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References

Afrika

Ruiz-Giralt 2023

Abel Ruiz-Giralt, Laurie Nixon-Darcus, A. Catherine D'Andrea, Yemane Meresa, Stefano Biagetti & Carla Lancelotti, *On the verge of domestication, Early use of C_4 plants in the Horn of Africa.* PNAS **120** (2023), e2300166120.

pnas120-e2300166120-Supplement.pdf

The earliest evidence of agriculture in the Horn of Africa dates to the Pre-Aksumite period (ca. 1600 BCE). Domesticated C4 cereals are considered to have been introduced from the Near East, whereas the origin (local or not) and time of domestication of various African C4 species such as sorghum, inger millet, or t'ef remain unknown. In this paper, we present the results of the analysis of microbotanical residues (starch and phytoliths) from grinding stones recovered from two archaeological sites in northeastern Tigrai (Ethiopia), namely Mezber and Ona Adi. Together, both sites cover a time period that encompasses the earliest evidence of agriculture in the region (ca. 1600 BCE) to the fall of the Kingdom of Aksum (ca. 700 CE). Our data indicate that these communities featured complex mixed economies which included the consumption of both domestic and wild plant products since the Initial Pre-Aksumite Phase (ca. 1600 to 900 BCE), including C3 crops and legumes, but also C4 cereals and geophytes. These new data expand the record of C4 plant use in the Horn of Africa to over 1,000 y. It also represents the first evidence for the consumption of starchy products in the region. These results have parallels in the wider northeastern African region where complex food systems have been documented. Altogether, our data represent a significant challenge to our current knowledge of Pre-Aksumite and Aksumite economies, forcing us to rethink the way we deine these cultural horizons.

Keywords: archeobotany | starch granules | phytoliths | C4 plants | Horn of Africa

Significance: The Horn of Afric h s long een considered region in which food production rose independently, m inly ec use of the iodiversity displ yed y domestic ted C4 pl nts. However, the direct rch eologic l evidence of this process h s yet to – discovered. Here, we present the results of st rch nd phytolith n lyses demonstr ting the – rliest evidence of C. pl nt use in the Horn, c . 3,500 ye rs go. These – rly grop stor l communities fe tured complex food systems which included domestic ted nd wild gr ins, s well s numerous geophytes. Reg rding C4 pl nts, our results point to n intensive exploit tion of wild species since the mid- 2nd millennium BCE which would h ve eventu lly led to the development of domestic ted forms shortly fter the st rt of the Common Er .

Aktuell

Baldini 2023

James U. L. Baldini et al., *Possible magmatic CO_2 influence on the Laacher See eruption date.* nature **619** (2023), e1–e2.

The varve-counting (12,880 ± 40 years bp)2 and 40Ar/39Ar (12,900 ± 560 years bp)3 LSE dates are within 10 and 30 years, respectively, of a large sulfate spike at around 12,870 years bp in the ice core from the North Greenland Ice Core Project (NGRIP) reported by Reinig et al. and subsequently discussed elsewhere11 (Fig. 2). The sulfate distribution between Greenland and Antarctica suggests that this was a large, mid-to-high latitude Northern Hemisphere eruption, a signature consistent with the LSE. Both studies1,11 did not consider this spike to potentially have arisen from the LSE, because it was outside the uncertainties of the date proposed by Reinig et al.

James U. L. Baldini, Richard J. Brown, Fabian B. Wadsworth, Alice R. Paine, Jack W. Campbell, Charlotte E. Green, Natasha Mawdsley & Lisa M. Baldini

Reinig 2023

Frederick Reinig et al., *Possible magmatic CO_2 influence on the Laacher See eruption date, Replying to J. U. L. Baldini et al.* nature **619** (2023), e3–e8.

Although the release of CO2 from active volcanic systems can influence 14C values, we here provide both relict and modern radiocarbon evidence to demonstrate why our LSE date of 13,006 ± 9 calibrated years before present (bp; taken as ad 1950) is correct.

Frederick Reinig, Lukas Wacker, Olaf Jöris, Clive Oppenheimer, Giulia Guidobaldi, Daniel Nievergelt, Florian Adolphi, Paolo Cherubini, Stefan Engels, Jan Esper, Frank Keppler, Alexander Land, Christine Lane, Hardy Pfanz, Sabine Remmele, Michael Sigl, Adam Sookdeo & Ulf Büntgen

Salathé 2023

Marcel Salathé, *Privacy-preserving contact tracing curbed COVID.* nature **619** (2023), 31–33.

Despite controversies over decentralized contact-tracing apps, the data now show that they saved thousands of lives during the pandemic. National and international authorities must heed the lessons.

Vogel 2023

Gretchen Vogel & Jennifer Couzin-Frankel, *Studies probe COVID-19 shots' link to rare symptoms.* science **381** (2023), 18–19. DOI:10.1126/science.adj5607.

Details emerge for uncommon cases of neurologic complications, blood pressure swings, and other side effects.

As countries draft plans for a round of updated vaccines, some scientists theorize, reassuringly, that people whose immune systems accepted a previous shot without incident would be highly unlikely to experience immune dysfunction following a booster. But that doesn't change the urgent need to help those suffering now, Reddy says. "We need to figure out why it's happening to this subset of people. Why is it happening to them and not everyone else?"

Anthropologie

Villalba-Mouco 2023

Vanessa Villalba-Mouco & Wolfgang Haak et al., *A 23,000-year-old southern Iberian individual links human groups that lived in Western*

Europe before and after the Last Glacial Maximum. Nature Ecology & Evolution **7** (2023), 579–609.

NatEcoEvo07-0579-Supplement.pdf

Human populations underwent range contractions during the Last Glacial Maximum (LGM) which had lasting and dramatic efects on their genetic variation. The genetic ancestry of individuals associated with the post-LGM Magdalenian technocomplex has been interpreted as being derived from groups associated with the pre-LGM Aurignacian. However, both these ancestries difer from that of central European individuals associated with the chronologically intermediate Gravettian. Thus, the genomic transition from pre- to post-LGM remains unclear also in western Europe, where we lack genomic data associated with the intermediate Solutrean, which spans the height of the LGM. Here we present genome-wide data from sites in Andalusia in southern Spain, including from a Solutrean-associated individual from Cueva del Malalmuerzo, directly dated to ≈23,000 cal yr bp. The Malalmuerzo individual carried genetic ancestry that directly connects earlier Aurignacian-associated individuals with post-LGM Magdalenian-associated ancestry in western Europe. This scenario difers from Italy, where individuals associated with the transition from preand post-LGM carry diferent genetic ancestries. This suggests diferent dynamics in the proposed southern refugia of Ice Age Europe and posits Iberia as a potential refugium for western European pre-LGM ancestry. More, individuals from Cueva Ardales, which were thought to be of Palaeolithic origin, date younger than expected and, together with individuals from the Andalusian sites Caserones and Aguilillas, fall within the genetic variation of the Neolithic, Chalcolithic and Bronze Age individuals from southern Iberia.

Vanessa Villalba-Mouco, Marieke S. van de Loosdrecht, Adam B. Rohrlach, Helen Fewlass, Sahra Talamo, He Yu, Franziska Aron, Carles Lalueza-Fox, Lidia Cabello, Pedro Cantalejo Duarte, José Ramos-Muñoz, Cosimo Posth, Johannes Krause, Gerd-Christian Weniger & Wolfgang Haak

Isotope

Stroud 2023

Elizabeth Stroud, Michael Charles, Amy Bogaard & Helena Hamerow, *Turning up the heat, Assessing the impact of charring regime on the morphology and stable isotopic values of cereal grains.* Journal of Archaeological Science **153** (2023), 105754, 1–10.

The stable isotopic values of charred crops are now frequently analysed in archaeology. While previous research has highlighted how grain morphology and stable carbon and nitrogen isotope values change with grain charring temperature, such research has been limited to temperature ranges under 260 °C and using predominately Mediterranean cereals and pulses. For the irst time, this study provides experimental data on the impact of charring on two northern European cereals, rye and oat, both morphologically and isotopically. New experimental charring of rye, oat, bread wheat and hulled barley extends the charring window to 300 °C, providing an insight into the morphological changes to the grains as well as the difference between charred and uncharred isotopic values. This range of cereals and conditions opens up potential for stable isotopic investigation of medieval agricultural growing conditions and practices in Britain. The results indicate that isotopically, a 0.16‰ and a 0.32‰ offset should be applied to d13C and d15N values, respectively, of grains charred between 230 and 300 °C. Morphological and internal structural changes, as well as external distortion, are key attributes which vary with charring temperature and duration. Guidelines are provided to enable

assessment of whether archaeological grains of bread wheat, hulled barley, rye and oat fall within the acceptable charring window for isotopic analysis.

Keywords: Stable isotope analysis | Grain morphology | Charring experiment | Archaeobotany | Carbon isotope analysis | Nitrogen isotope analysis | Cereals

Kultur

Anderson 2023

Abigail Anderson, Sophia Chilczuk, Kaylie Nelson, Roxanne Ruther & Cara Wall-Scheffler, *The Myth of Man the Hunter, Women's contribution to the hunt across ethnographic contexts.* PLoS ONE **18** (2023), e287101. DOI:10.1371/journal.pone.0287101.

The sexual division of labor among human foraging populations has typically been recognized as involving males as hunters and females as gatherers. Recent archeological research has questioned this paradigm with evidence that females hunted (and went to war) throughout the Homo sapiens lineage, though many of these authors assert the pattern of women hunting may only have occurred in the past. The current project gleans data from across the ethnographic literature to investigate the prevalence of women hunting in foraging societies in more recent times. Evidence from the past one hundred years supports archaeological finds from the Holocene that women from a broad range of cultures intentionally hunt for subsistence. These results aim to shift the male-hunter female-gatherer paradigm to account for the significant role females have in hunting, thus dramatically shifting stereotypes of labor, as well as mobility.

Clark 2023

Gregory Clark, *The inheritance of social status, England, 1600 to 2022.* PNAS **120** (2023), e2300926120.

pnas120-e2300926120-Supplement1.pdf, pnas120-e2300926120-Supplement2.pdf

A lineage of 422,374 English people (1600 to 2022) contains correlations in social outcomes among relatives as distant as 4th cousins. These correlations show striking patterns. The irst is the strong persistence of social status across family trees. Correlations decline by a factor of only 0.79 across each generation. Even fourth cousins, with a common ancestor only ive generations earlier, show signiicant status correlations. The second remarkable feature is that the decline in correlation with genetic distance in the lineage is unchanged from 1600 to 2022. Vast social changes in England between 1600 and 2022 would have been expected to increase social mobility. Yet people in 2022 remain correlated in outcomes with their lineage relatives in exactly the same way as in preindustrial England. The third surprising feature is that the correlations parallel those of a simple model of additive genetic determination of status, with a genetic correlation in marriage of 0.57.

Keywords: social mobility | genetic inheritance | status persistence | assortative mating

Significance: There is widespread belief across the social sciences in the ability of social interventions and social institutions to signiicantly inluence rates of social mobility. In England, 1600 to 2022, we see considerable change in social institutions across time. Half the population was illiterate in 1800, and not until 1880 was compulsory primary education introduced. Progressively after this, educational provision and other social supports for poorer families expanded greatly. The paper shows, however, that these interventions did not change in any measurable way the strong familial persistence of social status across generations.