry rela-

catory configuration and dietary ecology.

Colonial urbanism: A comparative exploration of skeletal stress in two 18th century North American French colonies

[1]Anthropology, University of New Brunswick, [2]Anthropology and Sociology, University of Southern Mississippi, [3]Fortress of Louisbourg National Historic Site, Parks Canada

along the Gulf of Mexico. Established in 1713,

French cod fishery and a military stronghold before it was destroyed in the 1760s. In contrast,

tory in the 1720s. For this research, 27 individuals

males, 3 females) from the Block 3 (1713-1723)

provides significant insight into the lived expe-

This research is supported by a SSHRC Partnership Development Grant (#890-2017-0049) (AS).

Dental morphology of fossil *Homo sapiens*

[1]Anthropology, University of Nevada Reno, [2]National Research Center on Human Evolution, Museum of Human Evolution, Burgos, Spain

The definition of the "modern dental complex" for *Homo sapiens*

H. sapiens,

and specific groove patterns; (2) traits that, with

H. sapie

Homo sapiens

Homo sapiens

Trophic shifts, diversification, and the adaptive origins of crown primates

Department of Medical Anatomical Sciences, Western University of Health Sciences

primates reflect an insectivorous ancestry. Critics

unlikely to have been a major influence on early

insectivorous lineages have diversified at a lower

analysis conducted using trait data for 307

diversification is supported, with insectivorous lineages having a lower rate of diversification

diversified more slowly than diurnal lineages. The

These findings suggest that the current distribu-

Assessment of dental microwear formation using a capuchin model: grit versus diet

[1]Anthropology, Rutgers, The State University of New Jersey, [2]Earth and Environmental Sciences, Vanderbilt University, [3]Organismal Biology & Anatomy, University of Chicago, [4]Biomedical Graduate Studies, Kansas City University of Medicine and Biosciences, [5]Anthropology, Washington University in St. Louis

ment of the relationship between specific food

scanned using white-light confocal profilometry *Sapajus nigritus*, *Sapajus libidinosus*, *Sapajus apella*, *Sapajus cay* *Cebus olivaceus*

Cebus olivaceus *Sapajus apella* *Sapajus libidinosus* *Sapajus nigritu*

Research supported by NSF awards BCS 1440541, 1627206, 1440545, and 1440542.

Resource preference of a female aye-aye (*Daubentonia madagascariensis*) in Torotorofotsy, Madagascar

[1]Conservation Genetics, Omaha's Henry Doorly Zoo and Aquarium, [2]Mention Anthropobiologie et Developpement Durable, Ecole Doctorale Sciences de la Vie et de l'Environnement, University of Antananarivo, [3]Research, Madagascar Biodiversity Partnership

(*Daubentonia madagascariensis*)

Canarium *Ravenala madagascariensis*

anarium *avenala*

flowers and invertebrates. A negative binomial regression (α=0.05) indicated that the aye-aye consumed significantly more invertebrates *Canarium* seeds overall (z=-13.79; df=47; *Ravenala* flowers. Our findings indicate that inver-

Omaha's Henry Doorly Zoo and Aquarium, Columbus Zoo and Aquarium, Primate Conservation Inc., Cleveland Metroparks Zoo, Sacramento Zoo, Margot Marsh Biodiversity Foundation, OSU Alumni Grant, OSU Larsen Research Grant

Understanding Canine Cranial Morphology: The Impact of Selection for Facial Reduction in Dogs

[1]Department of Anthropology, University of Florida, [2]Small Animal Department, University of Leipzig, [3]Department of Veterinary Clinical Sciences, Purdue University

Through artificial selection, humans have altered

anis lupus familiaris

is centered on the maxilla, specifically at the

as a result of artificial selection and highlight

Is the locomotor diversity in odd-nosed monkeys reflected in their olecranon size or orientation?

Biomedical Sciences, Georgia Campus-Philadelphia College of Osteopathic Medicine

with olecranon orientation defined as the angle

post hoc

Pongo and *Ateles*.

Presbytis the

Ateles, *Presbytis* *Piliocolobus*

Pygathrix , *Ateles*, *Presbytis*, and *Erythrocebus*

Pongo, *Nasalis*, *Mandrillus*, and *Theropithecus*.

but not orientation. Whether this reflects current

Supported by PCOM.

Investigating variation in euarchontan dental topography as a signal of dietary breadth

[1] [3] and [1]

[1]Anthropology, University of Toronto Scarborough, ON, [2]Anthropology, University of Toronto, ON, [3]Institute of Zoology, University of Veterinary Medicine, Hanover, Germany

Sympatric animals may reduce interspecific

Alouatta palliata and *Ateles geoffroyi* and *Eulemur fulvus* and *Lapalemur griseus* and *Tupaia tana* and *Tupaia gracilis* and

This research was supported by a an NSERC Discovery Grant to MTS and a Pilot Research Grant from the Department of Anthropology at the University of Toronto to KRS.

Heat increases IGF-I uptake in growth plate and perichondrium of mouse hindlimbs: Implications for human evolution

Department of Biomedical Sciences, Marshall University School of Medicine

elongation has identified multiple potential

C57BL/6 mice (N=10) were cooled (22C) or warmed (36C) and fluorescently labeled, biolog-

superficial perichondrium at 36C relative to 22C

Funding Information: National Institute of Arthritis and Musculoskeletal and Skin Diseases of the National Institutes of Health (1R15AR067451-01)

Bovid paleocommunities and *Australopithecus* environments in the lower Awash Valley, Ethiopia, from ~ 3.8-2.95 Ma

[1] [2] and [1]

[1]Institute of Human Origins, School of Human origin and Social Change, Arizona State University, Tempe AZ 85281, USA, [2]Department of Anthropology, University of Massachusetts Amherst, Amherst, MA 01003, USA

Australopithecus

three assemblages=40.7%), whereas the lower

Woranso-Mille significantly differ from those

floodbank environments and their commonness at Hadar/Dikika may reflect the persistent fluvio-lacustrine system associated with pale-

Australopithecus

varied both temporally and spatially. The latter is an important consideration when assessing regional patterns of hominin biogeography and diversity.

This research was funded by a Leakey Foundation Baldwin Fellowship and Elizabeth Harmon and Donald C. Johanson Dissertation Grants from the Institute of Human Origins to C.S.

Skeletal element independence and implications for quantification

VALERIE SGHEIZA

Anthropology, University of Illinois Urbana-Champaign

This work was undertaken to test skeletal element types for independence of recovery. This informs the accurate representation of uncertainty in existing estimators of number of individuals, such as Most Likely Number of Individuals. Calculations based on elements that have dependent recovery probability will underestimate uncertainty. Appendicular skeletal inventories were collected from two forensic and two archaeological collections of individuated remains (n = 160). Analyses were performed in R. The binary inventory file was converted to a correlation matrix of 24 left and right element types. Using eigen-decomposition, eigenvector 1 showed differences in probability of recovery, rather than relationships between elements. According to a distance matrix of standardized eigenvectors 2-5, relationships in element recovery were nonrandom with respect to anatomical position. The left and right ossa coxae grouped with each other and with the shoulder girdle. The femur and the long bones of the upper limb showed unrelated recovery between the right and left side. The lower leg and foot grouped together, including elements from opposite sides. When distance values were aggregated by side, the shortest distances were between the radius and ulna, tibia and fibula, and calcaneus and talus. These results were corroborated by cluster analysis of eigenvectors 2-5 and angular arccosine representation of correlation values. The results indicate that best results in skeletal quantification would be achieved by treating the shoulder and pelvis, upper limb and femur, and lower limb and foot as dependent units, taking particular care to avoid including anatomically adjacent elements in the same calculation.

Neandertal-Upper Paleolithic *H. sapiens* population dynamics

LAURA L. SHACKELFORD[1] and SHEELA G. ATHREYA[2]

[1]Anthropology, University of Illinois Urbana-Champaign, [2]Anthropology, Texas A&M University

In his seminal 2005 work on early modern humans, Erik Trinkaus cautioned that the question of *Homo sapiens*' origins had shifted from seeking to understand Late Pleistocene population dynamics to one of searching for evidence of gene flow in an effort to determine the "purity of living humanity." In doing so, he influenced a field-wide course correction for a generation of scholars who have reconfigured the study of Late Pleistocene hominins to be more than simply a study of "archaic" vs. "modern." Here, we share our research on early *Homo sapiens* in South and Southeast Asia to show how the study of our evolutionary history can move past questions of the purity of modern humans and address the evolutionary forces that have shaped human phylogeny during this time period. We reflect on the ambiguities inherent in interpreting human phylogeny with the perspective gained from the mentorship and wisdom that Erik has shared with us over the years. Specifically, we address the utility of moving beyond typological questions and reevaluating traditional taxonomic narratives to accommodate the increasingly complex fossil record. By abandoning an archaic vs. modern evaluation of the evolution of our species, we examine the influence of environmental dynamics on human migration and adaptation during OIS 5-3, and we consider the behavioral, chronological, and biological changes that occurred in the context of regional populations of the Late Pleistocene.

An Ethnographic Approach to Characterizing Zoonotic Disease Risk from Primate Hunting in an Indigenous Reserve in Guyana

MARISSA S. MILSTEIN[1], CHRISTOPHER A. SHAFFER[2], TIFFANY M. WOLF[1] and DOMINIC A. TRAVIS[1]

[1]Department of Veterinary Population Medicine, College of Veterinary Medicine, University of Minnesota, [2]Department of Anthropology, Grand Valley State University

Primate hunting is a particularly important interface for zoonotic disease transmission, and many highly virulent diseases have emerged through the butchery and consumption of primate bushmeat. While an increasing number of researchers have sought to understand how human behaviors influence zoonotic disease emergence from bushmeat in Africa and Asia, the topic remains little studied in Amazonia. In this study, we used an ethnographic approach characterize zoonotic disease risk from primate hunting among indigenous Waiwai in Guyana, South America. During three, 3 month study periods from 2015 to 2017, we combined structured, semi-structured, and unstructured interviews with hunter self-monitoring and participant observation to address the following research question: how does the hunting, preparation, and consumption of primates put the Waiwai at risk for acquiring zoonotic disease? The majority of Waiwai ate bushmeat 2-3 times/week and primates were among the most frequently harvested prey. Primate hunting was also integral to Waiwai identity and they exhibited a cultural aversion to meat from domestic animals. While the Waiwai engaged in several behaviors that mitigate the risk of exposure to zoonotic pathogens, including discarding entrails, avoiding the consumption of animals that appear diseased, and always thoroughly cooking meat, we also identified activities that may perpetuate disease risk. For example, individuals frequently cut themselves during butchery and village dogs often consumed discarded entrails. Our study is one of the first to focus on the association between bushmeat hunting and disease in Amazonia and demonstrates the importance of ethnographic methods for characterizing and mitigating zoonotic disease risk.

Funded by the National Geographic Society, Veterinary Pioneers in Public Health Fund of the University of Minnesota's Center for Animal Health and Food Safety, and the American Association of Physical Anthropologists

Mitochondrial DNA Analysis of M21 Xiongnu Tomb in Hulaha Valley of Mongolia

XINYUE SHAO, NAIFAN ZHANG and YAQI GUO

School of Archaeology, Jilin University

Xiongnu was an ancient nomad in North China. Xiongnu rose to great power in the 3rd century B.C. (Eastern Zhou), and began to decline in the 1st century B.C. (Eastern Han Dynasty), ruling the Mongolian Plateau for about three hundred years. The generation, existence and development of Xiongnu played an important role in the history of China, producing profound and far-reaching effects.However, the race type of the main body of Xiongnu remain in dispute.

In order to answer this question at molecular level, we performed ancient mtDNA analysis of M21 Xiongnu tomb in Hulaha Valley of Mongolia. A 393bp fragment (nucleotides 16017-16409)of the mtDNA Hypervariable Region was amplified by using two sets of overlapping primers.And to identify the gender,we used a pair of primers to amplify the AMG gene.

The results indicated that M21 belonged to the Europe Haplogroup T2a1b1. Previous studies showed that only European haplogroups U and J were found in Xiongnu, it was the first time that T was present in Xiongnu. Combined with the previous ancient DNA analysis of Xiongnu populations, we suggested that the main body of the Xiongnu belong to Mongoloid. As for the Europoid found in Xiongnu, may be absorbed into Xiongnu during the rapid expansion and the conquest of Xiongnu power.

Exploring biological anthropology content on popular science YouTube channels

Center for Human Evolutionary Studies, Anthropology, Rutgers, The State University of New Jersey

hosts >700 channels categorized as science/ - - tion-focused content in a variety of fields for a - the qualifications of the creator(s); both of these

Assessing the determinants of primate gait kinematics in an ecological and phylogenetic framework, Part II: Platyrrhine quadrupedalism

[1]Anthropology, University of Texas at Austin, [2]Anatomy and Neurobiology, Northeast Ohio Medical University

and phylogenetic influences on quadrupedal locomotor kinematics. We quantified locomotor kinematics for eleven platyrrhine species at field

indicate a strong phylogenetic signal influ- -

Research supported by NSF BCS-1640552 and BCS-1640453.

Comparing Sleep Segmentation Between Traditional and Western Populations: a Test of the Sentinel Hypothesis

[1]Institute for Health Disparities Research, University of Texas at San Antonio, [2]Department of Anthropology, University of Toronto, Mississauga

individuals (β = 0.61 and 0.5, respectively; p < a strong sentinelized sleep pattern. No significant US were found. Decreased sleep efficiency was found in the Hadza and Malagasy as well (β =

1.05; β = -0.08, p = 0.03). Although ethnic differ-

Missing anthropologists: The lack of minority representation in bioanthropology

Anthropology, University of Notre Dame

where substantive gaps in diversity influence our

Deconstructing genetic influence: evolution of the primate craniodental complex

[1]Pathology and Anatomical Sciences, University of Missouri School of Medicine, [2]Orthopaedic Surgery, University of Missouri School of Medicine, [3]Sociology and Gerontology, Miami University, [4]Human Genetics and South Texas Diabetes and Obesity Institute, University of Texas Rio Grande Valley School of Medicine

understood. Demonstration of genetic influence

aged 18-76 years. We captured numerous quan-

measures were significantly heritable ($p<0.05$). Heritability of tooth crown areas were high (~0.70

Future work will combine these findings with our

Supported by NIH R01 DE018497, and NIH R01 AI037091, NIH R01 AI044406

Urbanization and Ancient Parasitism

[1]Department of Anatomy, Seoul National University College of Medicine, [2]Department of Archaeology, The Baekje Culture Foundation, [3]Department of Parasitology, Dankook University College of Medicine

populated that there was a significantly lesser

been seriously influenced by urbanization in

This work was supported by a National Research Foundation of Korea (NRF) grant funded by the Korean government (MSIP) (NRF-2016R1A2B4015669).

SNPs discovered in European GWAS shape worldwide facial diversity

, TOMÁS GONZÁLEZ-ZARZAR[1],

[1]Anthropology, Penn State University, [2]Biology, Indiana University-Purdue University Indianapolis, [3]Electrical Engineering, Katholic University Leuven, [4]Medical Imaging Research Center, UZ Leuven, [5]Biology, Penn State University, [6]Oral Biology, University of Pittsburgh, [7]Developmental Biology, Stanford University School of Medicine, [8]Ecology and Evolution, Princeton University

European ancestry (N = 7,632) for allele frequency

population-specific ancestry consensus faces for the 1KGP population groups. We quantified

cies. We identified 53 loci (24.3%) passing the

ALX1, *FGF8*, *SIX1*, *TRPS1*.

PSU Center for Human Evolution and Diversity (CHED)

Post-mortem Birth, Death in Childbirth, or Mortuary Practices? A Case Study From Bronze Age China

[1]Department of Anthropology, University of North Carolina at Charlotte, [2]Department of Archaeology, Gansu Provincial Institute of Cultural Relics and Archaeology, [3]School of Humanities, Nanyang Technological University

and mortuary practices are difficult to inter-

to 1750-1100 BCE. In laboratory data analysis

grave. Over 75% of the female and 25% of the

This case study demonstrates the difficulty of

Morphological Analysis of Human Skeletal Remains from a Late Neolithic Dolmen, Switzerland

[1]Department of Physical Anthropology, Institute of Forensic Medicine, University of Bern, Switzerland, [2]Department of Archaeo- and Palaeogenetics, Institute for Archaeological Sciences, University of Tübingen, Germany, [3]Department of Prehistory, Institute of Archaeological Sciences, University of Bern, Switzerland, [4]Archaeological Service Bern, Switzerland, [5]Max Planck Institute for the Science of Human History, Jena, Germany, [6]Senckenberg Centre for Human Evolution and Palaeoenvironment, University of Tübingen, Germany

57% adults) with 7% children below six years height between 154-157cm. The caries intensity is 7.9% (49/618 teeth). Two occupation phases However, unspecific pathological alterations, age

This Project is funded by the Swiss National Science Foundation (CR31I3L_157024) and the Deutsche Forschungsgemeinschaft (KR4015/4-1)

Trabecular ontogeny of the mandibular condyle in callitrichids

Anatomy and Neurobiology, NEOMED

marmosets is facilitated by specific morphol-

condyles of 13 adult and 7 neonatal common *Callithrix jacchus*) *Saguinus oedipus*)

V. jacchus *S. oedipus*

C. jacchus *S. oedipus.* *C. jacchus.*

NSF BCS-0959438, BCS-0412153

A Systematic Review of Palaeoepidemiological Investigations in Neoplastic Disease

Institute of Archaeology, University College London

filling a gap in the bioarchaeological literature, lished to filter and isolate palaeoepidemiological The systematic review identified less than ten

skeletal assemblage's demographic profile, these they cover. The findings from this systematic

Chronic diseases in Amazonian populations: Socioepidemiology and biocultural perspectives

[1]Secretariat of Education of Para and Anthropology Department, SEDUC and Federal University of Para, [2]Center for Social Sciences and Education, University of the State of Pará, [3]Antropology Department, Federal University of Para, [4]Anthropology Department, Federal University of Para

adequately identified. This work analyzes the

Biological anthropology in Brazil: Past and present perspectives

Anthropology, Universidade Federal do Pará

nized field of studies since the end of the 19th
the early 1990`s, this field almost disappeared
themes related. As a holistic and dynamic field,
was inaugurated as the first training program involving the four traditional fields: Archeology,
levels specifically in Biological Anthropology.
lations, demonstrating that the field can have

Middle meningeal arteriovenous and dural sinus variation in 6-8.0 year old humans

[1]Department of Molecular and Cell Biology, University of California Berkeley, [2]Department of Integrative Biology, University of California Berkeley, [3]Department of Public Health, University of California Berkeley, [4]Department of Biology, Saint Mary's College of California, [5]Department of Biomedical Sciences, A.A. Dugoni School of Dentistry, University of the Pacific

significant need for new data and investigative
from 5.8-7.9 years. Ages derive solely from tooth calcification patterns. Meningeal and dural sinus

Funding provided by Undergraduate Opportunity Fund Grants to Isabelle Reich, Pina S. Simone, Cortney M. Connor, Chloe Lee, and Tiffany Shien.

Ontogenetic allometry in catarrhine crania: scaled variants or variance in scaling?

Anthropology, University of Oregon

a significant interaction effect between LnCS
is most influential in producing differences in
sensu stricto
Papio
Hylobates & *Symphalangus*.

This research was funded by a National Science Foundation DDRIG (BCS-1751885).

The Lower Limb of *Ardipithecus ramidus*

[1]Anatomy, Case Western Reserve University School of Medicine, [2]Earth & Environmental Sciences, University of Michigan, [3]Geosciences, University of Arizona, [4]Anthropology, Southern Connecticut State University, [5]Paleolithic Archaeology, Centro Nacional de Investigación sobre la Evolución Humana, [6]Paleolithic Archaeology, Stone Age Institute & CRAFT

Ardipithecus ramidus
and adaptations to terrestrial bipedality. The first
Ar. ramidus
Science, v. 326) lower limb identified
elongated and rigid midtarsus, dorsiflexion at the
Ardipithecus ramidus
Ar. ramidus
proximal femur and distal fibula. The Gona fossil

ABSTRACTS

Funding provided by Leakey Foundation (SS), NSF HOMINID-RHOI BCS-0321893 (T. White & C. Howell), National Geographic Society (SS, JQ), and Wenner-Gren Foundation (SS).

Experimental animal models for domestication: insights into modern human craniofacial evolution

[1]Anthropology, California State University, Sacramento, [2]Paleoanthropology, Senckenberg Center for Human Evolution & Paleoenvironment, Eberhard Karls Universität Tübingen,, [3]DFG Centre for Advanced Studies 'Words, Bones, Genes, Tools: Tracking linguistic, cultural and biological trajectories of the human past, Eberhard Karls Universität Tübingen,

three groups of rats. Results show group-specific

Supported by California State University, Sacramento, "Research and Creative Activity Faculty Grant" (2018-19); and the Deutsche Forschungsgemeinschaft (DFG INST 37/706, FOR 2237)

Household exposure to allomaternal care improves early cognitive outcomes in older female infants

School of Anthropology, University of Arizona

during May 2017-September 2018, including 27

mother. Pearson's correlation coefficients were

caregivers received cognitive benefits. Cognitive benefits were quantified by achievement of

of more successful trials of finding a hidden

significance, there were no uniform predictors of cognitive benefits across age and sex categories (*p*

Funding received from the National Science Foundation (BCS-1752542), International Chapter of the P.E.O. Sisterhood, and University of Arizona's School of Anthropology, SBSRI, GPSC, and Confluencenter for Creative Inquiry.

Impact of the 1854 cholera epidemic at the Erie County Poorhouse, Buffalo, New York

Anthropology, SUNY Buffalo

tion housed 279 inmates: 226 in the poorhouse

died (79%). In the insane residence, 19 of 20

mean length of stay in the institution was 207

city officials probably were the major factors.

Uncertainties Regarding the Physical Basis of Lamellar Bone Periodicity in Secondary Osteons Suggest that Surrogates Based on Infilling/Periodicity Should be Considered

Orthopaedics, University of Utah

However, defining 'lamellar bone periodicity' (LBP) is difficult because: 1.its physical basis is

1.layered patterns of predominant collagen fiber

However, the infilling rate of two similar-sized
infilling rate or the osteon wall thickness normal-

N/A

It's getting better all the time: A look at the contributions of G. Richard Scott to dental anthropology

Anthropology, University of Nevada, Reno

Dental anthropology has experienced significant
anthropological research. Specifically, he has
authored over 70 articles and book chapters. Specifically, his contributions to dental anthro- *The Anthropology of Modern Human Teeth*
the first president of the Alaska Anthropological
morphological research and make a significant impact to the scientific community in decades to

Archaic encounters: Retracing interactions between Neandertals and Denisovans

Department of Evolutionary Genetics, Max Planck Institute for Evolutionary Anthropology

date, nuclear DNA has been retrieved from five
"Denisova 11"
fragment identified using collagen fingerprinting,
Denisova 11

The Max Planck Society; the Max Planck Foundation (grant 31-12LMP Pääbo); the European Research Council (grant agreements No. 694707, 324139 and 715069); and the Russian Science Foundation (project No. 14-50-00036).

Comparative biomechanics of the Hominidae mandible

[1]Organismal Biology and Anatomy, University of Chicago, [2]Department of Basic Sciences, Touro University California, [3]Department of Biological Sciences, City University of New York Bronx Community College, [4]Department of Pathology and Anatomical Sciences, University of Missouri, [5]Department of Human Evolution, Max Planck Institute for Evolutionary Anthropology, [6]Institute of Human Origins, Arizona State University

Intra-and interspecific variation in the shape of
ations remain unclear. Specific shape metrics
bone strains or increase biting efficiency or
together to produce species-specific patterns of
evaluated. This study uses finite element analysis
Pan troglodytes, 8 *Pongo pygmaeus*2 *Gorilla gorilla*, 37 *Homo sapiens*
finite element models (FEMs) were constructed

This research was funded by NSF BSC 1515270

The Use of Laser Scanning Confocal Microscopy in Detecting Bone Microstructure Using Basic Fuchsin and Toluidine Blue Stains

Department of Anthropology, University of Toronto

still relatively novel in the field of human osteology.
the 10x, 20x, and 64x magnification, with an emis-

magnifications such as 64x magnification than
level magnification was better able to demon-
bone mineral, while the higher-level magnification

This project was funded by the author.

Working with Low Income Students: Ideas and concepts to create a more inclusive classroom

[1]Anthropology and Sociology, University of Southern Mississippi, [2]Anthropology, Appalachian State University

gender identities, religious affiliations, and soci-
syllabi being taught in all fields of anthropology
level significantly affects a student's chance of

The localized environment of early *Homo erectus* at East Turkana, northern Kenya

[1]The Graduate Center, City University of New York, [2]Center for Anatomy and Functional Morphology, Icahn School of Medicine at Mount Sinai, [3]New York Consortium of Evolutionary Primatology, [4]Institute of Human Origins, School of Human Evolution and Social Change, Arizona State University, [5]Department of Biology, University of North Georgia, [6]Center for the Advanced Study of Human Paleobiology, George Washington University, [7]Division of Anthropology, American Museum of Natural History

6 *Homo erectus*
solved. One of the earliest (~1.87 Ma) fossils
H. erectus
collected in 2017-2018. We calculated faunal
significant differences between faunal propor-
Results indicate a significant difference (p=

This research was supported by the National Science Foundation (IRES-OISE 1358178) and would not be possible without the support of the National Museums of Kenya.

Sociopolitical patterns in treponemal disease prevalence in the pre-Columbian eastern United States

[1]Sociology and Anthropology, Illinois State University, [2]Anthropology, State University of New York, Oneonta

applied in the identification of treponemal cases.
a firm archaeological context.

There was no independent funding for this project.

Unwinding the Triple Helix: Race, Sex, and History in Population Genomics

William H. Neukom Institute for Computational Science, Dartmouth College, Anthropology, Dartmouth College

This research was funded by the Neukom Institute for Computational Science at Dartmouth College.

Tales teeth tell: Wintertime stress, nursing, and lead exposure in Neanderthal children

[1]Australian Research Centre for Human Evolution, Griffith University, [2]Department of Environmental Medicine and Public Health, Icahn School of Medicine at Mount Sinai, [3]Forsyth Institute, Forsyth Institute, [4]Department of Human Evolutionary Biology, Harvard University, [5]Southern Cross GeoScience, Southern Cross University, [6]Department of Anthropology, New York University, [7]Department of Neuroscience, Icahn School of Medicine at Mount Sinai, [8]Research School of Earth Sciences, Australian National University, [9]Département de Préhistoire, Institut de Paleontologie Humaine

difficulty in testing these ideas is that it has not

mineralization and the fidelity of oxygen isotopes

early spring. While diagenetic modification may

naturally occurring metal sources, the quantifica-

DBS 2.0: Renewed investment in methods development of biomarkers from dried blood spots

[1]Anthropology, University of Oregon, [2]Evolutionary Anthropology, Duke University

biomarkers collected through "field-friendly"

the use of capillary whole blood from finger prick collected onto filter paper (dried blood spots [DBS]) has opened field-friendly possibilities. However, despite significant advancements in the develop-

predictions for widespread adoption unfulfilled. First, use of DBS assays requires modification

been given to addressing inter-lab variability. This

and modification, thus rebuilding the DBS foun-

NSF BCS-1638786

Shifting Spaces: short-term home range patterns in white-handed gibbons in mosaic habitat in western Thailand

Anthropology, University of North Carolina at Charlotte

Hylobates lar

range twice as large as group B (Group B: 7.04

difference was not significant (Mann-Whitney *U* *p*

appear to be habitat-specific as both groups

respond to availability of specific food resources,

Research in Thailand was supported by the American Society of Primatologists and the University of North Carolina at Charlotte.

Patterns of land use in the early urban centers of the Near East: bioarchaeological evidence

ARKADIUSZ SOŁTYSIAK

Department of Bioarchaeology, University of Warsaw

[illegible]

[illegible] century BCE, δ¹⁵N values decreased significantly, indicating a shift [illegible] growth, but also by specific environmental [illegible]

Research funded by National Science Centre (NCN), grant No. 2016/22/M/HS3/00353.

Capstone Projects: Combining Critical Thinking and Creativity

[illegible]

Anthropology, Cabrillo College

[illegible] often complete final papers or projects where [illegible] this in mind, I redesigned the final project in my [illegible]

[illegible]

T-tests, I have detected no statistically significant [illegible] SD = 0.57) with student performance on the new [illegible]

Estimation of Bullet Construction from Cranial Entrance and Exit Wound Diameters

[illegible]

Anthropology, Binghamton University

[illegible] with significance set at p=.05. Results revealed a significant difference in entrance wound diam- [illegible] indicating that bullet construction has a signifi- [illegible]

This project was supported by an award from the National Institute of Justice: 2016-DN-BX-0155.

The Use of Raman Spectroscopy to Examine Bone Composition in Infant Ribs

[illegible]

[1]Forensic Anthropology Division, Harris County Institute of Forensic Sciences, [2]Dallas County Medical Examiner Office, Southwest Institute of Forensic Sciences, [3]School of Biomedical Informatics, University of Texas Health Science Center

[illegible] $p <$ [illegible] p [illegible] significantly greater on the pleural cortex, while [illegible] $< .001$) is significantly greater [illegible] p [illegible]

Funding was provided by the Children's Justice Act - Texas Center for the Judiciary grant program (CJA-18-05).

Further insights on Late Upper Paleolithic (Epigravettian) funerary use of Arene Candide Cave (Liguria, Italy). New AMS dates and paleopathology

[illegible]

[1]UMR5199 PACEA, Univ. Bordeaux, [2]Dipartimento di Biologia, Lab. Antropologia, Università degli Studi di Firenze, [3]Soprintendenza ABAP di Parma

e Piacenza, Mibact, [4]Department of Archaeology, Durham University, UK, [5]Département d'Anthropologie, Université de Montréal, [6]Dipartimento di Biologia, Università degli Studi di Pisa

terminal Pleistocene (12,098-11,827 cal BP). This

Project BUR.P.P.H: (VSS) "Investments for the future" Program, IdEx Bordeaux, ANR-10-IDEX-03-02. Project DEN.P.H.: (ID) European Union Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant No 752626.

Using Bayes Theorem to Identify New Species in the Fossil Record

[1]Center for the Study of Human Origins and Department of Anthropology, New York University, [2]NYCEP, New York Consortium for Evolutionary Primatology, [3]Ecology, Evolution, and Environmental Biology, Columbia University

identifying species in the fossil record is difficult and debates rage about the classification

major difficulty is that researchers bring to their

difficult to understand diversity and limits sample

to be quantified and can be used with small

model using a sample of 167 extant female

using a chi-square test for goodness of fit. The expectations of the model did not differ signifi-

that the model accurately reflects the probability

Infant condition and the timing of deciduous tooth emergence in the Brazilian Amazon

[1]Anthropology, Pacific Lutheran University, Tacoma, Washington, [2]Anthropology, The Ohio State University, Columbus, Ohio, [3]Anthropology, University of Auckland, Auckland, New Zealand, [4]Anthropology, Federal University of Pará, Belém, Brazil.

influence. Studies investigating the contribution

correlated with first-tooth emergence age; 3)

correlated with first-tooth emergence age. We

we found that the first tooth was 60% more likely

a significant association between SGA and emergence timing of the first tooth (P = 0.007), with

circumference were significant predictors of age at first-tooth emergence ($P \leq 0.004$), with the likelihood of emergence increasing from 10–170% per unit gain. Our findings confirm that environmental factors play a significant role in the

to influence at various stages of development.

This work was supported by Fulbright and the National Science Foundation (1260745).

The Frequency and Distribution of Drug Research Across the American Journal of Physical Anthropology: Does Drug Use Affect Skeletal Biology?

[1]Anthropology, Michigan State University, [2]Anthropology, University of Tennessee, Knoxville

specifically as a limitation with no articles in AJPA

ABSTRACTS

Environmental predictors of *Propithecus* pelage variation

[1]Anthropology, University at Albany - SUNY, [2]The Center for the Advanced Study of Human Paleobiology (CASHP), Anthropology, The George Washington University, [3]Anthropology, University of Massachusetts Amherst, [4]Graduate Program in Organismic and Evolutionary Biology, University of Massachusetts Amherst

Eulemur

habitat-specific light levels, forming a natural

Propithecus

Propithecus

(n = 6 species), pelage variation was quantified

Propithecus

Mantel test results showed a significant positive

Propithecus

Propithecus

represent pressures for maintaining a specific

Genetic discourse and public spaces: the struggle to keep DNA from becoming race

[1]Anthropology, University of Texas at Austin, [2]Anthropology, Texas State University, [3]Anthropology, University of Connecticut

the rapid influx of genetic interpretations of the reification of races as natural and genetically

to improve scientific and public understandings

difficult task to undertake.

ment in Belize. We illustrate the difficulties we

of the incongruences between racial identifica-

Funding provided by the Wenner Gren Foundation (award 9631) and National Science Foundation (award 1826656).

Biodistance Analysis of North and South American Populations

[1]Center for Latin American Studies, Ohio State University, [2]Anthropology, Ohio State University, [3]Instituto de Arqueología y Antropología, Universidad Católica del Norte, Chile

from the literature, representing 49 series (2707

(North Americans = 0.069; East Asia = 0.077). Within South America, there is also significant

cranial morphological diversity is not reflected in

The effects of femoral metaphyseal morphology on growth plate biomechanics in juvenile apes and humans

[1]Department of Anthropology, University of California Davis, [2]Department of Bioengineering, Imperial College London, [3]Department of Anthropology, Durham University, [4]Max Planck Weizmann Center, Max Planck Institute of Evolutionary Anthropology

and apes – in humans, it is relatively flat and

three-dimensional finite element model (FEM)

modified the parameters of the FEM to create

Our model shows that during flexed-knee loading,

metaphysis is flat and planar, like a human. Our FEM confirms the hypothesis that the more

of flexed-knee locomotor behaviors.

The Wenner-Gren Foundation University of California Davis

Influence of sex, season of birth, and gestational age at delivery on growth in rural Gambian infants from birth to one year

[1]Department of Applied Mathematics, University of Colorado Boulder, [2]Institute of Behavioral Science, University of Colorado Boulder, [3]Department of Anthropology, University of Colorado Boulder, [4]Department of Pathology, University of Cambridge, [5]Department of Paediatrics, University of Cambridge School of Clinical Medicine, [6]MRC Epidemiology Unit, University of Cambridge School of Clinical Medicine, [7]MRC Unit The Gambia, London School of Hygiene and Tropical Medicine, [8]Department of Women and Children's Health, King's College London

allows flexibility for modeling local variation in

extraction of growth coefficients (size, velocity,

correlations between SITAR coefficients and

(F=63, M=76)). SITAR models illustrate notable

Across all groups, the SITAR size coefficient is significantly correlated with infant weight for age

with nonsignificant and more variable correla-

a significant predictor of weight tempo (R^2=0.87, ^{2}=0.79, P=0.0017). Infants

Funded by the Bill and Melinda Gates Foundation (OPP1066932)

Migration into Egypt during the Second Intermediate Period

Dept of Archaeology, Anthropology, and Forensic Sciences, Bournemouth University

= 71) from Tell el-Dab'a. Faunal

An influx of non-locals can be observed in the

discuss our findings against the current evidence

This project receives funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation program (grant agreement No 668640).

A novel composite evolutionary approach reveals *SPRR3* gene in the epidermal differentiation complex as a target of balancing selection in humans

Biological Sciences, University at Buffalo

tiation complex. Our approach identified specific

(*SPRR*)

haplotype is linked to autoimmune and inflamma-

multiple late-cornified envelope genes. This work

National Science Foundation. Grant Number: 1714867

The Developmental Origins of Health and Disease: Early Life Health Conditions and Adult Age at Death in Europe

[1]Economics and Anthropology, Ohio State University, [2]Archaeology, University of Durham

PH. Results confirm overall that poorer health in

studies using height confirm the hypothesis. The earlier death is statistically significant and large.

This research was funded by the National Science Foundation; by the German Science Foundation; and the Bank of Sweden Tercentenary Foundation

Species-Specific Scale Responses to Habitat Loss in a Nocturnal Lemur

[1]Conservation, Planet Madagascar, [2]Anthropology, University of Toronto

incorporates species-specific scale responses *Cheirogaleus medius* *C. medius* *C. medius* *C. medius* *C. medius* *medius* *C. medius*

Sigma Xi, American Society of Primatology, Calgary and Edmonton Valley Zoos, The Explorers Club, the University of Toronto School of Graduate Studies, and the Natural Sciences and Engineering Research Council.

Occurrence of flame retardants, legacy and current use pesticides in primate habitat throughout Kibale National Park, Uganda

[1]Anthropology, Indiana University, [2]School of Public and Environmental Affairs, Indiana University, [3]Primate Environmental Endocrinology Laboratory, Indiana University

7.4 pg/m^3

Funding for this project was provided by Indiana University.

Trabecular patterning in the human skeleton: vertebral, humeral, femoral, and tibial variation

[1]Department of Anthropology, Penn State University, University Park, PA 16802, USA, [2]Department of Archaeology, Cambridge University, Cambridge, CB1 3DZ, UK, [3]Molecular Imaging Center, Department of Radiology, Keck School of Medicine, University of Southern California, Los Angeles, CA 90033, USA, [4]Department of Geology and Paleontology, Georgian National Museum, 0105 Tbilisi, Georgia, [5]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, Los Angeles, CA 90033, USA, [6]Evolutionary Studies Institute, University of the Witwatersrand, Wits2050 Johannesburg, South Africa, [7]Department of Anthropology, University at Albany, SUNY, Albany, NY12222, USA, [8]Department of Anthropology, Western University, London, ON N6A 3K7, Canada

entire trabecular volume was quantified using DA between groups found significant differences

Funding: NSF BCS-1719187, NSF BCS-1719140 RCUK/ BBSRC grant BB/R01292X/1

Biological Distance and Burial Practice: An Investigation of the Perry site (1LU25)

Anthropology, University of Alabama

and its influence on death and burial as it is seen
-
ships will influence burial placement and practice
-
dentition (n =790) were examined to record their
Coefficient, the genetic relationships present in
revealing Mississippian burial practice reflected

Identifying and Interpreting Unexpected Spatial Patterns of Bioarchaeological Data Using Geographic Information Systems

[1]Teaching & Learning Transformation Center, University of Maryland, [2]Department of Anthropology, University of Maryland, [3]Department of Anthropology, The Ohio State University

-
-
of these findings. GIS analyses, supplemented
Pieve di Pava
Pieve di Pava
-
Pieve di Pava
-
-
-

suggesting areas of significance behind the
additional questions are identified.

Embodied Cultural Identity in Late Bronze Age Central Greece

Anthropology, University of Tennessee

significant source of biocultural information,
result, the defining attributes of Mycenaean
ical correlates of the archaeologically defined
with a compiled MNI of 178. I use a contextual-
cific indicators of disease, activity markers, and
-
-
with fighting styles in Mycenaean Greece, illus-

This research was funded by a U.S. Student Fulbright, the Archaeological Institute of America, the University of Tennessee, and the Wiener Laboratory in Athens, Greece.

Quantifying error in virtual data collection: the impact of MSCT scan segmentation protocol and inter-observer error in 3-D landmark placement on the human subadult pelvis

[1]Department of Exercise Science, High Point University, [2]Department of Anthropology, University of Nevada, Reno, [3]Department of Anatomy, Des Moines University, [4]Department of Anatomy, University of Pretoria, [5]Forensic Anthropology Program, Washburn University

-
Health Sciences Center, Office of the Medical
each performed four trials on a fifth individual.
0.13-0.78mm (mean=0.33mm), with an average deviation of 0.17mm between model vertices;
deviation and variance at specific anatomical
-
at individual landmarks ranges from 0.9-7.4mm;
significantly more variation among individuals
p=0.27).

This work was funded by the National Institute of Justice grants 2015-DN-BX-K409 and 2017-DN-BX-K0144.

Exploring population origins and dispersals using ancient DNA at Chelechol ra Orrak, Palau

[redacted]

[1]Department of Anthropology, University of Oregon, [2]Department of Anthropology, University of Kansas, [3]Museum of Natural and Cultural History, University of Oregon

[redacted]
of the earliest settlers in the Pacific. As such, [redacted]
Island Southeast Asian origins (e.g., M7b1a2a). [redacted]
further refined population affinities. Together, [redacted]
ness between other ancient Pacific Island and [redacted]

This research was supported by a Wenner Gren Foundation Dissertation Fieldwork grant (Gr. 9104), the Edna English Foundation for Archaeological Research, and the University of Oregon Global Studies Institute.

The Urban Environment of a Neighborhood in Teotihuacan, Mexico

[redacted]

[1]Comparative Cultural Studies, University of Houston, [2]Anthropology, The Pennsylvania State University

[redacted]
defined was the Tlajinga district on the southern [redacted]
The urban environment was influenced by wealth [redacted]

Funding by the National Science Foundation under Grant No. BCS-13212447 and BCS-1321232 (biogeochemical analysis), and Tlajinga 33 by the National Science Foundation (BNS 80-05825, BNS 80-05754, and BNS 82-04862).

Climate Change and Invisible Suffering: Transgenerational Impacts of Traumatic Maternal Experiences of Extreme Drought

[redacted]

[1]Anthropology & Intercultural Studies Institute, Western Michigan University, [2]Anthropology, University of North Carolina Chapel Hill, [3]School of Public Health, University of Michigan, [4]Institute of Anthropology, Gender, and African Studies, University of Nairobi, [5]Psychology, Western Michigan University, [6]Statistics, Western Michigan University

[redacted]
findings of an ongoing, same-sex sibling epige- [redacted]
N to date = 75 mothers; 75 sibling [redacted]
bors (p = .0276 for combined trauma score). This [redacted]

This research was funded by National Science Foundation Award #1728743, "A Bio-Cultural Investigation of Intergenerational Epigenetic Mechanisms" (Bilinda Straight, PI) and Western Michigan University FRACAA.

Placing the Denisovans in human evolution

[redacted]

Centre for Human Evolution Research, The Natural History Museum, London

[redacted]

Research support: The Calleva Foundation and the Human Origins Research Fund, Natural History Museum London

Comparison of eight- and four-muscle model for assessment of upper limb muscle activity during cereal grinding

SLÁDEK

Department of Anthropology and Human Genetics, Charles University

muscle activity of four muscles assuming it sufficiently reflected the humeral loading pattern. We

significantly higher for rotary quern grinding than

Features of Decomposition from an Accidental Burial with a Defined Postmortem Interval in a Northern Latitude State

C.A. Pound Human Identification Lab, University of Florida

extends to 70-80 inches (177-203 cm), placing

sented by mummified remnants. Preservation

No funding aside from institutional salary was accepted for this research.

Do abrasion and attrition leave the same trace? A microscopic tooth wear study on chimpanzee molar wear facets

[1]Max Planck Weizmann Center for Integrative Archaeology and Anthropology, Max Planck Institute for Evolutionary Anthropology, [2]Department of Primatology, Max Planck Institute for Evolutionary Anthropology, [3]Taï Chimpanzee Project, CSRS, Abidjan, Ivory Coast, [4]Department of Palaeoanthropology, Senckenberg Research Institute Frankfurt am Main, [5]Department of Paleobiology and Environment, Institute of Ecology, Evolution, and Diversity, Goethe University Frankfurt

compared the microtexture of five wear facets (abrasion and attrition) within first (M1) and

Pan troglodytes verus

population-specific and intra-individual variation.

lower M1s showed no significant differentiation

and lower M2s in Taï and lower M2s in Liberia

not influenced by facet type, as evidenced by both

Exploring the relationship between dental development, population variation, and environment

[1]Anthropology, University of Nevada, Reno, [2]Anatomy, University of Pretoria, South Africa, [3]Psychology, University of Nevada, Reno

under stronger genetic control and less influenced

current study attempts to quantify the influence

sex from Colombia (n=57), France (n=240), the

Development Index (HDI) and the Gini coefficient,

stage. The indicators, country-specific economic

Significant population differences existed in
displayed the same slope but significantly different intercepts. The HDI, Gini coefficient, and
not significant in the models. Results suggest
proximate and ultimate factors influencing dental
tification is involved.

This project was funded as part of the National Institute of Justice (NIJ 2017-DN-BX-0144) and the National Science Foundation (NSF BCS-1551913)

Assessing the Prevalence and Distribution of Antimicrobial Resistance at the Human-Wildlife Interface in Rural Uganda

[1]Department of Anthropology, University of Illinois at Urbana Champaign, [2]Department of Animal Biology, University of Illinois at Urbana Champaign, [3]The Woese Institute for Genomic Biology, University of Illinois at Urbana Champaign, [4]Department of Pathobiology, University of Illinois at Urbana Champaign, [5]The Kanyanchu River Research Collaborative, Kibale National Park, Uganda

samples of 7 species of wild primates (chim-
more AMR genes than wild animals. Specifically,
exposure (tourists and field workers) and/or
AMR genes were also identified in these diverse

Funding: The Bill and Melinda Gates Foundation, NIH R01TW011182-01, NSF BCS-1441409, and The University of Illinois.

Mid-Pliocene paleoenvironment of Woranso-Mille (Ethiopia): implications for hominin diversity and *Australopithecus* paleoecology

[1]Department of Paleobotany and Paleoecology, Cleveland Museum of Natural History, [2]Department of Physical Anthropology, Cleveland Museum of Natural History

3.3 and 3.8 Ma. Significant mid-Pliocene hominin
Australopithecus afarensis,
6 *Australopithecus deyiremeda*.
times, with riparian woodland and floodplain
Australopithecus

Research at Woranso-Mille was funded by The Leakey Foundation, National Geographic Society, Cleveland Museum of Natural History, and National Science Foundation (BCS-0234320, BCS-0321893, BCS-0542037, BCS-1124705, BCS-1124713, BCS-1124716, BCS-1125157, and BCS-1125345)

The use of biomarkers to answer questions about the evolution of mind and behavior: Integrating human biology, human behavioral ecology, and evolutionary psychology

Department of Anthropology, University of Oregon

field research. Other areas of research, such as
and would benefit from using minimally invasive methods to replicate findings in the field. We
rated biomarkers but would benefit from doing

The effect of the alpha-actinin 3 (ACTN3) R577X polymorphism and mtDNA on energy expenditure in modern humans

[1]Evolutionary Anthropology, Duke University, [2]Department of Anthropology, The Graduate Center, [3]New York Consortium in Evolutionary Primatology, NYCEP, [4]Public Health Sciences, Loyola University Chicago, [5]Department of Anthropology, Hunter College

ACTN3

R577X polymorphism of *ACTN3*,
muscle fibers, influences athletic ability. Here we
ACTN3
of adult humans from five populations (n=211
ACTN3 , and n=117 haplotyped
a significant relationship between *ACTN3*
exhibiting higher REE (+117 kcal/day) compared
haplogroups L1, L3, and L4 produced signifi-
variants have a significant influence on metabolic

Funding for this study was provided in part by the NYCEP IGERT grant (NSF-0966166).

A population perspective on the co-localization of trace elements in archaeological bone

[1]Anthropology and Biological Sciences, MacEwan University, [2]Anthropology, Lakehead University, [3]n/a, Canadian Light Source, [4]n/a, National Parks Antigua, [5]Archaeology and Anthropology, University of Saskatchewan, [6]Anatomy, Physiology and Pharmacology, University of Saskatchewan

Through the identification of the spatial distri-
strontium. With synchrotron X-ray fluorescence
the Royal Naval Hospital cemetery (1793-1822)

fied on the perimeter of the samples. These data

This research was supported by a Social Sciences and Humanities Research Council (SSHRC) Insight Grant (#430-2014-1796)

Tooth be told: A preliminary investigation of dental morphological variation among medieval Polish Populations

[1]Anthropology, University of Nevada, Reno, [2]Anthropology, Polish Academy of Sciences, [3]Archaeology, Polish Institute of Archaeology and Ethnology

on two-hundred individuals from five medieval sites. Medieval population affinities were
strate that Stręgoborzyce, Gubin, and Pawłow are more similar to each other than to Płonsk
that dental morphological variation is significantly correlated (r=0.787397; p-value=0.027)

This project was made possible through the support provided by the Kosciuszko Foundation, Polish Academy of Sciences, Polish Institute of Archaeology and Ethnology, and the University of Nevada, Reno.

Scapula shape and altitude in eastern gorillas (*Gorilla beringei*)

Department of Biology, Saint Mary's College of California

Gorilla beringei
of the gorilla scapula that are predicted to reflect

We collected 17 3D landmarks from the scapulae
G. b. graueri (n=17),
G. b. graueri
G. b. beringei
G. b. graueri,
tion among fossil hominoid scapulae may reflect

Wenner-Gren Foundation, Leakey Foundation, Sigma Xi, City University of New York, New York Consortium in Evolutionary Primatology, Saint Mary's College Faculty Research Grant and School of Science Summer Research Program

Homeotic transformation of the human vertebral column – more global than local

ROBERT G. TAGUE

Geography and Anthropology, Louisiana State University

Individual *Hox* genes have a delimited domain of influence on the vertebral column. This study considers correlates with posterior and anterior homeotic transformation at the lumbar-sacral boundary in humans, resulting in 23 and 25 presacral vertebrae (PSV), respectively; modal PSV is 24. Skeletons of females and males between ages 20 and 49 years, listed as "black" or "white," with seven cervical and 12 thoracic vertebrae from the Hamann-Todd, Robert Terry, and William Bass Collections are used. Individuals with 23, 24, and 25 PSV are compared for four variables: number of sacral vertebrae (n=940) and ratios for lengths of the posterior tubercles of 5th and 6th cervical vertebrae (C5/C6; n=245), 1st and 2nd ribs (rib 1/rib 2; n=139), and 11th and 12th ribs (rib 11/rib 12; n=326). Statistical tests are ANOVA, Fisher's exact, and Student's t. Results show that the sex/ethnic groups do not differ significantly for the four variables, so all groups are combined for analysis. Individuals with 23, 24, and 25 PSV differ significantly for all four variables. Partition analysis shows the following significant differences: (1) number of sacral vertebrae, all paired comparisons of 23, 24, and 25 PSV; (2) C5/C6, 23 PSV > 25 PSV; (3) rib 1/rib 2, 23 PSV < 24 and 25 PSV; and (4) rib 11/rib 12, 23 PSV > 24 PSV > 25 PSV. Results suggest that homeotic transformation at the lumbar-sacral boundary is not a local phenomenon, but is part of more global transformation from neck to sacrum.

A Case of Maternal and Perinatal Death in the Spring and Autumn Period in Jinnan region of China

TAO HAN, SEN YOU, SUNZIFENG RUAN, XINGYU MAN, XUEZHU LIAO, ANQI WANG and SHIYU YANG

Archaeology, Jinlin University

While historical documents indicate that cases of maternal and fetal death during delivery ware very common in past populations, but few pregnant female burials have been reported. In this paper, a case is presented from China.The skeletal remains of the pregnant woman comes from the North Tao Si cemetery, which is located in the northeast of Xiangfen county, Shanxi Province. The cemetery was a "state tomb" of the Jin State. Large and medium-sized tomb owners should be nobles enfeoffed here by Jin State. 2016M1 is a large stone tomb, with 6.5×5.4×10 meters in size. Many bronze and jade wares were unearthed. The material reported here comes from this tomb, and it was in the late spring and Autumn period (about 600-500 BC). The adult individual was buried in a back supine position. Most of the skeletal parts are rotten. Sex and age were determined according to skeletal morphological traits, which suggests a female individual about 30 years old. The infant bones were in the maternal pelvic area, which was mostly destroyed due to stone extrusion, presented in an apparent head position. The infant's gestational age is about 8 months according to long bones measurements.This paper describes and analyses arguably the first clear instance of the noble burial of a pregnant female in China. Report of this case can contribute to our knowledge of the reproductive age and challenges when pregnancy and childbirth of young females in the noble of ancient China.

Tympanic dehiscence: Its prevalence and expression in Pacific Northwest Native crania

GUY L. TASA

Department of Archaeology and Historic Preservation, Washington State Historic Preservation Office

A tympanic dehiscence (foramen tympanicum or foramen of Huschke) forms during normal post-natal development of the anterior-inferior wall of the external auditory canal. The dehiscence usually closes by 5 years of age, but the persistence of a dehiscence into adulthood is an anatomic variant commonly investigated in studies of cranial non-metric variation. The aim of the present study was to evaluate the frequency and expression of tympanic dehiscence in Native American crania from the Pacific Northwest (n=279) and to assess the known worldwide distribution of the trait.

The overall incidence of the trait in adult Native crania from the Pacific Northwest is 31.5%, with the occurrence in adult females (38.7%) being significantly higher ($p<0.05$, Pearson's χ^2) than in males (25.0%). Occurrence of the trait in adults is predominantly bilateral (75.4%) and with no side predilection in unilateral occurrences. No significant differences were found between adult crania with artificial cranial modification (28/93, 30.1%) and those without (40/133; 30.1%). However, looking at modification type among adults, crania with Cowichan-style modification exhibited double the incidence (33.3%, 24/72) over those with Chinook-style (16.7%, 4/24). Incidence of the trait across age categories lends support to the position that the generally accepted timing for the normal closure of the dehiscence is erroneous.

An Archaeogenomic Investigation of Consanguinity During the Neolithic Transition

RECEP O. TASKENT[1], AREV P. SUMER[3], DILEK KOPTEKIN[2], MUSTAFA OZKAN[2], FRANCISCO C. CEBALLOS[4], OMER GOKCUMEN[1] and MEHMET SOMEL[2]

[1]Department of Biological Sciences, SUNY at Buffalo, [2]Department of Biological Sciences, Middle East Technical University, Ankara, Turkey, [3]Department of Ecology and Genetics, Uppsala University, Sweden, [4]Sydney Brenner Institute for Molecular Bioscience, University of the Witwatersrand, Johannesburg, South Africa

The Neolithic Transition in West Eurasia led to an unprecedented increase in the human population size, greater mobility of humans as well as intense exchange of cultural practices. Sedentism and small-scale agriculture started in the Fertile Crescent by the early Holocene and spread to Anatolia in the ninth millennium BCE and eventually to Europe in the following millennia. Recent studies on ancient genomes from this era indicated that the Neolithic Transition involved major demographic shifts, with increasing population movements, admixture, and consequent rise in genetic diversity over time. However, another type of demographic shift, consanguineous mating, has yet to be extensively investigated. Modern forager societies are known to exhibit consanguineous mating practices more rarely than small-scale agricultural societies, and Paleolithic foragers may have had similarly low levels of inbreeding, leading to the question whether consanguineous mating practices could have spread after the advent of agriculture and private property. We previously showed that ancient genomes from European Mesolithic, Anatolian and European Neolithic exhibited different length distributions of runs of homozygosity indicating distinctive population histories as well as social structures within those populations. In this study, we aim to extend this work by inferring demographic traditions of early Holocene West Eurasian human populations. To this end, we are performing forward-time simulations to replicate all possible scenarios where population level processes such as bottlenecks and varying levels of consanguinity act together on human populations. Our results provide new insight into one of the major demographic shifts accompanying the Neolithic Transition in West Eurasia.

Fiber-type phenotype of the anterior superficial masseter in African apes: A preliminary test of the frequent recruitment hypothesis

ANDREA B. TAYLOR[1], MADISON WEST[1] and MEGAN HOLMES[2]

[1]Basic Science, Touro University, [2]Community and Family Medicine, Duke University

The frequent recruitment hypothesis states that vertebrates that engage in chewing with high frequency will have jaw adductors that express a high proportion of type 1 (high endurance, low tension cost) fibers at the expense of other fiber types. When fruit is scarce, *Gorilla gorilla* resort

G. gorilla
Pan troglodytes.
tion of MyHC-1/α-cardiac fibers. As an initial test
ficial masseter (ASM) of two *G. gorilla*
P. troglodyes
paniscus
lin-fixed muscle block were stained with primary antibodies against MyHC-1 (NOQ7.5.4D), MyHC α-cardiac (MYH6), MyHC-2 (MY-32) and MyHC-M (2F4). The percentage of fibers that reacted with type 1 (slow) antibodies (NOQ7.5.4D or MYH6) of African ape ASM fibers expressed MyHC α-cardiac and, similar to papionins, their ASM fibers a finely graded continuum of contractile proper-

This work was supported by NSF BCS 1719743.

An Analysis of Modified and Processed Human Bone Artifacts from Late Prehistoric (AD 700 – 1500) Southern Texas

Sociology & Anthropology, Georgia Southern University

A number of modified human bone artifacts from various Late Prehistoric (AD 700 – 1500)
A total of 29 modified bones from four archae-
artifacts were classified (when possible) by age,
modified bones represent adults and two repre-
defleshing. One adult humerus had been fash-
michichahuaztli
marks, were compared with non-human modified

None

Dental microwear in laboratory primates: Insights into the complexity of dental microwear formation

[1]Basic Science, Touro University, California, [2]Organismal Biology and Anatomy, University of Chicago, [3]Department of Anthropology, University of Arkansas, [4]Department of Anatomy and Neurobiology, Northeast Ohio Medical University

[*Sapajus apella*]
laced with specific amounts of aluminum silicate
detected. These findings suggest that the impact

Funding was provided by National Science Foundation (NSF-BCS-1440542) and the American Association of Physical Anthropologists Cobb Professional Development Program.

The cost of survival: the contextual analysis of adaptive plasticity and constraint in human skeletal and dental remains

Anthropology, George Mason University

stress in the early life environment. The first study finds that linear enamel hypoplasia are frequently
opmental context such as age-at-first-defect
growth ($p < 0.254$) or survivorship (χ^2
$p < 0.521$; $\chi^2 = 0.796$; $p < 0.372$) at future ages
the life course ($\chi^2 = 3.93$, $p < 0.048$; χ^2
0.003; $\chi^2 = 5.74$, $p < 0.017$). Finally, non-surviving
full adult height. This may reflect a faster rate of
earlier maturation. Overall, these findings suggest

Japan Society for the Promotion of Science (07012); National Science Foundation (BCS 1044950)

Developmental origins of health disparities: Early life adversity and DNA methylation in childhood

[1]Anthropology, Dartmouth College, [2]School of Population Health, University of Auckland

ABCA

ABCA1

Funding for provided by the New Zealand Government and managed by the Ministry of Social Development.

Genetic Astrology

Research Department of Genetics, Evolution and Environment, University College London

coverage and public interest. Its scientific base is in the fields of population and evolutionary genetics, and it has benefitted considerably from

There is a considerable body of scientific

publications on inferring the ancestry of specific

questioned the scientific validity of some popu-

Here I will outline some scientific and ethical

No

Early environments and the development of the human microbiome: implications for growth and health

Anthropology, University of North Carolina at Chapel Hill

ically over the first years of life in response to

conditions to influence the long-term trajectory of

and Ecuadorian infants and children (n=176),

A multi-method approach to evaluate the presence of non-local individuals at the prehistoric Schild site in western Illinois

[1]Department of Medical Education, University of Cincinnati, [2]Illinois State Archaeological Survey, Prairie Research Institute, University of Illinois Champaign-Urbana, [3]Department of Anthropology, University of North Carolina-Chapel Hill, [4]Department of Anthropology, Indiana University, Bloomington

Identification of non-local individuals in a prehis-

were plotted with confidence ellipses and those

grated, 9/14 of individuals identified as non-local

75% range of the dental metric data. In contrast, only 2/14 individuals identified as local based on

3-D kinematics, kinetics, and EMG of knuckle-walking in chimpanzees

[1]Department of Anatomy, New York Institute of Technology College of Osteopathic Medicine, [2]Department of Integrative Anatomical Sciences, Keck School of Medicine, University of Southern California, [3]Human and Evolutionary Biology Section, Department of Biological Sciences, University of Southern California, [4]Department of Anatomical Sciences, Stony Brook University School of Medicine

is difficult to evaluate hypotheses regarding the

Pan troglodytes) *Macaca mulatta*). We quantified

flexors and extensors.

extension at the wrist was 17±10° for chimpanzee KW, 26±7° for macaque digitigrady, and

activity of the flexor carpi radialis at touchdown

This research is funded by the National Science Foundation Grants SMA 1719432, BCS 0935321, BCS 1126790.

Investigating interannual and seasonal variation in sifaka diet in Tsinjoarivo, Madagascar

[1]Anthropology, Northern Illinois University, [2]Zoology and Animal Biodiversity, University of Antananarivo, Antananarivo, Madagascar, [3]Division of Research, SADABE

(Propithecus diadema)

(2003, 2006, 2007, 2009, 2014; 2-4 groups/year)

confirm previously-documented shifts between high frugivory and high leaf/flower consumption

seed, flowers, foliage), coefficient of variation of

the high-frugivory (52-76%) abundant seasons,

(4-45%), flowers (4-44%), and foliage (33-85%)

is seen in specific food items (particular part of

top lean season foods were leaves and flowers

Bakerella clavata

dietary flexibility.

Insulin and Energetic Regulation of Skeletal Growth

[1]Human Evolutionary Biology, Harvard University, [2]Department of Immunology, Tufts University School of Medicine

db/db

mice with C57BL/6J controls under two different

dietary conditions at 12 weeks significantly

Health inequality as seen in human skeletal remains in early modern period in Japan

[1]Graduate School of Integrated Sciences for Global Society, Kyushu University, [2]Faculty of Social and Cultural Studies, Kyushu University, [3]Department of Anthropology, University of Montana

This study focuses on the influence of early life

and 2) are there significant sex-specific differ-

samurai class, results show significantly reduced

This work was supported by JSPS KAKENHI Grant Number 17J04347.

The Evolution of TLR7 and TLR8 in Yellow Fever Virus Endemic Areas

Anthropology, University of Utah

(Alouatta guariba clamitans) *(Alouatta caraya)*

receptor 7 (TLR) and TLR8 immune evolution in

humans. TLR7 and TLR8 are innate immune

Alouatta

were collected and the exons of TLR7 and TLR8

clade. While TLR7 is under much stronger puri-

A. guariba clamitans

A. guariba clamitans

caraya

TLR7 and TLR8 in human populations living in

Why Do We Farm? The Effect of Climate Change and Risk on the North American Foraging-Farming Transition

OTÁROLA-CASTILLO
Anthropology, Purdue University

in human fitness occurs during the transition
significant because foraging was the predom-
significant effects of intra-annual temperature seasonality (F = 1.5557; p = 0.0296) and intra-an-
combined with vector fitting visualized the dietary
influenced subsistence behavior by increasing

Contributions by MGT were supported in part by the National Science Foundation Graduate Research Fellowship Program (Grant No. 106469).

Analysis of 3D Reconstruction Methods in Computed Tomography Research

[1]Department of Anthropology, University of Illinois at Chicago, [2]Department of Anthropology, Field Museum of Natural History

tions. It can be difficult to distinguish between
data from mummified tissue as if it were living
medical and forensic research. These fields have benefitted from more standardized reporting
currently in use in forensic and medical fields
Period (~AD 600-1476). The human remains

Diet in the northern highlands of Ecuador during the Formative Period (3500 – 500 BC): Insights from bone collagen stable carbon and nitrogen isotope analysis

Anthropology, University of Alberta

we report the results of the first isotopic study

play a significant role. This nuances our under-

3D geometric morphometric analyses of the human torso morphology reveal new understandings about the torso integration in primates

[1]Paleobiology Department, Museo Nacional de Ciencias Naturales (MNCN-CSIC), [2]Department of Human Anatomy and Physiology, Faculty of Health Sciences, University of Johannesburg (South Africa), [3]Faculty of Medicine, Bar-Ilan University (Israel), [4]Center for the Study of Human Origins, Department of Anthropology, New York University, [5]Department of Radiology, Hospital de La Ribera (Spain), [6]CT and MRI Unit, ERESA, Department of Radiology, General University Hospital (Spain), [7]Department of Anatomy and Human Embryology, University of Valencia (Spain)

is an important factor influencing the human
eral width at 7th 9 th
on each torso model, and we quantified torso

H. sapiens
findings question some assumptions derived

Acknowledgements: This research is funded by CGL-2015-63648-P (Ministry of Economy, Industry and Competitiveness, Spain)

The ASUDAS and fossil hominin teeth: categorical success with qualification(s)

Anthropology and Archaeology Subject Group, Liverpool John Moores University

analyzing fossil hominins—some of it justified—
to abandon or improve it. This presentation finds
techniques, ASUDAS data yield interspecific affin-
and others, 78 traits are compared phenetically
Australopithecus afarensis, A. africanus, Paranthropus boisei, P. robustus, Homo habilis, H. erectus, H. naledi, d *H. sapiens*
nin'-specific by some are included to 'improve' classification among Plio-Pleistocene species.
66 ASUDAS traits. The 77- and 66-trait distance
(*p*=0.000), so inter-sample affinities are basi-
established interspecific variation. Thus: 1)
and 2) these same affinities are obtainable using

National Science Foundation (BNS-9013942, BCS-0840674) and Liverpool John Moores University, plus workshops through National Geographic Committee for Research & Exploration (to L Berger) and Wenner-Gren (L Delezene and M Skinner).

Fragmentation as a function of cyclical work between immature and mature leaves

Anthropology, University of Florida

experiment. Immature leaves showed signifi-
2
(*P < 0.05*), but there was no signifi-
P > 0.05
P > 0.05)

Secular trends in cardiovascular and metabolic health among the Indigenous Shuar of Amazonian Ecuador

[1]Department of Anthropology, Northern Arizona University, [2]Department of Anthropology, Queens College (CUNY), [3]Department of Evolutionary Anthropology, Duke University, [4]Department of Anthropology, University of Colorado, Colorado Springs, [5]Department of Anthropology, Dartmouth College, [6]Department of Anthropology, University of Oregon, [7]Department of Psychology, Boston College, [8]Department of Anthropology, Washington State University, [9]Department of Anthropology, Yale University

SHLHP, resulting in 10 years (2007–2017) of
p

Support: Hooper Undergraduate Research Award, Northern Arizona University; National Science Foundation (#BCS-1650674, BCS-1341165, BCS-0824602, BCS-0925910, GRF-2011109300); Ryoichi Sasakawa Young Leaders Fellowship Fund; Wenner-Gren Foundation for Anthropological Research; University of Oregon.

Female northern pig-tailed macaques (*Macaca leonina*) are more attracted to males with darker red anogenital coloration

[1]ANTHROPOLOGY, SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE, [2]BIOLOGY, CHULALONGKORN UNIVERSITY, BANGKOK, [3]NATIONAL PRIMATE RESEARCH CENTER OF THAILAND, CHULALONGKORN UNIVERSITY, SARABURI, [4]CENTER FOR ECOLOGY, SOUTHERN ILLINOIS UNIVERSITY, CARBONDALE

Macaca leonina)

quantified with color analysis software following

color under field conditions. Males' anogenital

The project was funded with grants from the 2015 Graduate and Professional Student Research Awards, Southern Illinois University Carbondale, U.S.A., and Chulalongkorn University, Bangkok, Thailand.

Back-breaking poverty: Schmorl's nodes in institutionalized and impoverished populations in the late 19th and early 20th century United States

Liberal Arts & Sciences, SUNY Delhi

site, status, or sex were statistically significant

Schmorl's nodes than females (p=.0475) and

Poor Farm Cemetery (p=.02) were at a signifi-

The Alumni Grant for Graduate Research and Scholarship and the Coca-Cola Critical Difference for Women Grant for Research on Women, Gender, and Gender Equity, both via The Ohio State University.

Collecting Biomarkers of Chronic Diseases of Ageing in Field Settings

[1]School of Human Evolution and Social Change, Arizona State University, [2]Center for Evolution and Medicine, Arizona State University, [3]Economic Science Institute, Chapman University, [4]Integrative Anthropological Sciences, University of California Santa Barbara, [5]Anthropology, Institute For Advanced Study in Toulouse

field settings without electricity or running water

nearly all methods are field friendly with the

biochemical analyses from n=8,575 individuals.

NIH/NIA RF1AG054442

Paleoenvironmental context of early *Homo sapiens* from the Kibish Formation, southern Ethiopia: evidence from bovid ecomorphology and abundance

[1]Department of Biology, Case Western Reserve University, [2]Department of Anthropology, University of Massachusetts Amherst, [3]Paleoanthropology and Paleoenvironment Program, Addis Ababa University, [4]Department of Anatomical Sciences, Stony Brook University

Homo sapiens.

marked by major climatic fluctuations, though

from the

=17) shows
edaphic grasslands. Significant numbers of *Madoqua*
humans first appear in the region, with a transi-
~ 104 ka. Our findings suggest that early *Homo sapiens*

The Paleontological Scientific Trust (PAST, South Africa) supported this research.

Stress in Greek Mother Cities and Colonies

Anthropology & History, St. John's University, New York

(χ^2p=2.2e-16). These findings indicate that life

This research was funded by National Science Foundation Research Experience for Undergraduates award numbers 1560227 and 1560158, the University of Georgia, and the University of Northern Colorado.

Socioecological correlates of epigenetic variation in nonhuman primates

[1]Evolutionary Anthropology, Duke University, [2]Biology, Duke University, [3]Psychology, University of Washington, [4]Medicine, University of Chicago, [5]Lewis-Sigler Institute for Integrative Genomics, Princeton University, [6]Anthropology, New York University, [7]Human Genome Sequencing Center, Baylor College of Medicine, [8]Yerkes National Primate Research Center, Emory University

tion factors and defines the potential targets of
species. Specifically, in the baboon genus *Papio*,
(756,262 CpG sites; n=39) mirror species-level
(n=69), we find that resource quality/abundance
Thus, our findings support the idea that epig-

This research was funded by the National Institutes of Health, the National Science Foundation, and the Leakey Foundation.

Elevated activity levels do not influence extrinsic fiber attachment morphology on the surface of muscle-attachment sites

[1]Department of Anthropology, George Washington University, [2]Max Planck Weizmann Center for Integrative Archaeology and Anthropology, Max Planck Institute for Evolutionary Anthropology, [3]School of Osteopathic Medicine, Campbell University, [4]Department of Anatomy, Midwestern University

Extrinsic fibers (EFs) are a type of penetrating collagenous fiber that help anchor soft tissue into
and, specifically, from muscle attachment sites
of the fibrocartilaginous insertion of the biceps
forearm flexion, using an experimental mouse
regimes over 78 days prior to sacrifice: control
climbing) had no significant effect on the quantity (*p*
their size (e.g., EF area (μm): *p*
not necessarily influence enthesis morphology;

Research performed at the Weizmann Center for Integrative Archaeology and Anthropology and the George Washington University, funded by a National Science Foundation Doctoral Dissertation Improvement Grant to Cassandra Turcotte (#1650933).

Royal Estates and Commoner Foods: Reconstructing Diet among Servants in the Inka Imperial Heartland

[3]

[1]Department of Anthropology, Georgia State University, [2]Oficina por Arqueología, Ministerio de Cultura del Perú, [3]Department of Anthropology, University of California Riverside

anaqas

and riverine fish, (2) almost no change in diets

tion, but lower mean δ^{13}C

δ^{15}N

This study is funded by the National Science Foundation (BCS-1359595, PI: Turner). Samples were exported and analyzed with permission from the Ministerio de Cultura del Perú (Expedientes Nº 9216-2016 & 0000015618-2017)

Comparative Analysis of the Health of Free Blacks in the Northeast, South and Southwest

Anthropology, Ohio State University

Dallas Texas (n=1,157), available in the Western

lence of skeletal trauma in all sites (FAB = 3.27%;

isons). The remaining markers show significant

CG (28.57% and 20.51%) than on the other two sites (FAB: 1.92% and 3.28%; FC (13.75% and

(62.42%) than on FAB (20.26%) or FC (67.79%).

Impact of socioeconomic status on breastfeeding initiation and duration

Anthropology, SUNY Albany

opmental benefits of breastfeeding are well

max=38). There was a significant difference in

2% at the 12-month visit. A statistically signifi-

have a statistically significant impact on breastfeeding initiation or duration. These findings

Incomplete (or completely missing) skeletal collections as the result of excavation and curation practices

Sociology, Criminal Justice, and Anthropology, Quinnipiac University

(2) Specific questions related to prehistory will be discussed with specific examples from

crania (but only 80 femora and 7 clavicles) from

reflect a sample of people from the site, and

Comparison of Musculoskeletal Disorders Associated with Diabetes in Three North American Historical Human Skeletal Collections

Anthropology, Indiana University

This project was funded in part by Indiana University David C. Skomp Summer Research Feasibility Fellowships.

A deformation-based geometric morphometric analysis of the vestibular apparatus in the Miocene apes *Hispanopithecus laietanus* and *Rudapithecus hungaricus*

[1]Institut Català de Paleontologia Miquel Crusafont-Paleoprimatology and Human Paleontology, Universitat Autònoma de Barcelona, [2]Laboratoire PACEA, UMR 5199 CNRS, Université de Bordeaux, [3]Department of Anthropology, University of Toronto, [4]Division of Anthropology, American Museum of Natural History, [5]New York Consortium of Evolutionary Primatology, (NYCEP), [6]Laboratoire AMIS, UMR 5288 CNRS, Université de Toulouse, [7]Institució Catalana de Recerca i Estudis Avançats, (ICREA), [8]Unitat d'Antropologia (Departament de Biologia Animal, Biologia Vegetal i Ecologia), Universitat Autònoma de Barcelona

Funded by the Generalitat de Catalunya (CERCA Programme) and the Agencia Estatal de Investigación (BES-2015-071318, CGL2016-76431-P and CGL2017-82654-P, AEI/FEDER EU), French CNRS, and performed using HPC resources from CALMIP (2018-P1440)

Minimally invasive biomarkers in evolutionary anthropology: Tools for understanding human variation, adaptation, and developmental plasticity

Evolutionary Anthropology, Duke University

National Science Foundation (SMA-1606852; BCS-1340958; DGE-1144152); Czech Science Foundation (13-25602P)

The chemical signature of weaning: comparing the trace element concentration of captive lowland gorilla breast milk (*Gorilla gorilla*) and wild mountain gorilla (*Gorilla beringei beringei*) plant foods

[1]Center for the Advanced Study of Human Paleobiology, The George Washington University, [2]Research and Conservation, Dian Fossey Gorilla Fund International, [3]Department of Tourism and Conservation, Rwanda Development Board, [4]Nutrition Laboratory, Smithsonian National Zoological Park

(*Gorilla beringei beringei*
Gorilla gorilla;
significantly lower in Ba (t (47) = 3.65, p < 0.001), Sr (t (47) = 4.28, p < 0.0001), and Ca (t (47) = 4.60,
but calcium normalized Ba (Ba/Ca; t (47.04) = 8.24, p < 0.00001) and Sr ratios (Sr/Ca; t (49.76) = 19.66, p < 0.00001) were significantly higher in
results suggest that biopurification (the differen-
filters"), bioavailability, and trace element concen-

The Leakey Foundation; The Wenner-Gren Foundation; The George Washington University; National Science Foundation (BCS 1751608, 1520221), Nacey Maggioncalda Foundation

The Blood Microbiome of Human and Non-Human Primates

[1]Anthropology, University of Illinois at Urbana-Champaign, [2]Carl Woese Institute for Genomic Biology, University of Illinois at Urbana-Champaign

indicators of non-specific stress.

Funding Citation: University of Illinois at Urbana-Champaign, Department of Anthropology; Franklin Mosher Baldwin Memorial Fellowships, Leakey Foundation (Award # 0888118, ID # 214236).

Childhood growth, cessation, and recovery: Links between lines of growth arrest and bone quantity

[1]Department of Anthropology, University of Missouri, [2]Department of Anthropology, University of Missouri

due to episodes of stress, there has been difficulty linking lines to specific metabolic insults,
the product of regular hormonal fluctuation

This project was supported by the University of Missouri-Columbia College of Arts and Science Undergraduate Research Mentorship Program.

Virtual Reality Evolutionary Anatomy Lab (VREAL): Virtual lab spaces for instruction and collaboration

[1]Anthropology, Wellesley College, [2]Knapp Center, Wellesley College

to systematically examine the efficacy of VR
2017-2018 academic year, this application was
size modification, superimposition). Qualitative

Grit in unexpected places: The prevalence of grit in the diets of robust capuchin species

[1]Department of Anthropology, Washington University in Saint Louis, [2]Neotropical Primates Research Group, [3]Biodiversity and Conservarion, Federal University of Maranhão, [4]Department of Psychology, University of Georgia, [5]Department of Experimental Psychology, University of São Paulo, [6]Organismal Biology and Anatomy, University of

Chicago, [7]Department of Anthropology, Rutgers University, [8]Department of Anatomy, Kansas City University of Medicine & Biosciences, [9]Department of Biomedical Sciences, University of Missouri-Kansas City

led to their classification as fallback hard object

such surface complexity may reflect not just

Sapajus libidinosus

Sapajus nigritus

troscopy confirmed the presence of quartz in our

This research was supported by grants from the National Science Foundation (NSF-BCS-1440541, NSF-BCS-1440542, NSF-BCS-1440545, NSF-BCS-1627206).

Micro-sampling tooth dentine for stable carbon and nitrogen isotope analysis: early life dietary analysis of prehistoric hunter-gatherers around Lake Baikal, Siberia

[1]Anthropology, University of Alberta, [2]History, Irkutsk State University, [3]Institute of Archaeology and Ethnography, Siberian Branch of the Russian Academy of Sciences, [4]LAMPEA, Aix-Marseille University

This research was made possible by the Baikal Archaeology Project, University of Alberta; SSHRC (MCRI grants Nos. 410-2000-1000, 412-2005-1004 and 412-2011-1001); and AMIDEX, Aix-Marseille University.

Effect of sampling bias in endocast volume comparisons between Neandertals and recent modern humans

[1]Department of Anatomy, A.T. Still University of Health Sciences, [2]Evolutionary Studies Institute, University of the Witwatersrand, [3]Anthropology Department, Vassar College

in others. These findings indicate that it is not

Should I stay or should I go? Assessing residential mobility in Bronze Age Switzerland through the isotopic evidence

[1]Department of Archaeology, University of Durham, [2]Department F.-A. Forel for Environmental and aquatic sciences, University of Geneva, [3]Aix Marseille Univ, CNRS, Minist Culture & Com, LAMPEA, [4]Institut d'Archéologie, Espace Paul Vouga, Hauterive, University of Neuchâtel

and final BA. Therefore, in a scenario of relative

This research was funded by the Fyssen Foundation, the Schmidheiny Foundation, the Boninchi Foundation and the University of Geneva.

I see, you smell: interspecific variation in sensory use for fruit evaluation among sympatric New World monkeys

[1]Anthropology, University of Texas at Austin, [2]Human Science, Kyushu University, [3]Anthropology & Archaeology, University of Calgary, [4]Instituto de Neuroetología, Universidad Veracruzana, [5]Psychology, Adams State University, [6]Integrative Biosciences, University of Tokyo, [7]Medical Genetics, University of Calgary

between sympatric species can influence niche

Ateles geoffroyi, Alouatta palliata, Cebus capucinus

Platyrrhine species significantly influenced vari- (p=0.017), smell (p=0.007), and touch (p *Cebus* *Alouatta* *Ateles*, *Ateles* *Cebus* *Alouatta*, *Cebus>Ateles>Alouatta*)

p

Intraspecific analyses of the polymorphic species revealed that color vision phenotype influenced *Cebus* *Ateles*.

Ateles

The Effects of Soundscape on the Prairie Madness Phenomenon

[1]Anthropology, Binghamton University, [2]Ciencias de la Vida, Universidad de Alcalá

tivities, specifically a spike in sensitivity which

The behavioral ecology of grit avoidance in gelada monkeys

[1]Institute for Advanced Study in Toulouse, Toulouse School of Economics, [2]Department of Anthropology, California State University Fullerton

tial exogenous grit). Specifically, we studied

measured possible social influences on the ability

Shoulder morphology and substrate use in extant cercopithecoid monkeys

[1]Integrative Life Sciences, Virginia Commonwealth University, [2]Anthropology, School of World Studies, Virginia Commonwealth University, [3]Department of Biology, Virginia Commonwealth University

Substrate use in Old World monkeys is reflected

identified through analysis of shape variation

specifically that of the proximal humerus, can

variably influence the morphology of the proximal

Through introgressed DNA, a single genome contains the story of many populations

Department of Evolutionary Genetics, Max Planck Institute for Evolutionary Anthropology

tures such as f4 statistics, but identifying specific

fied Denisovan and Neandertal DNA in 1523

specific introgressed DNA fragments in either

Max Planck Society; the Max Planck Foundation (31-12LMP Pääbo to S.Pä.); the European Research Council (694707, 324139, 715069); Russian Science Foundation (14-50-00036 to M.B.K., M.V.S. and A.P.D.).

A bioarchaeology of care case study: Possible Juvenile Rheumatoid Arthritis from 14th-15th century Transylvania

[1]Department of Anthropology, University of South Florida, [2]Department of Archaeology, Haáz Rezső Múzeum, [3]Department of Archaeology, Archaeo Tek-Canada

a set of human remains, identified as GR-13, were

The Late Middle Pleistocene fossils from Montmaurin (Haute-Garonne, France). A contribution to the question of the emergence of the Neandertal lineage

[1]Homme&environement, National Museum of Natural History, [2]Anthropology, Centro nacional de Investigacion sobre la Evolucion Humana, [3]EA7367 - IML, Lille university, [4]EA4490 - PMOI, Lille university

H. heidelbergensis).

). The latter is not as inflexed as

bilevel nasal floor.

co-existed in parallel with the first Neandertals.

Spectrum of Neandertal introgression across modern-day humans indicates multiple episodes of human-Neandertal interbreeding

Institute for Genomics and Evolutionary Medicine, Temple University

fit the empirical data and instead favor a model of multiple episodes of gene flow into both findings indicate more long-term, complex inter-

This work was supported by NIH grant R35 GM124745

An evolutionary model for the origins of temporal discounting in humans and non-human animals

[1]Anthropology, University of Nevada Las Vegas, [2]., University of California, [3]Department of Anthropology and Museum Studies, Central Washington University

term benefits is well known in disciplines that

We use the model of a fitness landscape to

for natural selection to favor delayed gratification.

favor delayed gratification if it requires passing

The empirical evidence of a relationship between entheseal changes and past human behaviors: Some examples and counterexamples, focusing on the upper limb

UMR PACEA, CNRS

and should thus reflect the right-hand domi-

recorded for four fibrocartilaginous entheses on

left and right radii and significantly higher for the

significant role in the occurrence of humeral ECs

A parietal fragment from Denisova cave

[1]Department of Anthropology, University of Toronto, [2]Department of Human Evolution, Max-Planck-Institute for Evolutionary Anthropology, [3]Department of Evolutionary Genetics, Max-Planck-Institute for Evolutionary Anthropology, [4]Institute of Archaeology and Ethnography, Russian Academy of Sciences, Siberian Branch, [5]Department of Archaeology, Novosibirsk State University, [6]Department of Archaeology, Altai State University

the cave have been identified from this group.

Denisova 13

first glimpse at the Denisovan cranial morphology.

Denisova 13

extending about 78 mm laterally of *lambda*

Denisova 13 *Homo*

Funding: Social Sciences and Humanities Research Council (Insight 430-2016-00590 to BV), European Research Council (694707 to SP), the Max-Planck-Society, and the Russian Science Foundation (14-50-00036 to MVS, APD and MBK).

The muddle in the middle: Dental morphological assessment of population diversity on the Peruvian Central Coast during the Prehispanic Period

[1]Department of Anthropology, University of Nevada, Reno, [2]Institute of Bioarchaeology, University College London, [3]Department of History, Classics and Archaeology, Birkbeck College, University of London, [4]Department of Archaeology, University of South Africa (UNISA), [5]Faculté de Philosophie et Sciences Sociales, Université Libre de Bruxelles, [6]Departamento de Humanidades, Pontificia Universidad Católica del Perú

173 individuals from five collections pertaining

dental non-metric traits defined by the ASUDAS and an Inca group (Pueblo Viejo-Pucará, n=37). Biological affinities were assessed using descrip- of the Inca marks the first incursion of non-locals into the area, also confirming the historically-at- *mitmaq*

The benefits of negative energy balance? Oxidative stress and inflammation in wild Bornean orangutans (*Pongo pygmaeus wurmbii*)

[1]Anthropology, Rutgers, The State University of New Jersey, [2]The Center for Human Evolutionary Studies, Rutgers, The State University of New Jersey, [3]Anthropology, University of Colorado Boulder, [4]Biological Sciences, Universitas Nasional Jakarta

that nutritional intake, energetic stress, inflamma- the immune response is significantly impaired.

(8-OHdG; $p<0.0001$) and inflammation (neopterin; $^2_{pi}$ =0.73, $p<0.0001$). Our benefits to orangutan physiology and health. This finding is supported by several studies that are associated with decreased inflammation

This work was supported by a Bigel Grant, Aresty Fellowship, and CHES Undergraduate Research Award to D.J.N.; and NSF, Leakey, USAID and CHES research grants to E.R.V. D.J.N., S.U.A., and T.D.B.

Cortical Defects of the Distal Femur in Pacific Northwest Natives

Department of Archaeology and Historic Preservation, Washington State

identified in the distal tibia, a number of been identified by researchers under various that addresses the significance of this relatively

NCSE's Scientist in A Classroom Program: Using Primatology to Teach Middle Schoolers about Climate Change and Evolution

[1]Anthropology, School of World Studies, Virginia Commonwealth University, [2]Integrative Life Sciences, Virginia Commonwealth University

Scientist in a Classroo itating professional scientists using various fields tion. In Spring 2017, Marie Vergamini, a Virginia

The first day "Get-To-Know-You" visit centered on miliar with the field. The second day "Do Science" populations. Students first participated in behav- deforestation, uncontrollable changes in fire

Scientist in a Classroom all fields, including biological anthropology, to

Decolonizing science communication by telling regional stories

News department, Science

Bioarchaeology of non-binary genders: perspectives from the Adena tradition of the Ohio Valley region

Basic Sciences, Anatomy, New York Chiropractic College, Division of Anthropology, Carnegie Museum of Natural History

2001, 2011). Gender fluidity was often asso-

(Carr and Case 2006), defined by the presence of copper beads and effigy items, antler head-

Goethe, Darwin, and Wolff: Does Wolff's "Law" Mean Anything?

Anatomy, New York Chiropractic College

ed.: 147), stated that

and insertions do not change significantly due

This research is supported in part by a grant from the New York Chiropractic College Research Department.

Physical (in)activity and the etiology of osteoarthritis

[1]Human Evolutionary Biology, Harvard University, [2]Bolder BioPATH, Inc., [3]Center for Biomedical Engineering, Massachusetts Institute of Technology

cartilage deterioration. Specifically, exercised animals had cartilage with significantly ($p<0.05$)

Ultimately, our findings raise the intriguing possi-

Supported by the Hintze Family Charitable Foundation and the American School of Prehistoric Research.

No dilemma: A broad pelvis explains some of the advantages of women's gait

[1]Biology, Seattle Pacific University, [2]Anthropology, University of Washington, [3]Biology, St Catherine University

There is currently flux in terms of the tradition of

vantaged due to specific aspects of 'female'

the bi-trochanteric breadth. A flurry of studies have quantified the energetics and kinematics

lead to morphologically-specific kinematics and thus the energetic advantages identified in these other studies. Women (N=17) and men (N=17) were asked to walk on a treadmill while

The Role of Microbiota in Human Reproductive Tract Cancers

[1,5,7]

[1]Center for Individualized Medicine, [2]Gynecologic Oncology, [3]Biomedical Statistics & Informatics, [4]Medical Oncology, [5]Surgery, [6]Gynecologic Surgery, [7]Obstetrics & Gynecology, Mayo Clinic, Rochester, MN

rphyromonas somerae

is significantly enriched among cancer patients. *P. somerae* *P. somerae*

influence OC and EC, providing new opportunibenefit patient outcomes.

Dietary variation in an urbanizing city: A temporal analysis of diet in Late Medieval London using stable isotopes

[2] [3], [5]

[1]Defense POW/MIA Accounting Agency Laboratory, Department of Defense, [2]Department of Anthropology, University of Nebraska, [3]Department of Anthropology, University of South Carolina, [4]Department of Anthropology, University of Central Florida, [5]School of Archaeological and Forensic Sciences, University of Bradford

uate patterns of $\delta^{13}C$ and $\delta^{15}N$

sion analysis indicates that $\delta^{13}C$ and $\delta^{15}N$ could reflect a decrease in the variation of food $\delta^{15}N$

ized English towns that have found a significant

Funding for this research was provided by the National Science Foundation (BCS-1540208 and BCS-1261682), and the University of South Carolina SPARC Grant.

Determining sex in forensic anthropology: A review of proposed methodologies

Sociology, Anthropology, and Gerontology, Youngstown State University

mation. The first method utilizes 10 weighted five single metric sectioning points. The authors applicable to ancestry specific groups, and was and 97 of African descent. This study compared

error rate was 0.17. Ultimately it was concluded

Tainted love: Why do female olive baboons dart after copulations?

[2]

[1]Sociology, Criminology, and Anthropology, University of Wisconsin-Whitewater, [2]Anthropology, The Ohio State University

Papio anubis *T* =

Thanks to the following institutions for contributing to the funding of this project: The Leakey Foundation, International Primatological Society, American Society of Primatologists, Sigma Xi, Animal Behavior Society.

The Global History of Health Project - Asia Module

[2]

[1]Biomedical Sciences, Texas A&M University College of Dentistry, [2]School of Archaeology, Jilin University

human skeletal remains of recent millennia in the context of environmental and socioeconomic changes. This unique project provides an unprecedented look of recent human history to gauge the quality of life and human adaptability in challenging living conditions. Inspired by the GHHP saga staged in the Americas and Europe, we have initiated the GHHP - Asia Module in 2018 to extend this project to Asia, an important theater for the rise of many first civilizations. Human burials have been found throughout the Asian continent from the Neolithic Age to Bronze and Iron Ages and onwards. Most importantly, the majority of burials are associated with archaeological evidence of environmental settings and socioeconomic modes. The project will unlock rich yet mostly untapped information from large skeletal collections in China, Mongolia, Japan, South Korea, East Russia, India, and Southeast Asia and beyond, and establish a contexualized database recording the history of human pathology, focusing on oral pathology and joint diseases, in Asia during the past 10,000 years. The inclusion of the Asia story in GHHP will not only enrich the first hand skeletal and oral health status over generations in recent human history in an evolutionary sense, but also expand existing databases for global and local health agency authorities on policy making for contemporary populations with different economic-social status, ranging from pre-agriculture to modernization.

A Study of Remains of Human Beings Excavated in the Graveyard of Xiabandi

YONGDI WANG

School of Archaeology, Jilin University

The subject material is centered around the remains of mankind unearthed in the burial ground of Xiabandi, Kashgar Prefecture in Xinjiang. This graveyard is located in both Xindi countryside and Xiabandi countryside. The oral health of residents in the A区burial area is in bad condition. The wear rate of teeth prong is inversely proportional to age as a result of using dental tools instead of resulting from nutrition and development. Some other observable oral diseases are as follows: apical abscess, aplasia of enamel, dental calculus and periodontitis. Apical abscess will appear as people's age increases, so it tends to turn into apical ulcers. Some dental fistulous tracts are even connected with maxillary sinus. At this moment, invisible bony traumas are primarily found on the craniofface. Infectious diseases such as osteoma and periostitis are also found out. And the older these persons are, the more likely are they to suffer the hyperplasia of joints. The analysis of pathological phenomena suggests that violent clashes among this group as well as between this group with the other groups are least likely to occur. It is estimated that some persons of this group may travel by riding a horse through the investigation of leg bones.

A newly generated whole genome of *Treponema pallidum* subsp. *endemicum* strain Iraq B: implications for reconstructing the evolutionary history of treponematosis

ZIYU WANG[1], BARBARA J. MOLINI[2], GEORGE R. MILNER[1] and SHEILA A. LUKEHART[2,3]

[1]Anthropology, Penn State, [2]Medicine, University of Washington, [3]Global Health, University of Washington

Bejel (*Treponema pallidum* subsp. *endemicum*) is an endemic treponematosis closely related to syphilis (*T. pallidum* subsp. *pallidum*). Although bejel was prevalent throughout Europe prior to the early 20th century, its genetic diversity is not well understood as only one reference genome is currently available. Because bejel coexisted with syphilis in Europe in the 16th century, an expanded genomic dataset can contribute to longstanding questions on the evolutionary history of the *T. pallidum* complex and ultimately, the origin of syphilis.

We focused on sequencing and reconstructing the genome of the *T. pallidum* subsp. *endemicum* Iraq B strain (isolated in Iraq in 1951). We extracted and prepared DNA libraries using two tissue samples from Iraq B-infected laboratory rabbits. A targeted DNA capture was applied to exclude host genome DNA. Quantitative PCR with primers unique to *T. pallidum* TP0574 were used to estimate the proportion of *T. pallidum* DNA in the pre-and post-capture DNA libraries, and primers unique to the rabbit "cystic fibrosis conductance transmembrane regulator" gene were used to estimate the proportion of host DNA. As expected, the copy number of the TP0574 gene increased by 600-fold. With a high quality genome (average coverage of 15x for at least 80% of the genome), genetic characteristics of the Iraq B strain and its phylogenetic position within the *T. pallidum* complex has the potential to further our understanding of genetic variations and disease manifestation of treponemal infections.

National Science Foundation Graduate Research Fellowships Programs (Fellow ID: 2015183290); Department of Anthropology, Pennsylvania State University; National Institutes of Health (R01AI42143).

Bony labyrinth shape variation as a marker of prenatal stress and the maternal environment

DEVIN L. WARD[1], EMMA POMEROY[2], JOCELYN E. ROY[1], LAURA T. BUCK[3,4], JAY T. STOCK[4,5], MARY T. SILCOX[6] and T. BENCE VIOLA[1]

[1]Department of Anthropology, University of Toronto, [2]School of Natural Sciences and Psychology, Liverpool John Moores University, [3]Department of Anthropology, University of California, Davis, [4]Department of Archaeology, University of Cambridge, [5]Department of Anthropology, Western University, [6]Department of Anthropology, University of Toronto, Scarborough

The bony labyrinth surrounds the organs and fluid of the inner ear, which are responsible for detecting sound and motion during life. It reaches adult morphology before birth and experiences limited subsequent remodeling. Labyrinthine shape variation may, however, reflect developmental instability related to the maternal gestational environment. While advances in computed tomographic (CT) technology provide the opportunity to visualize the labyrinth in three dimensions, its complex shape makes quantifying its form challenging. We apply Geometric Morphometrics (GMM) to assess within-group shape variability in the bony labyrinth of a model organism, the rat. We hypothesize that labyrinthine shape will differ between offspring of mothers fed a low protein and control diet during gestation. To test this, we collect shape data from cranial µCT scans and process the resulting landmark data using GMM and principal component analysis. Plots of several principal components illustrate some separation between low-protein and control group rats, with significant overlap. Separation seems to be focused on the lateral semicircular canal, suggesting that the slowest-growing areas of the labyrinth are more susceptible to environmental perturbations during development. The preliminary results of this study indicate that maternal malnutrition may have a lasting morphological impact on the form of the bony labyrinth. This effect should be investigated further in human samples, where the extended period of in utero development and maternal gestational conditions are associated with the potential for many long-term health problems.

UofT Pilot Grant to DLW; NSERC Discovery Grant to MTS; SSHRC Insight and Connaught New Researcher Grants to BV; Henry Sidgwick Research Fellowship to EP; ERC Grant 617627 to JTS.

Using R stats to teach about hominins and adorable primates

KERRYN A. WARREN[1] and MARC KISSEL[2]

[1]Human Evolution Research Institute, University of Cape Town, [2]Anthropology Department, Appalachian State University

The R programming language, and associated packages, are used by many researchers in the fields of palaeoanthropology and primatology. Frequently, researchers use these tools to evaluate patterns in the natural world, which can, themselves, be taught to willing learners at some point in the future, when these patterns are more accepted or established. Here we propose creating tools, using a combination of

This research is funded by the Centre of Excellence in Palaeosciences and the National Research Foundation of South Africa.

Breastfeeding and complementary feeding patterns in a rural Gambian population

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the first year of life in 203 rural Gambian moth-

using 1) the first reported age of introduction of

parity, did not identify any significant predictors of

significantly associated with any indices of infant

duction (6.4 months) was significantly positively

effect modifiers, such as infant morbidity, before these findings can be fully interpreted.

Funded by the Bill and Melinda Gates Foundation (OPP1066932)

Presence of Xenoestrogens in the Hunter-Gatherer Diet of Mbendjele BaYaka from Republic of Congo

[1]Department of Anthropology, Indiana University, [2]Human Biology Program, Indiana University, [3]Department of Primatology, Max Planck Institute for Evolutionary Anthropology, [4]Institute for Biodiversity and Ecosystem Dynamics, University of Amsterdam

nisms, xenoestrogens may influence non-human

receptor β transfection assays. Due to the

activity detected, five items had low levels of

Gnetum buchol-

zianum

Gonimbrasia melanops

Use of Special Stains to Narrow Etiology in the Histopaleopathology of Anemia

Anthropology, McMaster University

nutritional deficiency, chronic infection, hemo-

and

iron overload, not present when iron is deficient.

ability to eliminate a nutritional deficiency as the

This research was self funded.

ABSTRACTS

Finding Biological Markers of Mobility in Late Prehistoric Portugal and Spain: A Stable and Radiogenic Isotope Approach

[redacted]

[1]Department of Natural and Applied Sciences, Mount Mercy University, [2]Department of Anthropology, University of South Florida, [3]Department of Earth and Environmental Sciences, University of Iowa

[redacted]
large population centers forming, flourishing, [redacted]
[redacted]
about specific patterns of people moving from [redacted]
over the last decade that identifies migrants via [redacted]
[redacted]

Absent to Limited Breastfeeding in 19th Century Dairy Farmers from the Netherlands

[redacted]

[1]Anthropology, University of Western Ontario, [2]Faculty of Archaeology, Leiden University

[redacted]
and weaning in past populations find infants consumed breastmilk well past their first year of life. Stable nitrogen (δ^{15}N) and carbon (δ^{13}C) analysis of a large sample (n=277) of rural dairy [redacted]
feeding practices. Archival identification permits [redacted]
year-of-death. Fetal (n=27) and reproductively-aged female (n=47) baseline isotope means [redacted]
(12-35 months), 3 out of 13 have high δ^{15}N [redacted]
that could reflect a past period of breastfeeding [redacted]
δ^{15}N [redacted]
There are no statistically significant differences [redacted]
rapid. This is a rare finding for a pre-modern popu- [redacted]

A portion of this research was funded by a Marie Curie International Incoming Fellowship (#302801) held by AWR.

The Role of Black Feminist Theory in Critiquing Scientific Practices and Concepts of Race

[redacted]

Anthropology, American University

[redacted]
collections are foundational to scientific concep- [redacted]
in academic and public spheres. Specifically, research on anatomical collections reflects [redacted]
in the production of scientific knowledge without [redacted]
people of color (POC) in the field as research [redacted]
the field. Sylvia Wynter's notion of biocentricity [redacted]
tific and social order maintained through our discipline's critique of scientific racism without attending to structural inequalities within the field. Hortense Spillers' body/flesh distinction is used [redacted]

Changes in Male Grooming Networks Associated With Permanent Fission of a Chimpanzee Community at Ngogo

[redacted]

Anthropology, Yale University

[redacted] *troglodytes* [redacted]
result from permanent fissions, which involve [redacted]
has recently undergone a permanent fission, [redacted]
[redacted]
A single grooming network existed until 2017, [redacted]
and the grooming network showed signifi- [redacted]
significantly predicted membership from 2009 [redacted]
contributed importantly to the Ngogo fission.

NSF SBR-9253590, BCS-0215622; L.S.B. Leakey Foundation; National Geographic Society; Yale University

Variation in Sexual Dimorphism Due to Climatic Stress

[redacted]

Anthropology, Northwestern Unversity

[redacted]

have a significant effect on sexual dimorphism.

Noninvasive genomics of Gombe chimpanzees: evaluating methods for wild primate population genomics

[1]Department of Anthropology, University of Utah, [2]School of Life Sciences, Arizona State University, [3]Center for Evolution and Medicine, Arizona State University, [4]Institute of Human Origins, Arizona State University, [5]School of Human Evolution and Social Change, Arizona State University, [6]Departments of Medicine and Microbiology, University of Pennsylvania, [7]Department of Anthropology, University of Minnesota, [8]Department of Ecology, Evolution, and Behavior, University of Minnesota, [9]Institute on the Environment, University of Minnesota, [10]Department of Evolutionary Anthropology, Duke University

Pan troglodytes schweinfurthii

capture. We found that urine harbors significantly

mean = 38.3%; ANOVA: F(3,22) = 146.7; p = 1.08 x

Effect of Reproduction on Javan Slow Loris Mother's Activity Budget and Ranging Behavior

[1]Department of Anthropology, Oxford Brookes University, [2]Little Fireface Project, Java, Indonesia, [3]Faculty of Forestry, Universitas Gadjah Mada (UGM), Yogyakarta,Indonesia, [4]Anthropology Department, Boston University

Nycticebus

N. javanicus

at varying reproductive stages. We defined four

not fit into the previous categories. Our results suggest that social activity are influenced by reproductive stage (p = 0.020) and significantly

periods (p = 0.025). Home ranges also signifi-

(mean: 5.0 ha, min-max: 1.7-9.9 ha) and non-re-

PTES, Disney Worldwide Conservation Fund, Margot Marsh Biodiversity Foundation, MbZ Species Conservation Fund, National Geographic, and Cleveland, Phoenix, Omaha, Columbus and Augsburg Zoo.

Palaeoproteomic analysis of Early Pleistocene *Gigantopithecus blacki*

[1]Natural History Museum of Denmark, University of Copenhagen, [2]Department of Human Evolution, Max-Planck-Institute for Evolutionary Anthropology, [3]Anthropology Museum of Guangxi, [4]Institute of Evolutionary Biology, UPF-CSIC, [5]National Natural History Museum, UMR7206 Anthropologie Évolutive, [6]Catalan Institution of Research and Advanced Studies, ICREA, [7]Centre for Genomic Regulation, Barcelona Institute of Science and Technology, [8]Novo Nordisk Foundation Center for Protein Research, University of Copenhagen

Gigantopithecus blacki

southern China and northern Vietnam. The first

identified by von Koenigswald in a Hong Kong

Gigantopithecus

Gigantopithecus blacki, *Gigantopithecus*

fragmentation and modification not observed
Gigantopithecus
extant pongids. Our analysis provides the first
Homo

The authors acknowledge the financial support of the VILLUM Fonden (#17649) and MSCA Fellowship (#795569).

Ancestral climatic histories and their influence on interindividual variation in cold-induced vasodilation responses

[1]Anthropology, Binghamton University, [2]Anthropology, University of Auckland

influenced by population genetics reflecting
176) were grouped into three climate categories

Team-based learning in an introductory bio anth course (or, why I will never go back to just lecturing!)

Math/Science Department, Kirkwood Community College

team-based learning (TBL), a method of "flipped
on the benefits of TBL for classroom and time

This research was supported by the Office of Institutional Research and the Math/Science Department at Kirkwood Community College.

Male-Female Friendships in Kinda Baboons

Anthropology, University of Massachusetts Amherst

several benefits in social species, such as
these benefits can vary across species and even among populations. Here, we quantified

The MZ SNP: A Xq27.2 region associated with prostate cancer is also associated with monozygotic twinning

[1]Anthropology, University of South Florida, [2]College of Medicine, University of South Florida, [3]Anthropology, University of Illinois, Urbana-Champaign, [4]School of Communication, University of South Florida

1977). We (Huang, Clancy, Kelly, & Madrigal, 2018) have shown that a region in the Xq27.2 region is significantly associated with MZ twinning and
this abstract, we have finished cataloguing one
added 10 MZ pedigrees from (Harvey et al., 1977),
& Ajlouni, 2004) for a sample size of n=47. Our
not detect a significant difference in male-female

100% of these 47 SST pedigrees as following a

A sample of HbAS African American football players differs significantly from a control African American football team in its mean weight and BMI. Is HbAS a benign condition in football?

[1]Anthropology, University of South Florida, [2]School of Human Evolution and Social Change,, Arizona State University, [3]Human Genetics, Geisinger Health System, [4]School of Human Evolution and Social Change, Arizona State University, [5]School of Life Sciences, Arizona State University, [6]College of Medicine, University of South Florida, [7]College of Medicine, University of South Florida, [8]School of Human Evolution and Social Change Center for Evolution and Medicine, Arizona State University, [9]Anthropology, University of South Florida

of whom self-identified as African-American) was

control players were significantly heavier than

a significantly higher BMI compared to those

Funded by a Graduate Student Grant of the NCAA given to Carroll Flansburg while attending USF.

From flesh to mesh: Bodies as maps in 3D GIS

School of Archaeology, University of Oxford

ad hoc

Supporting Agencies: Clarendon Fund; Great Britain Sasakawa Foundation; Merton College; Meyerstein Fund; School of Archaeology, Oxford; Sasakawa Fund, Oriental Institute, Oxford

Meta-analysis identifies 48 SNPs with multiple independent effects on human facial features

[1]Department of Anthropology, Pennsylvania State University, [2]Center for Craniofacial and Dental Genetics, Department of Oral Biology, University of Pittsburgh, [3]Department of Electrical Engineering, ESAT/PSI, KU Leuven, [4]Medical Imaging Research Center, MIRC, UZ Leuven, [5]Department of Chemical and Systems Biology, Stanford University School of Medicine, [6]Department of Biology, Pennsylvania State University, [7]Department of Human Genetics, University of Pittsburgh, [8]Department of Biostatistics, University of Pittsburgh, [9]Dental Health and Biological Sciences, College of Medicine, University of Wales, [10]Department of Biology, Indiana University-Purdue University Indianapolis, [11]Department of Developmental Biology, Stanford University School of Medicine, [12]Department of Anthropology, University of Pittsburgh

= 3,566). We identified 213 genomic regions significantly associated with facial shape with

Of these regions, 48 significantly affect multiple

suggesting that some of the SNPs identified

PAX3 *TBX15.*

835 genes, of which 100 (11.97%) are identified

Classifying the Middle Pleistocene hominins: Testing taxonomic hypotheses using supraorbital morphology

[1]Department of Anthropology, University College London, [2]Institute of Archaeology, University College London

(MPH; sometimes classified as *Homo heidelbergensis*)

species and members should be classified

Homo sapiens, *Homo neanderthalensis*, *Homo erectus*

separate, geographically-defined species (i.e. *Homo heidelbergensis sensu stricto* *Homo rhodesiensis)*.

These were placed on a sample of 710 specimens *Gorilla* , *Pan*, *Papio*, *Macaca*, *Homo*, *Australopithecus* *Paranthropus*

Homo sapiens

Homo neanderthalensis

This research was supported by the London Arts and Humanities Partnership

An examination of musculoskeletal markers to analyze activity levels of a documented modern population using the Coimbra method

Anthropology, Texas State University

for a biological profile. Activity levels can be

These findings suggest that modern skeletal

Conditional dispersal and its effects on kin cooperation in female *Colobus vellerosus*

[1]Department of Anthropology, University of Texas at San Antonio, [2]Department of Anthropology, University of Oregon, [3]Institute of Ecology and Evolution, University of Oregon, [4]Department of Anthropology and Archaeology, University of Calgary

eight groups. We genotyped animals at 17 short

ẊR=0.16, 95%CI: 0.07–0.14; M: N=10, Ẋ

dyads, coefficient estimate=0.48, 95%CI: 0.25–0.70) and time spent co-resident (coefficient estimate=0.32, 95%CI: 0.07–0.57). In groups with

coefficient estimate=0.10, 95%CI:0.03–0.17).

Funding: Alberta Innovates, American Society of Primatologists, International Primatological Society, Leakey Foundation, Natural Sciences and Engineering Research Council of Canada, Sweden-America Foundation, Wenner-Gren Foundation, and the University of Calgary

The Aetiology of Entheseal Changes - Insights from the Biomedical Literature

[1]Anthropology, San Francisco State University, San Francisco, USA, [2]CIAS – Research Centre for Anthropology and Health, Department of Life Sciences, University of Coimbra, Coimbra, Portugal, [3]Laboratorio di Bioarcheologia ed Osteologia Forense – Antropologia, Dipartimento di Scienze Biologiche, Geologiche e Ambientali- Alma Mater Studiorum Università di Bologna, Bologna, Italy, [4]CNRS, EFS, ADES, Aix Marseille Université, Marseille, France, [5]CNRS, UMR 5199 PACEA, Université de Bordeaux, Pessac cedex, France

enthesopathies. Many of the findings are rele-

international consensus definitions for US visu-

correspond to the feature definitions of the Coimbra method. Clinical studies confirm many

and BMI; and differences in specific EC features

erosions at the rotator cuff. PD findings suggest inflammation proceeds or even triggers struc-

spondyloarthropathies the inflammation persists

Given these observations, the degree of fine and macro-porosity as measures of vascular infil-

findings are the frequency of subclinical ECs;

Nasofacial skeletal differentiation among Equatorial Africans, Europeans and African-Americans

[1]Department of Anthropology, University of Iowa, [2]Department of Anatomy, School of Osteopathic Medicine, Campbell University

reflect varying levels of European admixture over

predictive equations that yielded correct classifi-

Americans classified as European ranged from

Central Europeans, to 47.8% in Hamann-Todd

This work was supported by a Leakey Foundation Grant and NSF SBR-9312567 to Franciscus, and ICRU funding from the University of Iowa to Williams.

Late Neolithic children of Belgium: A comparison of deciduous molar morphology from four caves burials

[1]Anthropology, Georgia State University, [2]Anthropology, University of Nevada Reno

Maurenne Caverne de la Cave (n = 7) associated

Funding for this project was received by Fulbright-Belgium and the Commission for Educational Exchange between the USA, Belgium and Luxembourg.

Dental Health At the Cusp of the Third Epidemiological Transition

[1]Graduate Program in Ecology & Evolution, and Department of Ecology, Evolution, & Natural Resources, Rutgers University, [2]Department of Anthropology, Syracuse University, [3]Department of Ecology, Evolution, & Natural Resources, Rutgers University

loss and 304 teeth with ≥ 3mm of the root

pathologies. Preliminary findings reveal a rela-

This study was funded by a National Science Foundation Dissertation Improvement Grant (BCS-1826220) and Rutgers University's Center for Human Evolutionary Studies.

A nearly complete lower back of *Australopithecus sediba*

[1]Center for the Study of Human Origins, Department of Anthropology, New York University, [2]Evolutionary Studies Institute and Centre for Excellence in Palaeosciences, University of the Witwatersrand, [3]Department of Anthropology, Chaffey College, [4]Center for the Advanced Study of Human Paleobiology, Department of Anthropology, The George Washington University, [5]Department of Medical Anatomical Sciences, Western University of Health Sciences, College of Osteopathic Medicine of the Pacific, [6]Paleoanthropology Group, Museo Nacional de Ciencias Naturales (MNCN-CSIC), [7]Faculty of Sciences, Biology Department, Universidad Autónoma de Madrid, [8]Laboratoire PACEA – De la Préhistoire à l'Actuel: Culture, Environnement et Anthropologie, CNRS, Université de Bordeaux, [9]Anthropological Institute and Museum, University of Zurich, [10]Department of Evolutionary Anthropology, Duke University

stability across mammals and reflects posture

Australopithecus sediba
breccia block refit with previously known lower lumbar vertebrae at multiple contacts, affirming their association. These new fossils confirm
A. sediba
ically configured like that of other known early
A. africanus *Homo erectus*
with five lumbar vertebrae and a cranially posi-
wedging and find that MH2 demonstrates the
middle lumbar vertebra morphology and find that
A. sediba
Homo
A. sedib

SAW thanks the Leakey Foundation for support

A Photogrammetric Method for Quantifying Entheseal Shape and Rugosity

[1]Biology, Chatham University, [2]Center for the Advanced Study of Human Paleobiology, The George Washington University, [3]Division of Anatomy, Department of Surgery, University of Alberta

visible without magnification. This presenta-
ments, making it difficult to conduct meaningful

quantification of entheseal area and rugosity.
flexor (n = 46 and 51, respectively) entheses of
9) were quantified, and results were compared
fiber length, muscle-tendon unit length). All correlations were weak and statistically insignificant.
the method enables repeatable quantification of

This research was supported by Chatham University and the University of Alberta.

Paleobiology and Taphonomy of the Middle Paleolithic Neandertal Remains from Ciemna Cave, Southern Poland

[2], BOLESŁAW GINTER[3],
[2],
[3], DAMIAN STEFAŃSKI[4],
[6],
[6], MIROSŁAW ZAJĄC
ZARZECKA-SZUBIŃSKA[7]
[8]
PAWEŁ VALDE-NOWAK[3]

[1]Paleoanthropology, IPHES, Institut Català de Paleoecologia Humana i Evolució Social, [2]Àrea de Prehistòria, Universitat Rovira i Virgili (URV), [3]Institute of Archeology, Jagiellonian University, [4]Archeological Museum of Kraków, [5]Institute of Archaeology and Ethnology, Polish Academy of Sciences, [6]Institute of Systematics and Evolution of Animals, Polish Academy of Sciences, [7]Department of Paleozoology, Wrocław University, [8]Department of Anthropology, Washington University in Saint Louis

≤4 years of age-at-death based on comparisons
postmortem modification that exposed a consid-
the taphonomic modifications of the phalanges
in vivo

Support from Marie Skłodowska-Curie Actions (H2020-MSCA-IF-2016 No. 749188); AGAUR (Ref. 2017SGR1040 and 2017PFR-URV-B2-91); MINECO/FEDER (Ref. CGL2015-65387-C3-1-P); and Polish National Science Centre (No. UMO-2014/15/B/HS3/02219 – "The Last Neanderthals in the Ciemna Cave").

Development of a Radiological Checklist for Differential Diagnosis of Cancer and Neoplastic Disease in Mummified Human Remains

Anthropology, University of Western Ontario

for archaeological projects, mummified human
checklist specifically for the radiological analysis of mummified human remains for the identifica-
racy and completeness in analysis. Mummified human remains present specific challenges for
thorough examination of mummified human

cancer in mummified human remains. As more

Sex differences in the patterning of age-related bone loss in the human hallucal metatarsal in Post-medieval rural and urban populations

[1]School of Biological, Earth and Environmental Sciences, University of New South Wales, [2]School of Natural Sciences and Psychology, Liverpool John Moores University, [3]Department of Earth Sciences, The Natural History Museum

urable modifications to cortex dimensions.

(Abingdon: ABVR) and urban (Spitalfields: SPIT) settings (N=71). Cross-sections were extracted

This research is supported by the Australian Research Council Discovery Program (DE150100862 granted to LABW), and the Calleva Foundation.

Colors of primate pelage: The independent evolution of sexual dichromatism in the primate order

Department of Anthropology, East Carolina University

There is a significant body of research describing

MC1R

OCA2

Nomascus leucogenys

(*Hylobates lar*)

(*Alouatta caraya*)

Eulemur fulvus

(*Macaca fascicularis*)

Rhinopithecus bieti

(*Hylobates muelleri*)

(*A. palliata*

Pan troglodytes)

MC1R gene does not play a significant role in

OCA2

leuco genys

Reconsidering osteoarthritis as a skeletal age indicator

[1]Anthropology, University of West Florida, [2]Exercise Science, High Point University

Age was the only statistically significant predictor

p

No predictors contributed significantly to female

p

can refine age estimates during normal skeletal

Financial support for this research was provided by the National Institute of Justice Graduate Research Fellowship Program in Science, Technology, Engineering, and Mathematics (Grant #: 2015-R2-CX-0009).

Appropriately managing archiving and access to culturally sensitive but scientifically valuable digital imagery

[1]Department of Evolutionary Anthropology, Duke University, [2]Department of Anthropology, Pennsylvania State University, [3]Department of Medical Sciences, Quinnipiac University, [4]Center for Archaeological Investigations, Southern Illinois University Carbondale, [5]Department of Anthropology, Southern Illinois University Carbondale

managing scientific 3D data. Currently, almost

archiving of sensitive data can be significantly beneficial for all stakeholders involved, and data

African Ancestry in the Americas: Perspectives on Afro-Puerto Rican Maternal Ancestry

Department of Anthropology, Vanderbilt University

descent in the Americas. Roughly 74.2 % of

significant differences between the frequency

data set. Significant differences were observed

Phylogenetic investigations of *Treponema pallidum* and related spirochetes

School of Human Evolution and Social Change, Arizona State University

Treponema pallidum is

T.p

pertenue *T.p. endemicium* is

T.

p. pallidum

Treponema carateum is

fied as *T. pallidum* is *carateum* is

degree of genetic similarity makes it difficult to

T. pallidum.

T. pallidum

T. pallidum

Treponema pallidum

T.

pallidum

Capturing 3D locomotor kinematics of modern humans to determine behavioral substrate navigation

[1]RESEARCH CENTRE IN EVOLUTIONARY ANTHROPOLOGY AND PALAEOECOLOGY, LIVERPOOL JOHN MOORES UNIVERSITY, [2]RESEARCH INSTITUTE FOR SPORTS AND EXERCISE SCIENCE, LIVERPOOL JOHN MOORES UNIVERSITY

The knee and ankle displayed significant

As limb flexion increased joint angles were also

Hallux abduction was also found to be signifi-

humans significantly alter limb kinematics to

sary for efficient substrate navigation.

This research was funded by Liverpool John Moores University, UK.

Act like a lady, think like a boss: Alpha status in a captive female chimpanzee (*Pan troglodytes*)

[1]Public Health, University of Miami, [2]Wildlife, Lion Country Safari, [3]Anthropology, University of Utah

often resulting in measurable effects on fitness

not outweigh the benefit. Captive environments—

report on the development of a site-specific scan
Pan troglodytes)
-
a 4-month period and consisted of 27 obser-
female engaged in significantly more dominance
-
all

The impact of frailty in the Spanish influenza pandemic of 1918

Anthropology, Arizona State University

-
in the Spanish Influenza Pandemic of 1918.
-
was not significantly different from the control

indicators of frailty. These findings also enhance

Center for Bioarchaeological Research Pilot Grant

Interpreting skeletal growth in the past: Error and estimation of childhood growth in historic African American communities

[1]Anthropology, University of Nevada, Reno, [2]Anthropology, Texas State University, San Marcos

-
-
-
-
-
unknown age leads to a wide growth profile that
-
knowledge of historic populations and a firm

Tibial torsion and pressures in the feet during walking and standing in humans: an experimental study

[1]Anthropological Sciences, Radford University, [2]Biology, Radford University

H. erectus
-
verify these results, but our preliminary findings
-

Hadza Hunter-Gatherers Exhibit Gender Differences in Space Use and Spatial Cognition Consistent with the Ecology of Male and Female Targeted Foods

[1]Anthropology, University of California, Los Angeles, [2]School of Human Evolution and Social Change, Arizona State University, [3]Denver Nuggets, Kroenke Sports & Entertainment, [4]School of Anthropology, University of Arizona, [5]Evolutionary Anthropology, Duke University, [6]Center for Health and the Social Sciences, University of Chicago, [7]Centre for Research in Evolutionary, Social and Inter-Disciplinary Anthropology, University of Roehampton, [8]Anthropology, University of Nevada, Las Vegas, [9]Dar es Salaam National Museum, National Museums of Tanzania, [10]Earth Systems Science, Stanford University, [11]Anthropology, University of Utah

like no other organism, reflecting our species'

using 2,089 days of travel (21,761 km) by Hadza

theory proposes that travel should be influenced

persisted across the life course. These findings

Max Planck Institute for Evolutionary Anthropology, Department of Human Behavior, Ecology and Culture; *National Science Foundation (awards 1548143, 1062879, 0850815, 1440867, 1440841, 1329091); Leakey Foundation; National Geographic Society; John Templeton Foundation.*

Out in the Cold: How cold temperatures and weather conditions influence the rate of decomposition in pig proxies (*Sus scrofa*)

Anthropology, Illinois State University

determined that an increased burial depth signifi-

Sedentism and Dietary Variation among the semi-nomadic Naduhup of the Northwest Amazon

[1]Department of Anthropology, The Ohio State University, [2]Division of Human Sciences, Museu Paraense Emílio Goeldi

transition; and, Nova Fundação, a permanent

show greater reliance on fish broths and stews in Embaúba (89.5% fish-based, 10.5% game- and insect-based dishes) and Nova Fundação (83.3% fish-based, 16.7% game- and insect-based

and insect-based dishes (55% fish-based, 45% game-and insect-based), with reliance on fish-

has resulted in increased reliance on fish as the

highly reliant on fish, with implications for food

Papa-B (*MHC*) diversity of wild bonobos (*Pan paniscus*) east and west of the Lomami River suggest different patterns of immunity

[1]Anthropology, Washington University in St. Louis, [2]Structural Biology, Stanford University School of Medicine, [3]Medicine and Microbiology, Perelman School of Medicine, University of Pennsylvania, [4]Leverhulme Center for Human Evolutionary Studies, University of Cambridge, United Kingdom, [5]Lukuru Wildlife Research Foundation, Tshuapa-Lomami-Lualaba Project, Democratic Republic of the Congo

MHC

MHC

flow between bonobos residing on either side.

Lomami-Lualaba (TL2) region. We PCR amplified,

Papa-B

(five sites) and two eastern bonobos (Bosondjo region). We identified 15 alleles among eastern

eration is that malaria was recently identified

National Institutes of Health R01 AI24258, R01 AI120810, and R01 AI091585

Middle Pleistocene human fossils found in China: isolated evolutionor influenced by migration?

Key Laboratory of Vertebrate Evolution and Human Origins of Chinese Academy of Sciences, Institute of Vertebrate Paleontology and Paleoanthropology, Chinese Academy of Sciences

circular orbital profile. Moreover, the endocranial narrow frontal lobes, short flattened parietal areas *H. heidelbergensis* *H. erectus* fossils. Moreover, their low, sagittally flat, inferiorly these fossils reflectsole ancestral descendance *Homo erectus* now known as Europe? New findings suggest-

The related studies have been supported by the grants of Natural Science Foundation of China (41630102,41672020).

Plantar pressure distribution in *Gorilla*

[1]Department of Biology, James Madison University, [2]Department of Evolutionary Anthropology, Duke University

Gorilla sures in five gorillas (ages 5-34 years) walking *Gorilla* heel pressures (279±101.4 kPa) and a distinct *Pan troglodytes* *Pan paniscus*.

Pan cating contraction of the intrinsic flexors to stiffen pressures significantly higher than metatarsals *Pan* *Gorilla* *Pan* *Gorilla* *Homo*

Research supported by the National Science Foundation Grant BCS-1517561

Covariance between carpal morphology and suspensory behavior in extant anthropoids, with implications for functional analysis of fossil specimens

Evolutionary Anthropology, Duke University

been quantitatively confirmed to consistently covary with specific locomotor modes or postures predicted to facilitate specific positional behaviors were quantified in a broad anthropoid sample iate models evaluating the efficacy of carpal clade. Multivariate classification accuracy of carpus modified to increase mobility at the flexor carpi ulnaris leverage and transmission reflecting the need for safe and secure grasping

Facial masculinity-femininity and socio-economic status: A study of sub-Saharan Africans' 3D facial models

[1]Department of Anatomy, Faculty of Basic Medical Sciences, College of Health Sciences, Bayero University Kano, Nigeria. Corresponding author: ANAS IY. Email: suhhis@yahoo.com, +2348128139785, [2]Anthropology Department, Faculty of Social and Historical Sciences, University College London, 14 Taviton Street, London, WC1H 0BW.Co-author: CHRISTOPHE SOLIGO. Email: c.soligo@ucl.ac.uk, 020-7679-8839

In the context of human identification, the ability the development of sex-specific facial character- Jack-knifing resulted in 29.2 % of the males being misclassified as female and 33.2 % of the females being misclassified as male. Hence, the (range: 66.8% -70.8%). The masculinity-femi-

This research was funded by the Tertiary Education Trust Fund Nigeria (TETFund, Nigeria), No 6 Zambezi Crescent off Aguiyi Ironsi Street, Maitama, Abuja, FCT Nigeria.

Comparing intratooth isotope profiles of modern warthogs and fossil suids: a potential proxy for hydroclimate seasonality of hominin fossil sites

[1]IDPAS, Stony Brook University, [2]Division of Biology and Paleo Environment, Lamont-Doherty Earth Observatory of Columbia University, [3]Department of Geology and Geophysics, University of Utah

an intratooth isotope profile. Carbon and oxygen isotope variability reflects changes in diet and

To explore whether intratooth profiles of modern (*Phacochoerus* *Metridiochoerus* and *Notochoerus*)

using intratooth profiles.

The δ^{13}C

year, with very little intratooth variation (Δ= ~1‰ observed in δ^{18}O (Δ= ~2‰ to 5‰). Compared

indicating that sufficient C

means and amplitudes in δ^{18}O

Using profiles in modern suids as an interpretive framework, fossil suid profiles can be used

This study is funded by the Leakey Foundation, Stony Brook University, Turkana Basin Institute, Sigma Xi and the University of Utah

Tracing gibbon phylogeography in Southeast Asia using complete mitochondrial genomes

[1]Anthropology, Hunter College, [2]Mammalogy, American Museum of Natural History, [3]Sackler Institute for Comparative Genomics, American Museum of Natural History, [4]Primate Genetics Unit, German Primate Center

Hylobates lar *H. agilis* *H. abbotti* *H. funereus* *H. muelleri* *albibarbis*

are classified as "Endangered" or "Critically

to achieve this is to confirm taxon identity as a

This project was funded by the Gerstner Postdoctoral Fellowship awarded to Lu Yao from the American Museum of Natural History.

Tooth Size and Vertebral Neural Canal Size as Bioarchaeological Evidence of the Developmental Origins of Health and Disease Hypothesis

Anthropology, University of South Carolina

non-specific skeletal indicators to investigate

age. The tooth size findings suggest that early

Supported by NSF (BCS-1649757) and the Office of the Vice President for Research at the University of South Carolina (SPARC Graduate Research Grant).

Bigger bipeds should have shorter arms: a new perspective in hominin limb evolution

Human Evolutionary Biology, Harvard University

from mechanical first principles, predicts that

experimental data, the model closely fits the

Homo floresiensis *H. floresiensis* *H. erectus* *Australopithecus afarensis* *Tyrannosaurus rex*

Seasonal changes in sleep duration may be adaptive among San hunter-gatherers

Psychiatry and Biobehavioral Sciences, University of California, Los Angeles

San hunter-gatherers average approximately 7

require literacy or English proficiency, instructions

March 2017 (intermediate). We found a signifi-

Sleep duration itself was not significantly corre-

San are not suffering from insufficient sleep in

An assessment of the neurovascular structures of the trigeminal nerve and their relationship to tooth morphology in *Rattus sp., Pithecia pithecia, Saimiri sciureus,* and *Chiropotes sp*

Department of Anthropology, University of Arkansas

tissues occupied 20-70% of the mental foramen,

of the cross-section beneath the first molar. While

^{2}= 0.715 and p = 0.017)

Relationship between chondrocranial-derived components of the nasal complex and cranial base

[1]Department of Sociology and Anthropology, Metropolitan State University of Denver, [2]College of Dentistry, University of Iowa, [3]Department of Orthodontics, University of Iowa

may strongly influence the development and

of n=70 CT scans of adult human subjects. Our results reveal a significant correlation between

and the symmetric (p=0.547) and asymmetric

Analysis of an isolated hunter-gathering population, the Pericú, and implications for the effects of isolation on hominin skeletal remains

and BERNARDO YÁÑEZ[2]

[1]Anthropology, University of Missouri, [2]Antropología Física, DAF El Museo Nacional de Antropología

Homo floresiensis

bi-iliac breadth, are significantly different for the

including femoral head size, is also significantly

This research is funded by NSF GRF and NSF GROW grant # DGE-1443129.

Influence of substrate compliance on wild primate gait kinematics

[1]Anatomy and Neurobiology, Northeast Ohio Medical University, [2]Anthropology, University of Texas at Austin

The influence of substrate compliance on

substrate compliance (N = 789 strides across

Substrate type and diameter explained 73% of the

(*Callicebus*, *Saguinus*, *Cebuel*

Pithecia, *Lagothrix*),

allicebus, Pithecia, Lagothrix)

allicebus

Callicebus, *Pithecia*)

(*Ateles*)

significantly adjusting kinematics at all (*Alouatta*, *Saimiri*)

Research supported by NSF BCS-1640552 and BCS-1640453.

Testing the effectiveness of methods for estimating biological sex from subadult skeletal remains

Anthropology, Humboldt State University

include within the biological profile of unknown

sex between ages 3 and 17 (n=40, 15 males,

ment. This study identified several approaches that would benefit from further clarification of

fining methods reflecting a scale in variation), and

Ecological niche models of human land use in Late Pleistocene Southeast Asia suggest both abiotic and biotic variables influenced human dispersal

[1]Anthropology, University of Illinois at Urbana-Champaign, [2]Center for Genomics, Natural History Museum, Copenhagen, Denmark, [3]Homme et Environement, Muséum national d'Histoire naturelle, Musée de l'Homme, France, [4]Faculté de Chirurgie Dentaire, UMR5288 Centre national de la recherche scientifique, France, [5]Institute of Archaeology, Vietnam Academy of Social Sciences, Vietnam, [6]Department of Environmental Sciences, Macquarie University, Australia, [7]Ecole de Observatoire des Sciences de la Terre, Université de Strasbourg, France, [8]Department of National Heritage, Ministry of Information and Culture, Laos, [9]Department of Medical Education, Creighton University School of Medicine

(competition index) from five Late Pleistocene

temperature and rainfall fit well but are less

Funding for this research was provided by the University of Illinois Department of Anthroplogy, The Explorer's Club, and the Beckman Institute CS/AI Award

Pelvic sexual dimorphism: The relationship between sacral slope, body mass, and greater sciatic notch shape

Anthropology, University of Florida

ical factors influence pelvic sexual dimorphism. I

polation. Paired landmarks were reflected across

SS was defined by the angle between the first

body mass and GSN shape is not significant.

moderate but significant in the total (p=0.001),

p=0.757) nor the degree of SS and GSN association (compare.pls, p=0.423) significantly differ

influences GSN dimorphism, accounting for SS.

that biomechanical factors influence GSN

Exome Sequencing Reveals Patterns of Selection Across Brown Lemurs (Eulemur)

[1]Anthropology, University of Massachusetts, Amherst, [2]Organismic and Evolutionary Biology, University of Massachusetts, Amherst, [3]School of Life Sciences, Arizona State University, [4]Anthropology, University of Utah

Eulemur spp.

Eulemur

Eulemur *E. flavifrons*, *E. ruffifrons*, *E. rubriventer* *E. mongoz* *Propithecus* *P. coquereli*

coquereli *E. flavifrons*

After mapping, each sample had 48.7-53.2 Mb

we identified 1.7 million *Eulemur*

lineage-specific positive selection in genes asso-

This work was funded via a grant from the University of Massachusetts Natural History Collections Summer Fellowship program

Lower molar endostructure in *Rudapithecus hungaricus* (late Miocene, Hungary)

[1]Laboratoire PACEA, UMR 5199 CNRS, Université de Bordeaux, Bordeaux, France, [2]University of Toronto, Toronto, ON, Canada, [3]Institute of Human Origins, Tempe, AZ, USA, [4]National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Rudapithecus

Rudapithecus

Rudapithecus

Dryopithecus *Ouranopithecus* *Sivapithecus*,

Rudapithecus

Pongo,

Dryopithecus

Ouranopithecus

Gorilla

Pongo

Rudapithecus, *Dryopithecus* *Ouranopithecus*

Sivapithecus

Ouranopithecus *Dryopithecus*

Rudapithecus *Dryopithecus*,

For the scans of the fossil specimens, we thank J.J. Hublin G. Röβner, A. Mazurier, R. Macchiarelli. Funding provided to CZ by the CNRS and to DRB from NSERC.

Functional morphology of chevron bones in mammals

Department of Anthropology, Stony Brook University

tail flexor musculature. Here, we systematically

and differing sizes, can be identified along the tail

Macropus

we posit that these differences potentially reflect

utility of metrics for quantifying specific aspects

To live and die in the Ocoña Valley: the human remains from Corral Redondo, Peru

[1]MAPSS, University of Chicago, [2]Archaeology, Institute for Field Research

site's premeditated position at the confluence

ores. To better define the site's function and struc-

Project and field school conducted there the first

fied human remains and a sacrificed adult male

capacocha

sacrifice on sacred mountaintops. Additional

The Corral Redondo Archaeological Project and field school were funded by Ms. Heidi King and the Institute for Field Research.

Impact forces and hindlimb vertical impulses in *Gorilla*

[1]Evolutionary Anthropology, Duke University, [2]Department of Biology, James Madison University

IT peak was 27% ± 14% body weight. Younger gorillas had significantly higher ITs than adult

Gorilla

Research supported by the National Science Foundation Grant BCS-1517561

Gut microbiota in the full gastrointestinal tract of a ring-tailed lemur (*Lemur catta*)

[1]College of Veterinary Medicine, Sichuan Agricultural University, Sichuan Province, Chengdu, China, [2]Chengdu Wildlife Institute, Chengdu Zoo, Chengdu, China

CHRISTENSENELLACEAE_R-7_group, *TREPONEMA_2*, *METHANOBREVIBACTER* . *CITROBACTER*

Chengdu Giant Panda Breeding Research Foundation (CPF2017-04)

Molecular Archaeological Research on Human Remains from the Khulhiin am and Khundiin khooloi Sites in Mongolia during the Mongol-Yuan period

School of Archaeology, Jilin University

hypervariable region I (16017-16409) was amplified using three sets of overlapping primers. The identification of mtDNA haplotypes was analyzed by APLP, and AMG gene was amplified by a pair of primers for sex identification. Based on the

significance to understand the social structure,

and West. In addition, in terms of gender identifi-

Particularly, we successful identified the gender

Paleodemography of the Hamingmangha Site - a Neolithic Settlement Abandoned after a Disaster

[1]School of Archaeology, Jilin University, [2]College of Dentistry, Texas A&M University

identified, including 97 bodies stacked in a single

of 26.8 years. The profile of age at death at

flict related, but more likely a communicable

Artificially deformed skulls from Da'an Site – Earliest Evidence and Longest in situ Practice during the Neolithic Age

[1]School of Archaeology, Jilin University, [2]College of Dentistry, Texas A&M University, [3]School of Humanities, Nanyang Technological University

Artificially deformation of the head (ADH) was an

confirmed signs of ADH in modern humans were

7,000 years from 13,000 BP to 6,000 years BP

earliest confirmed ADH case from the eastmost Old World with materials available for scientific

Dental microwear analysis of the ancient population from Jiayi Cemetery, Northwestern China

[1]School of Archaeology, Jilin University, [2]School of History, Classics and Archaeology, the University of Edinburgh

is a significant process to help us understand

findings. A three-dimensional digital microscope

LH/LV

LH/LV

(77.5%) is comparatively close to the index of

findings of biological remains, as well as isotopic

This study was funded by Chinese Scholarships Council.

High Altitude Adaptation and the Evolutionary History of *EPAS1* Gene in Tibetan Population

[1]School of Natural Sciences, University of California, Merced, [2]Department of Ecology and Evolutionary Biology, Brown University, [3]Shenzhen Headquater, BGI, [4]Department of Integrative Biology, University of California, Berkeley

EPAS1

identified as being under strong positive selection in Tibet. This beneficial haplotype also matched

EPAS1

EPAS1

EPAS1

identified a positive correlation between altitude

EPAS1

EPAS1

EPAS1,

fied two introgressed segments in *EPAS1*

EPAS1

confidently suggested that an archaic popula-

EPAS1 beneficial haplotype. In addition, we fit to the observed

Mandibular shape variation within hylobatid species is not consistent with genetic diversity

Sackler Educational Laboratory for Comparative Genomics and Human Origins, American Museum of Natural History

Intraspecific neurocranial shape variation

reflect patterns of neutral genetic diversity. Taxa

ular shape variation within five hylobatid species (*Hylobates klossii*, *H. moloch*, *H. pileatus*, *H. lar* and *Symphalangus syndactylus*)

(π) within each species. Interestingly, mandibular

Hylobates

lar group, which shows increased intraspecific

lar

Anatomical convergences in adult Gorilla and Pongo males

Anthropology, University of California, Santa Cruz

Gorilla and *Pongo*

Gorilla

Pongo

Gorilla and *Pongo*

Gorilla

, "silverback male" and "flanged male" for *Pongo*.

[illegible] *Gorilla* [illegible] *Pongo* [illegible] male body size and sexual dimorphism reflect [illegible] or conspecific males. Large bodies have large guts for digesting high fiber foods and “space” [illegible] markers define and identify high rank or prime [illegible]

Divergence between humans and chimpanzees at the cellular level

[illegible]
Biology, University of Massachusetts Amherst

[illegible] primates. Previous work has identified that gene [illegible] species). We found 3,648 significantly DE genes [illegible] significantly enriched (p < .05) for several path- [illegible] genes are specifically involved in cell adherence [illegible] capability of skin fibroblasts to adhere to plastic when challenged with flowing liquid. We found that chimpanzee fibroblasts adhered sooner and remained adherent for a significantly longer period of time than human fibroblasts (t-test, p [illegible]

[illegible] of influencing interspecies differences in neural [illegible]

The National Chimpanzee Brain Resource is supported by the NIH (NINDS).

Intergenerational Fitness Effects of Early Life Adversity in Baboons

[illegible]
[1]Department of Biology, Duke University, [2]Department of Biological Sciences, Notre Dame, [3]Institute of Primate Research, National Museums of Kenya, [4]Department of Evolutionary Anthropology, Duke University, [5]Duke Population Research Institute, Duke University, [6]Department of Ecology and Evolutionary Biology, Princeton University

[illegible] on direct measures of offspring fitness is largely [illegible] themselves. Specifically, focal offspring whose [illegible] ends of their lives. Together, our findings demon- [illegible]

This research was funded by the National Institutes of Health, the National Science Foundation, the Leakey Foundation, and the Max Planck Institute for Demographic Research.

The Hominid Anterior Inferior Iliac Spine and Why it Reflects the Unique Anatomy of our Iliac Isthmus

[illegible]
Division of Biomedical Sciences and Department of Anthropology, Kent State University

[illegible] iliac isthmus both reflect the same developmental [illegible]

The Embodiment of Gendered Weaning Stress in the Dental Structures of Archaic Texas Hunter-Gatherers: An Analysis of Age-at-Formation of Linear Enamel Hypoplasia

[illegible]
Anthropology, Texas State University

[illegible] ical remains is abundant, research specifically [illegible] from 2700 BCE to 1500 CE. Previous research on [illegible] Results indicate clear and significant relation- [illegible] mortality, revealing earlier first incidences of LEH

ABSTRACTS

This research was not funded.

Among elderly Kuwaitis social support buffers functional and physiological dysregulation

[1]Anthropology Department, The Ohio State University, [2]Anthropology Department, Kuwait University

support and each biomarker and men (n = 79) and women (n = 174) separately (α = 0.05). Women had significantly lower DHEA-S. In men, age

Among men, being married associated signifi-

social support associated significantly with lower

ciated significantly with lower LDL, and children at home associated significantly with lower

ated significantly with lower norepinephrine and

associated significantly with lower DBP, Hb_A ,

Uncovering the institutionalized: Reconstructing the interplay of gender, sex, and social race on the lives of women institutionalized in the Mississippi State Asylum, Jackson, MS (AD 1855-1935)

Department of Anthropology and Middle Eastern Cultures, Mississippi State University

As Grauer reflected in her 2003 piece, "Where were

sub-populations in stratified societies, are often

1863-1877) and early Jim Crow-era (1877-1965)

women and those of color. Here, I discuss find-

but the vast majority was identified as "Negro" by

records from 1907 to 1912 (n=769 deaths),

(n=177) surviving an average of 13 years, but

across the burials (N=67). Bioarchaeologically,