

References

Aktuell

COHEN 2023

Jon Cohen, *New clues to pandemic's origin surface, causing uproar.* *science* **379** (2023), 1175–1176.

Genetic sequences from Wuhan market may point to animal that spread SARS-CoV-2, but data remain hidden.

China to disclose all pertinent data. David Relman, a Stanford University microbiologist who has argued that the lab-leak scenario deserves more attention, calls the market animal sequences, if verified, “helpful.” But, he adds, “I think there are likely to be lots of relevant data and other information that have not yet seen the light of day—of relevance to both major hypotheses.”

TSANG 2023

Tim K. Tsang, Xiaotong Huang, Can Wang, Sijie Chen, Bingyi Yang, Simon Cauchemez & Benjamin John Cowling, *The effect of variation of individual infectiousness on SARS-CoV-2 transmission in households.* *eLife* **12** (2023), e82611. DOI:10.7554/eLife.82611.

Quantifying variation of individual infectiousness is critical to inform disease control. Previous studies reported substantial heterogeneity in transmission of many infectious diseases including SARS-CoV-2. However, those results are difficult to interpret since the number of contacts is rarely considered in such approaches. Here, we analyze data from 17 SARS-CoV-2 household transmission studies conducted in periods dominated by ancestral strains, in which the number of contacts was known. By fitting individual-based household transmission models to these data, accounting for number of contacts and baseline transmission probabilities, the pooled estimate suggests that the 20% most infectious cases have 3.1-fold (95% confidence interval: 2.2- to 4.2-fold) higher infectiousness than average cases, which is consistent with the observed heterogeneity in viral shedding. Household data can inform the estimation of transmission heterogeneity, which is important for epidemic management.

Editor's evaluation While it has been demonstrated that for SARS-CoV-2, a small fraction of individuals contributes to the majority of onward transmission, this heterogeneity is driven by multiple factors that span both biological and behavioral causes. By performing a solid meta-analysis of household transmission studies, the authors fit a household transmission model to the curated data to estimate variation in infectiousness which provides a valuable contribution to the existing knowledge base. By collating data from multiple studies, they are able to more fully investigate individual variability.

Bibel

RICHELLE 2023

Matthieu Richelle & Andrew Burlingame, *Set in Stone? Another Look at the Mesha Stele.* *Biblical Archaeology Review* **49** (2023), i, 54–57.

As such, this section of line 31 could contain any number of possible letter combinations or conjectured reconstructions based on the sequence b[??]wd[...]. One of these possibilities, of course, is still to reconstruct b[td]wd, but that would rest on contextual and historical grounds rather than epigraphical considerations, and that is a subject for another debate. In the end, however, it is fascinating to see how this inscription, found more than a century and a half ago, still puzzles epigraphers and historians.

Grabung

BECHAR 2017

Shlomit Bechar, *How to Find the Hazor Archives, (I Think)*. [Biblical Archaeology Review 43 \(2017\), ii, 55–60 + 70](#).

These rooms are scheduled for excavation in upcoming seasons, and we believe that Hazor’s Late Bronze Age archive will be found at last.

BECHAR 2023

Shlomit Bechar, *Who Lived at Hazor?* [Biblical Archaeology Review 49 \(2023\), i, 50–53](#).

Based on the current data, it is impossible to ascertain the social status of the inhabitants of the city, especially during the Late Bronze Age when we lack sufficient textual sources. Nonetheless, it seems safe to say that any reference to them as “common people” could be misleading, based on the textual evidence presented above that confirms at least some of the city’s Middle Bronze Age population should be considered elite.

Judentum

RYAN 2023

Jordan J. Ryan, *Jesus in the Synagogue*. [Biblical Archaeology Review 49 \(2023\), i, 34–41](#).

Our understanding of synagogues during the early Roman period (63 BCE–135 CE) in the southern Levant has grown exponentially in recent years.

No clear archaeological or literary evidence exists for the separation of seating by gender in synagogues of this period. In fact, Luke 13:11 depicts Jesus encountering a woman with a bent back in a synagogue, which implies that they both belonged in the same space. Both common people and elites appear in accounts of public synagogue gatherings. For example, Josephus describes several meetings at the synagogue in Tiberias that included a local magistrate, the local council, and the “leading men” of the city (Life 276–303).

The recent archaeological discoveries and scholarship on synagogues have helped to recover a vital piece of early Jewish life and culture. So too was it a vital piece of Jesus’s life and times.

Keramik

MAZOW 2023

Laura B. Mazow, *Why All Tubs Are Not Bathtubs*. [Biblical Archaeology Review 49 \(2023\), i, 16–18](#).

As such, rather than seeing all tubs as bathtubs, we should take a broader perspective and recognize that at least some of these artifacts were likely better suited to craft production than personal hygiene.

Klima

DAVTIAN 2023

Nina Davtian & Edouard Bard, *A new view on abrupt climate changes and the bipolar seesaw based on paleotemperatures from Iberian Margin sediments*. [PNAS 120 \(2023\), e2209558120](#).

[pnas120-e2209558120-Supplement.pdf](#)

The last glacial cycle provides the opportunity to investigate large changes in the Atlantic Meridional Overturning Circulation (AMOC) beyond the small fluctuations evidenced from direct measurements. Paleotemperature records from Greenland and the North Atlantic show an abrupt variability, called Dansgaard-Oeschger (DO) events, which is associated with abrupt changes of the AMOC. These DO events also have Southern Hemisphere counterparts via the thermal bipolar seesaw, a concept describing the meridional heat transport leading to asynchronous temperature changes between both hemispheres. However, temperature records from the North Atlantic show more pronounced DO cooling events during massive releases of icebergs known as Heinrich (H) events, contrary to ice-core-based temperature records from Greenland. Here, we present high-resolution temperature records from the Iberian Margin and a Bipolar Seesaw Index to discriminate DO cooling events with and without H events. We show that the thermal bipolar seesaw model generates synthetic Southern Hemisphere temperature records that best resemble Antarctic temperature records when using temperature records from the Iberian Margin as inputs. Our data-model comparison emphasizes the role of the thermal bipolar seesaw in the abrupt temperature variability of both hemispheres with a clear enhancement during DO cooling events with H events, implying a relationship that is more complex than a simple lip-lop between two climate states linked to a tipping point threshold.

Keywords: bipolar seesaw | abrupt climate changes | paleotemperature | paleoceanography

Significance: The evolution of the Atlantic Meridional Overturning Circulation remains difficult to constrain from direct measurements. During the last glacial cycle, the strength of this circulation covaried with temperature in the North Atlantic, itself connected to Southern Hemisphere temperature. However, this interhemispheric connection was mostly studied using Greenland and Antarctic ice cores, resulting in an incomplete picture of the thermal bipolar seesaw. Using new temperature records from the Iberian Margin, a new Bipolar Seesaw Index, and Southern Hemisphere temperature simulations, we discriminate Northern Hemisphere cold events with and without massive iceberg discharges into the North Atlantic. Our data-model comparison implies a relationship that is more complex than a simple lip-lop between two climate states linked to a tipping point threshold.

ZHANG 2023

Yi Zhang & William R. Boos, *An upper bound for extreme temperatures over midlatitude land*. [PNAS 120 \(2023\), e2215278120](#).

[pnas120-e2215278120-Supplement.pdf](#)

Heatwaves damage societies worldwide and are intensifying with global warming. Several mechanistic drivers of heatwaves, such as atmospheric blocking and soil

moisture-atmosphere feedback, are well-known for their ability to raise surface air temperature. However, what limits the maximum surface air temperature in heatwaves remains unclear; this became evident during recent Northern Hemisphere heatwaves which achieved temperatures far beyond the upper tail of the observed statistical distribution. Here, we present evidence for the hypothesis that convective instability limits annual maximum surface air temperatures (TX_x) over midlatitude land. We provide a theory for the corresponding upper bound of midlatitude temperatures, which accurately describes the observed relationship between temperatures at the surface and in the midtroposphere. We show that known heatwave drivers shift the position of the atmospheric state in the phase space described by the theory, changing its proximity to the upper bound. This theory suggests that the upper bound for midlatitude TX_x should increase 1.9 times as fast as 500-hPa temperatures at the time and location of TX_x occurrences. Using empirical 500-hPa warming, we project that the upper bound of TX_x over Northern Hemisphere midlatitude land (40N to 65N) will increase about twice as fast as global mean surface air temperature, and TX_x will increase faster than this bound over regions that dry on the hottest days.

Keywords: heatwave | extreme temperature | convective instability | midlatitude | global warming

Significance: Heatwaves cause great harm to societies, especially in midlatitude regions that are not adapted to high temperatures. An accurate projection for extremely high temperatures is thus needed to guide adaptation to ongoing global warming. Here, we provide a theory for the upper bound of midlatitude surface temperatures and a scaling for how annual maximum temperatures over midlatitude land will change with global warming.

Politik

LUPIA 2023

Arthur Lupia, *Political endorsements can affect credibility*. [nature](#) **615** (2023), 590–591.

In 2020, Nature endorsed Joe Biden in the US presidential election. A survey finds that viewing the endorsement did not change people's views of the candidates, but caused some to lose confidence in Nature and in US scientists generally.

The current study provides evidence that, when a publication whose credibility comes from science decides to politicize its content, it can damage that credibility. If this decreased credibility, in turn, reduces the impact of scientific research published in the journal, people who would have benefited from the research are the worse for it. I read Zhang's work as signalling that Nature should avoid the temptation to politicize its pages. In doing so, the journal can continue to inform and enlighten as many people as possible.

Story or Book

DEVER 2017

William G. Dever, *Who Destroyed Hazor?* [Biblical Archaeology Review](#) **43** (2017), ii, 62–64.

Ben-Tor's popular volume here summarizes the results of his 24 seasons of excavations since 1990.

Hazor: Canaanite Metropolis, Israelite City. By Amnon Ben-Tor. (Israel Exploration Society and Biblical Archaeology Society, 2016), 232 pp. and 138 color illust., \$40 (hardcover)

This is a welcomed volume that makes accessible to nonspecialist readers the story of more than 30 seasons of excavations at one of Israel's largest and most important sites. It joins similar popular books on Biblical sites like Gibeon, Jericho, Jerusalem, Megiddo, Shechem and even Gezer (Hebrew only). It can be compared with Yadin's popular account of his excavations (1975).⁴ Ben-Tor's narrative is not quite as spectacular as Yadin's spell-binder. But his book is clearer, more balanced and more about the site than the author.

I congratulate Amnon on taking the time, trouble and expense to provide such a book, and I trust that it will find the wide audience that it deserves. More archaeologists should take responsibility for presenting their work to the public in an accessible format. Only in that way can archaeology earn the public's trust—and support.