The Institute of Anatomical Sciences

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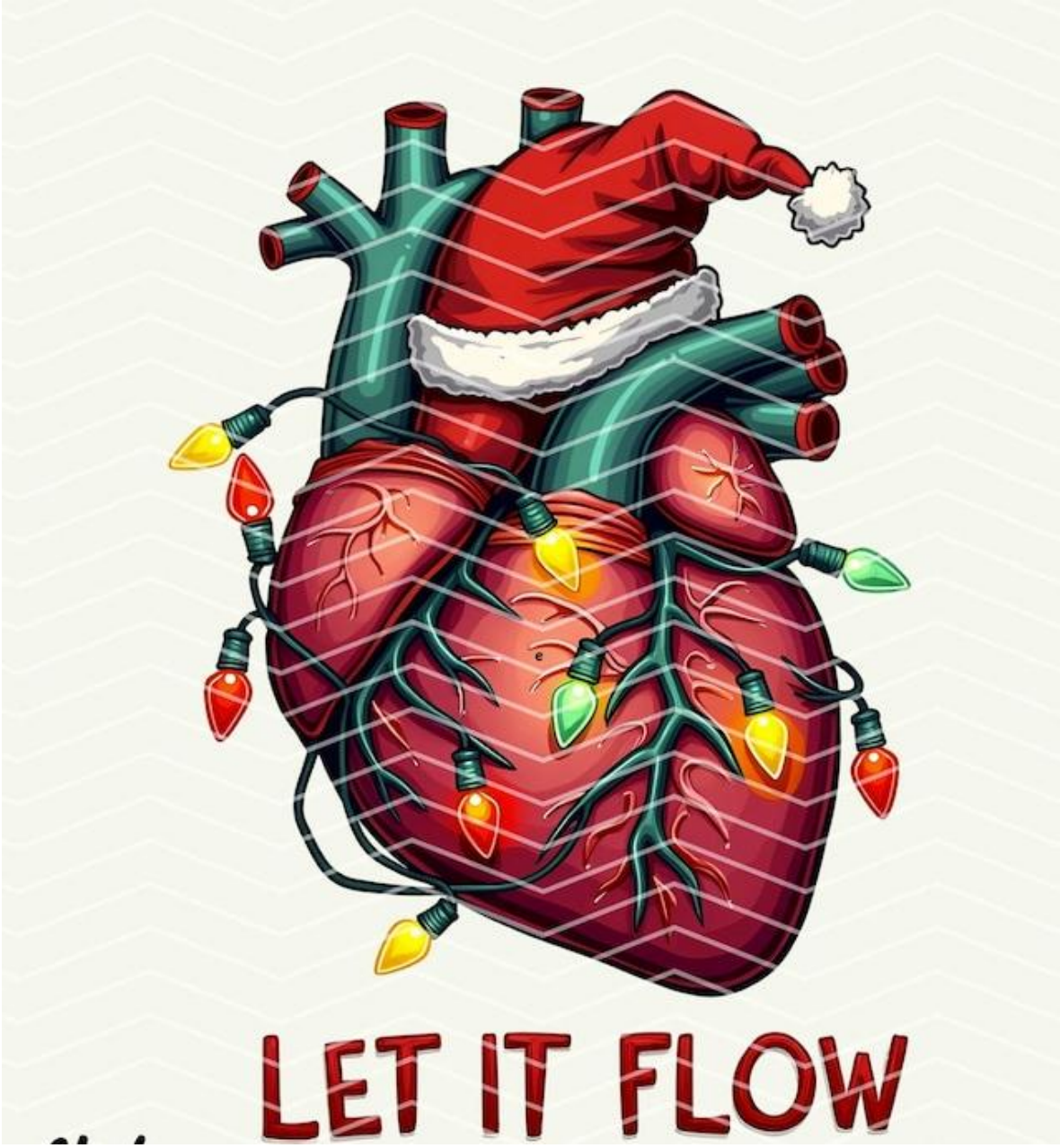
MERRY CHRISTMAS!

December 2025



Contents

Archaeology worlds

Mysterious pits on 2-million-year-old fossil teeth unlock clues to human evolution
The bizarre pattern of tiny pits on fossil teeth, once thought to be signs of disease or malnutrition, might actually hold a genetic key to unlocking our evolutionary history. According to a recent study, published in the Journal of Human Evolution, the shallow, uniform, circular pits named "UCS pitting" are associated with fossil molars from Paranthropus, an extinct genus closely related to humans, and might be a feature rather than a defect.
Led by researcher Ian Towle of Monash University's Palaeodiet Research Lab, the research team analyzed fossil teeth spanning over two million years of evolution from eastern and southern Africa sites. According to Towle, this specific type of pitting might turn out to be a unique marker for certain evolutionary lineages, helping us identify fossils...
More information: https://archaeologymag.com/.../mysterious-pits-on-2.../
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BBC NEWS

Ireland

How hundreds of Irish babies came to be buried in a secret mass grave

Chris Page, BBC News Ireland correspondent

No burial records. No headstones. No memorials.
Nothing until 2014, when an amateur historian uncovered evidence of a mass grave, potentially in a former sewage tank, believed to contain hundreds of babies in Tuam, County Galway, in the west of Ireland.

Now, investigators have moved their diggers onto the nondescript patch of grass next to a children's playground on a housing estate in the town. An excavation, expected to last two years, will begin on Monday.
The area was once where St Mary's children's home stood, a church-run institution that housed thousands of women and children between 1925 and 1961.

Image source,Getty Images/Charles McQuillan

Many of the women had fallen pregnant outside of marriage and were shunned by their families - and separated from their children after giving birth.
According to death records, Patrick Derrane was the first baby to die at St Mary's – in 1915, aged five months. Mary Carty, the same age, was the last in 1960.
In the 35 years between their deaths, another 794 babies and young children are known to have died there - and it is believed they are buried in what former Taoiseach (Irish prime minister) Enda Kenny dubbed a "chamber of horrors".
PJ Haverty spent the first six years of his life in the place he calls a prison - but he considers himself one of the lucky ones.
"I got out of there."

PJ Haverty, pictured at the garden where investigators will begin their excavations

He remembers how the "home children", as they were known, were shunned at school.
"We had to go 10 minutes late and leave 10 minutes early, because they didn't want us talking to the other kids," PJ said.
"Even at break-time in the school, we weren't allowed to play with them – we were cordoned off.
"You were dirt from the street."
The stigma stayed with PJ his whole life, even after finding a loving foster home and, in later years, tracking down his birth mother, who was separated from him when he was a one-year-old.
The home, run by the nuns of the Bon Secours Sisters, was an invisible spectre that loomed over him and many others in Tuam for decades – until amateur historian Catherine Corliss brought St Mary's dark past into the light.

Catherine Corliss' shocking findings about the mass grave emerged in 2014

Discovering the mass grave

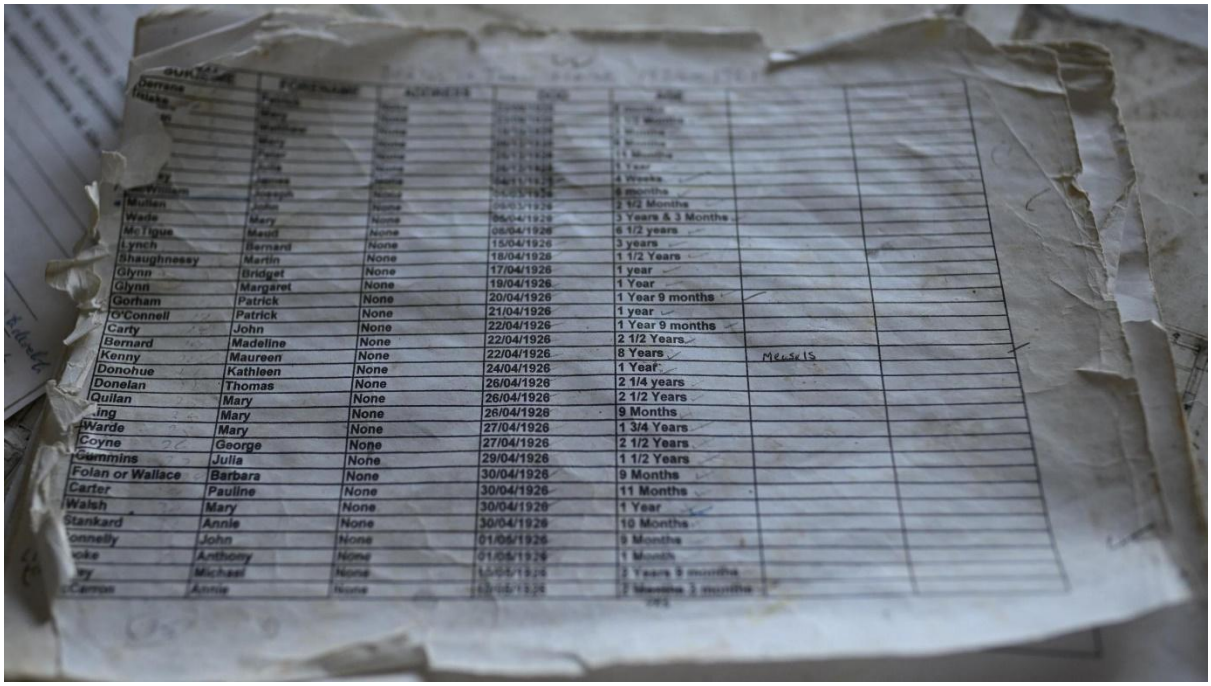
Interested in delving into her family's past, Catherine took a local history course in 2005. Later, her interest turned to St Mary's and the "home children" who came to school separately from her and her classmates.
"When I started out, I had no idea what I was going to find."
To begin with, Catherine was surprised her innocuous inquiries were being met with blank responses or even suspicion.
"Nobody was helping, and nobody had any records," she said.
That only fed her determination to find out more about the children at the home.
A breakthrough came when she spoke to a cemetery caretaker, who brought her to the housing estate where the institution once stood.

At the side of a children's playground, there was a square of lawn with a grotto – a small shrine centred on a statue of Mary.

The caretaker told Catherine that two boys had been playing in that area in the mid-1970s after the home was demolished, and had come across a broken concrete slab. They pulled it up to reveal a hole.

The grotto at the garden above what is believed to be the mass grave. People have left mementoes, messages and items of remembrance

Inside they saw bones. The caretaker said the authorities were told and the spot was covered up. People believed the remains were from the Irish Famine in the 1840s. Before the mother-and-baby home, the institution was a famine-era workhouse where many people had died.
But that didn't add up for Catherine. She knew those people had been buried respectfully in a field half a mile away - there was a monument marking the spot.
Her suspicion was further raised when she compared old maps of the site. One, from 1929, labelled the area the boys found the bones as a "sewage tank". Another, from the 1970s after the home was demolished, had a handwritten note next to that area saying "burial ground".
The map did seem to indicate there was a grave at the site – and Catherine had read the sewage tank labelled on the map had become defunct in 1937 so, in theory, was empty. But who was buried there?



Catherine received a list recording hundreds of children's deaths at the St Mary's institution

Catherine called the registration office for births, deaths and marriages in Galway and asked for the names of all the children who had died at the home.
A fortnight later a sceptical member of staff called to ask if she really wanted them all – Catherine expected "20 or 30" - but there were hundreds.
The full list, when Catherine received it, recorded 796 dead children.
She was utterly shocked. Her evidence was starting to indicate who was likely to be underneath that patch of grass at St Mary's.
But first, she checked burial records to see if any of those hundreds of children were buried in cemeteries in Galway or neighbouring County Mayo – and couldn't find any.
Without excavation, Catherine couldn't prove it beyond doubt. She now believed that hundreds of children had been buried in an unmarked mass grave, possibly in a disused sewage tank, at the St Mary's Home.
When her findings broke into an international news story in 2014, there was considerable hostility in her home town.
"People weren't believing me," she recalled. Many cast doubt - and scorn - that an amateur historian could uncover such an enormous scandal.
But there was a witness who had seen it with her own eyes.

Warning: The following sections contain details some readers might find distressing

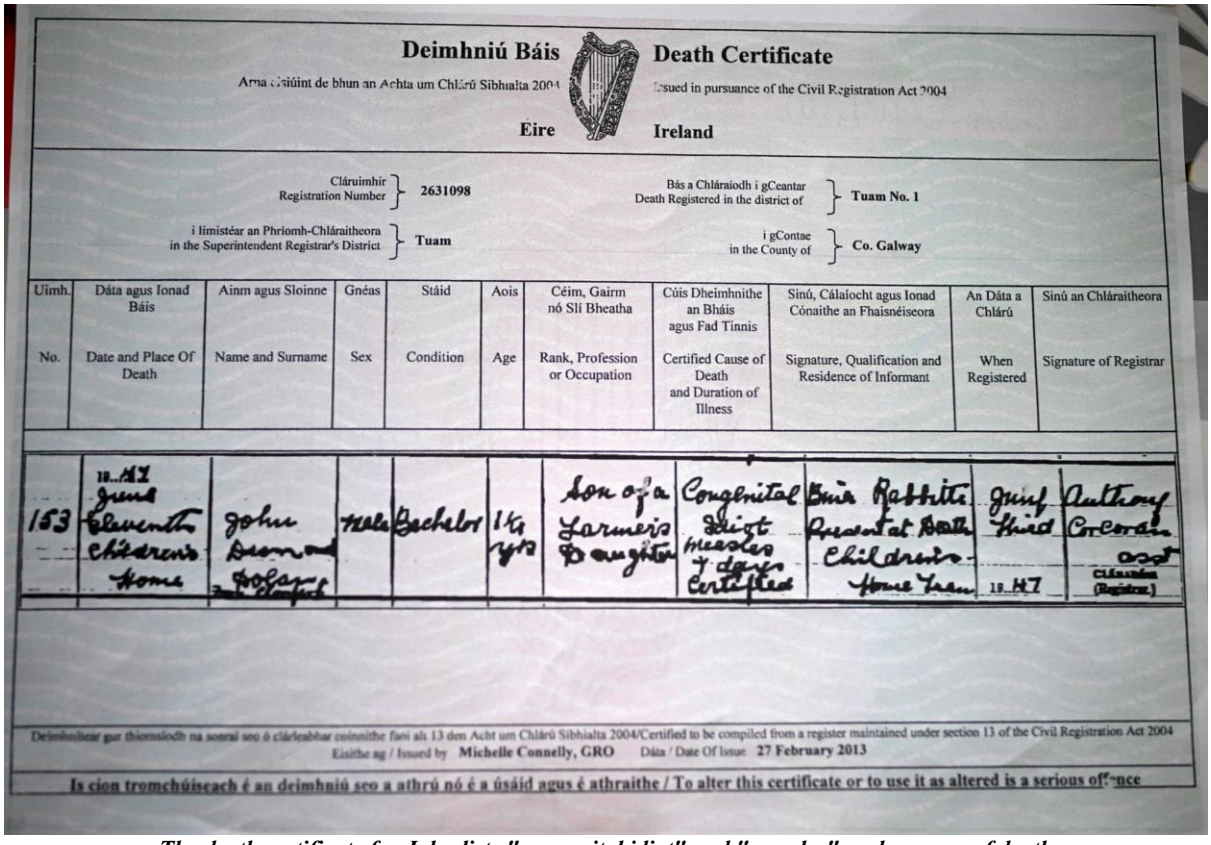
Mary Moriarty lived in one of the houses near the site of the institution in the mid-1970s. Shortly after she spoke to BBC News, she passed away, but her family have agreed to allow what she told us to be published and broadcast.
Mary recalled two women coming to her in the early 1970s saying "they saw a young fella with a skull on a stick".
Mary and her neighbours asked the child where he had found the skull. He showed them some shrubbery and Mary, who went to look, "fell in a hole".
Light streamed in from where she had fallen. That's when she saw "little bundles", wrapped in cloths that had gone black from rot and damp, and were "packed one after the other, in rows up to the ceiling".
How many?
"Hundreds," she replied.

Some time later, when Mary's second son was born in the maternity hospital in Tuam, he was brought to her by the nuns who worked there "in all these bundles of cloths" - just like those she had seen in that hole.
"That's when I copped on," Mary says, "what I had seen after I fell down that hole were babies."

Mary Moriarty lived in one of the houses built at the site of the home in the 1970s

In 2017, Catherine's findings were confirmed - an Irish government investigation found "significant quantities of human remains" in a test excavation of the site.
The bones were not from the famine and the "age-at-death range" was from about 35 foetal weeks to two or three years.
By now, a campaign was under way for a full investigation of the site - Anna Corrigan was among those who wanted the authorities to start digging.
Until she was in her 50s, Anna believed she was an only child. But, when researching her family history in 2012, she discovered her mother had given birth to two boys in the home in 1946 and 1950, John and William. Anna was unable to find a death certificate for William, but did find one for John – it officially registers his death at 16 months. Under cause of death it listed "congenital idiot" and "measles".
An inspection report of the home in 1947 had some more details about John. "He was born normal and healthy, almost nine pounds (4kg) in weight," Anna said. "By the time he's 13 months old, he's emaciated with a voracious appetite, and has no control over bodily functions.
"Then he's dead three months later."

Anna Corrigan discovered her mother gave birth to two boys - John and William - in the home



Deimhniú Báis **Death Certificate**

Arna chiúint de bhun an Achta um Chláirú Sibhialta 2004 — Issued in pursuance of the Civil Registration Act 2004

Éire **Ireland**

Cláruimhir / Registration Number: **2631098**

Bás a Chláraíodh i gCeantar / Death Registered in the district of: **Tuam No. 1**

i limistéar an Phriomh-Chláraitheora / in the Superintendent Registrar's District: **Tuam**

i gContae / in the County of: **Co. Galway**

Uimh. / No.	Dáta agus Ionad Báis / Date and Place Of Death	Ainm agus Sloinne / Name and Surname	Gnéas / Sex	Stáid / Condition	Aois / Age	Céim, Gairm nó Slí Bheatha / Rank, Profession or Occupation	Cúis Dheimhnithe an Bháis agus Fad Tinnis / Certified Cause of Death and Duration of Illness	Sínú, Cálaíocht agus Ionad Cónaithe an Fhaisnéiseora / Signature, Qualification and Residence of Informant	An Dáta a Chlárú / When Registered	Sínú an Chláraitheora / Signature of Registrar
153	10th June Eleventh Children's Home	John Desmond Corrigan	Male	Bachelor	1 yrs 6 mths	Son of a Farmers Daughter	Congenital Idiot Measles 7 days Certified	Brid Rabbitte Present at Death Children's Home Tuam	13th June 1947	Anthony Corcoran Asst Clerk (Registrar)

Deimhnítear gur thionsíodh na sonraí seo ó chláreabhar coinnithe faoi alt 13 den Acht um Chláirú Sibhialta 2004/Certified to be compiled from a register maintained under section 13 of the Civil Registration Act 2004

Eisithe ag / Issued by **Michelle Connelly, GRO** Dáta / Date Of Issue **27 February 2013**

Is cion tromchúiseach é an deimhniú seo a athrú nó é a úsáid agus é athraithe / To alter this certificate or to use it as altered is a serious offence

The death certificate for John lists "congenital idiot" and "measles" under cause of death

An entry from the institution's book of "discharges" says William died in 1951 – she does not know where either is buried.
Anna, who set up the Tuam Babies Family Group for survivors and relatives, said the children have been given a voice. "We all know their names. We all know they existed as human beings."
Now, the work begins to find out the full extent of what lies beneath that patch of grass in Tuam.
'Absolutely tiny'

Daniel MacSweeney, the head of the excavation, has previously been involved in searches for missing bodies in conflict zones around the world

The excavation is expected to take about two years.
"It's a very challenging process – really a world-first," said Daniel MacSweeney, the head of the operation, who has helped find missing bodies in conflict zones such as Afghanistan.
He explained that the remains would have been mixed together and that an infant's femur - the body's largest bone - is only the size of an adult's finger.
"They're absolutely tiny," he said. "We need to recover the remains very, very carefully – to maximise the possibility of identification."
The difficulty of identifying the remains "can't be underestimated", he added.

For however long it takes, there will be people like Anna waiting for news - hoping to hear about sisters, brothers, uncles, aunts and cousins they never had the chance to meet.
Details of help and support with child bereavement are available in the UK at BBC Action Line
Related topics

TUAM
Ireland's secret burial shame

Read more from the survivors, relatives and campaigners who helped reveal the secret of Tuam after a decades-long wait for the truth.

LIVESCIENCE

See the stunning reconstruction of a Stone Age woman who lived 10,500 years ago in Belgium
Story by Aristos Georgiou

Researchers and artists have created a striking facial reconstruction of a Stone Age woman who lived roughly 10,500 years ago in what is now Belgium.
The detailed depiction of the prehistoric hunter-gatherer, known as the "Margaux woman," is based on various scientific data, including the remains of her skeleton and ancient DNA, according to a statement from Ghent University in Belgium.

Cheddar Man belonged to the same Western European hunter-gatherer population as the Margaux woman, according to the statement. Previous research has suggested that he also had blue eyes, although his skin complexion is thought to have been slightly darker. Other members of this hunter-gatherer population shared a similar combination of dark skin and pale eyes.

The facial reconstruction of the Margaux woman on display in June 2025 with Kennis & Kennis in Dinant, Belgium. The model was based on various scientific data, including her skull and ancient DNA. (Image credit: ©2025 Vakgroep Archeologie University Ghent.)

The Margaux woman

The remains of the female hunter-gatherer first came to light in 1988 during an excavation of the Margaux cave near Dinant, in Belgium's Meuse Valley region. At the time, the genetic analysis techniques that informed the new reconstruction were not available. The research team first scanned the woman's skull and created a 3D-printed reproduction, De Groote said. The Kennis brothers then used this printed version to model the muscle and skin of the head. They did this using anatomical standards for the region while taking into account the age of the woman. Based on features of her skull, the researchers estimated that she would have been between 35 and 60 years old when she died.

LIVESCIENCE

Neanderthals' blood type may help explain their demise, new study finds

Story by Kristina Killgrove

Skulls of a Neanderthal (front) and early Homo sapiens (back).© Alamy

When modern humans journeyed out of Africa, a rapid evolution in their red blood cells may have helped them survive — but it may have also led to the eventual disappearance of Neanderthals, a new study finds.

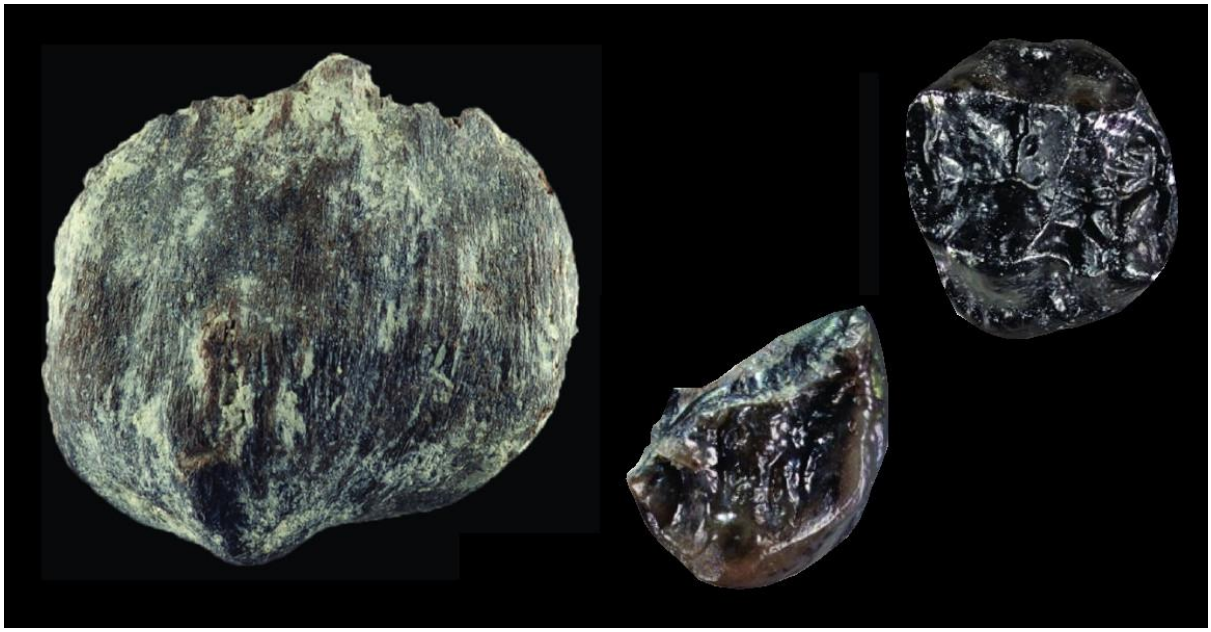
By sequencing the genomes of dozens of people who lived between 120,000 and 20,000 years ago, researchers found that Neanderthals had a rare blood group that could have been fatal to their newborns. Their study was published Thursday (Jan. 23) in the journal Scientific Reports.

Treatment today for Rh incompatibility involves the prenatal administration of an immunoglobulin, a lab-made antibody, which prevents the pregnant person from making antibodies against the fetus's blood. But 100,000 years ago, this type of red blood cell incompatibility would have been impossible to treat.

Mazières and colleagues found that the Rh gene variants found in many people today come from early *Homo sapiens* ancestors, who appear to have evolved them soon after leaving Africa, possibly while living on the Persian Plateau. Neanderthals, on the other hand, had Rh variants compatible with one another but that remained largely unchanged throughout the last 80,000 years of their existence.

While Neanderthals' general isolation could explain why their red blood cells did not evolve much over the years, there are still questions about why early humans' red blood cells diversified so much and so quickly — over a span of at least 15,000 years.

Natural History Museum



A patella bone (kneecap) and two teeth are currently the only Buronius fossils that have been found. Image © Böhme et al., 2024, licensed under CC-BY 4.0 via PLOS One.

World's smallest great ape may have lived in Europe, researchers claim

By James Ashworth

A potential new and tiny relative of chimpanzees, gorillas and orangutans has been discovered in Germany.

While the researchers describing *Buronius manfredschmidi* claim it is a new species, not all scientists are convinced.

A new species of great ape may not have been alone in Europe's ancient woodlands.

Only two primates, humans and barbary macaques, today call the continent home, but this hasn't always been the case. In fact, a variety of different species have lived there over the past 20 million years.

The newest member of this group is *Buronius manfredschmidi*, a small ape discovered in the Hammerscmiede clay pit in southern Germany. While only a couple of teeth and its kneecap have been found so far, its discoverers claim that it offers new insights into Europe's past.

Their research suggests that not only was this great ape much smaller than its modern relatives, but that it might also have lived alongside a larger species, *Danuvius guggenmosi*.

The researchers believe it's the first time that fossils of different great apes have been found together in Europe, with the two species focusing on different foods to co-exist.

Professor Madelaine Böhme, the lead author of a new paper describing the species, says that further excavations might reveal more about the lives of these apes.

"*Buronius* was probably a small leaf-eater that preferred to live in trees," Madelaine says. "In contrast, *Danuvius* was likely an omnivore. It also lived in trees, but may have been able to come down and search a larger area for a variety of food sources."

"A similar co-existence between two apes had previously only been seen in African stem apes that are more than seven million years older. It remains to be seen whether *Buronius* and *Danuvius* will remain a special case in Europe, or if similar relationships might be found."

Chimpanzees are one of the four groups of great apes alive today. Image © Mario Plechaty Photograph / Shutterstock.

While the researchers are confident that *Buronius* represents a new species, other scientists believe that naming these fossils might be premature. Among those is Professor Peter Andrews, a scientific associate of the Natural History Museum who was not involved in the research.

"It is great that new fossil ape specimens continue to be found, and comparative samples continue to improve," Peter says. "It is the way new specimens fit into this known database that takes the subject forward.

"However, as there are very few fossils of *Buronius*, there is no way of knowing the degree of variability in the size differences and morphological characteristics that have been used to distinguish it from *Danuvius* and other apes. For this reason, it is not good practice to base a new species on such a limited number of fossils."

The findings of the study were published in the journal PLOS One.

Europe's ancient apes

Today, there are only four groups of great ape – orangutans, gorillas, chimpanzees and humans. In the past there were many more, especially during the Miocene between five and 23 million years ago.

Over 50 different species are known to have lived across Africa, Europe and Asia throughout this time, with their diversity peaking around nine million years ago amid a burst of speciation.

The lead up to this period isn't well understood, however, as primate bones are relatively rare and often poorly preserved. Not only does this make it more difficult to understand their evolutionary relationships, but also whether the animals interacted while they were alive.

Just a handful of sites in Europe, including Hammerscmiede, have fossils from more than one primate. *Danuvius* and an unidentified monkey have previously been discovered at the site, which would have been a large floodplain 11.6 million years ago.

When animals died nearby, their remains were rapidly buried by streams and rivers crossing the site. While the flow of the water broke apart many of the skeletons, the burial in mud protected the bones from the environment and gave them a chance to fossilise.

As a result, thousands of fossils from over 100 different vertebrate species have been found at Hammerscmiede, including remains from the ancient relatives of snapping turtles, red pandas

and even elephants. *Buronius* is the latest species to be named at the site, adding another piece to the puzzle of European primates.

The bones were found in the Hammerscmiede clay pit, a rich fossil site deep in southern Germany. Public Domain image by Thomas Springer from Wikimedia Commons.

Is *Buronius* really a species?

While the fossils of *Buronius* were found in the same layer of soil as *Danuvius,* the authors of the study say they have identified a number of differences. The kneecap appears to be smaller and thicker than many other early apes, while the teeth are a different shape.

"The morphology of the two known teeth of *Buronius* differ greatly from previously known fossil apes," Madelaine explains. "In particular, the pattern of enamel on the chewing surface of the teeth is very different, while they are significantly smaller than the teeth of all known crown apes."

"While the milk teeth of other apes might have a similar size range to these teeth, the teeth of *Buronius* are permanent teeth. The adult teeth of mammals don't change size as they age, which means that they must have come from a small ape."

Peter, however, is keen to remain cautious about the study. While he hasn't seen the fossils directly, he says that the authors need more evidence to back up their findings.

"One site where more than one hominid species has been found is Paşalar in Turkey, where it took eight years of collecting and 31 years of study to be certain there was a second species," Peter explains. "We could only do so once the observed phylogenetic differences could be linked with differences in development and ecology."

"One of the species found at Paşalar is *Griphopithecus alpani*. While the single molar of *Buronius* is said to be smaller than *Griphopthecus*, it in fact falls well within the known range of variation of the 78 *Griphopthecus* specimens found in Paşalar."

Settling the debate over *Buronius* will likely only be settled by the discovery of more fossils. Though past clay mining at Hammerscmiede has meant many bones have been damaged already, Madelaine is hopeful more will turn up.

"While many ape remains have been irretrievably destroyed by mining, the layers where the *Buronius* and *Danuvius* finds were made has been protected since 2020," Madelaine says. "I am therefore very confident that we will be able to make further exciting finds of both species in the coming years."

BBC NEWS

Wear

Woman left fighting for life as fake Botox beautician apologises

Kaylie Bailey contracted botulism after being given illegal Botox

Philippa Goymer, BBC North East Investigations, @philippagoymer

An aesthetic beautician left one woman fighting for her life and several others seriously ill in hospital after injecting them with Toxpia, an illegal Botox-type anti-wrinkle treatment. As the BBC names the woman behind the jabs, two of her victims share their stories.

The patch over Kaylie Bailey's left eye is a daily reminder of when her beauty treatment nearly killed her.

The 36-year-old mum-of-three from Peterlee, County Durham, had paid Gemma Gray £75 for three "Botox" injections, half of what it had cost on a previous visit - the bargain turned out to be too good to be true.

Within days, Ms Bailey was struggling to see.

Doctors at Sunderland Royal Hospital were initially baffled and diagnosed her with ptosis, an eye condition characterised by the drooping of the upper eyelid, and told her to go home to rest.

The hospital trust said that when Ms Bailey was discharged she had been advised to visit her GP if her condition worsened, and it had been explained to her that her symptoms were probably related to the treatment she had had.

It added that botulinum toxicity was a very rare condition "not seen by the majority of doctors during their careers".

But when her condition deteriorated over the following days, Ms Bailey rushed back to hospital where this time she was told she had botulism, a rare but life-threatening condition caused by a bacterium.

By that point, she was one of 28 people to have been diagnosed with the toxic poisoning in north-east England after having anti-wrinkle jabs.

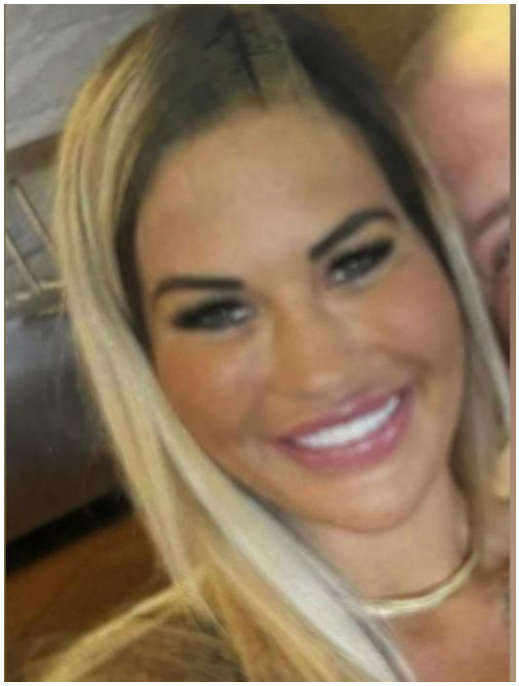
Ms Bailey stopped breathing and required resuscitation.

She spent three days on the Intensive Care Unit and was treated with an anti-toxin.
"I remember lying on the bed thinking 'I'm dying here and I don't want to'," Ms Bailey says, crying as she recalls her experience.
Upon her release, and being required now to wear an eye patch until her eye heals, she contacted Mrs Gray and was told by her it was a "nationwide problem with the product".
"When I went in [to her appointment for the anti-wrinkle jabs], I felt like she was rushing that much it stung, my eyes were watering that much off it," Ms Bailey says.
"I cannot believe she's even dared to do that to people.
"She didn't even know what was in it and we're having to live with what she's done to us.
"I've nearly died because of it."

Kaylie Bailey spent three days in intensive care

Paula Harrison contracted botulism after being given illegal Botox

Paula Harrison suffered a similar fate when she visited Mrs Gray at a salon in Blackhall, Co Durham, in late May.
The 54-year-old mother-of-two had previously been to the practitioner for a lip-filler procedure but this time decided to have what she thought was Botox and under-eye filler.
After a few days, she too became unwell and also went to Sunderland Royal Hospital where she was admitted and spent four days, receiving an anti-toxin as part of her treatment.
The BBC has previously reported how hospitals in the region ran out of their own stocks of the anti-toxin and needed to source it from hospitals across the country because of the unusually high number of patients who were presenting with symptoms of botulism.
Mrs Harrison said her throat was closing up and she was unable to eat.
"[Mrs Gray is] playing with people's lives," Mrs Harrison says. "Luckily, I'm all right, but I could have been dead."



Gemma Gray is the owner of Belissimo Aesthetics

Mrs Gray, formerly known as Gemma Brown, operates her business Belissimo Aesthetics, which is not linked to any other business of the same name, from her home near Bishop Auckland and at a salon in Blackhall.
She administered an illegal type of botulinum toxin, the ingredient used in legal Botox-type products, to a number of patients.
There are seven such products licensed for use in the UK, including the brand Botox which is the most commonly known.
Mrs Gray used Toxpia, a product from South Korea which the Medicines and Healthcare Products Regulatory Agency says is not licensed for use in the UK and which is an offence to sell or supply.
She told clients it was a "new type of Botox" and charged between £75 and £100 for three areas of treatment.
The BBC tried to contact her to ask her about her involvement but she said she was not interested in speaking.

The BBC is naming Mrs Gray after speaking to a number of her clients.
It is understood another aesthetic practitioner, who is a business associate of Mrs Gray's, bought the Toxpia from her and administered it to her own clients, many of whom also became ill.
'Consider the health impacts'
Mrs Gray has told clients how sorry she is for what happened and described how bad she feels that they became ill. She told Mrs Harrison that it was a "new treatment on trial" and that she was devastated.
She also indicated it was a "nationwide" problem with the product and said people everywhere had become ill after using it.
The BBC has seen no evidence to support this claim.
Mrs Gray advertised her business as being "fully trained and insured".
An investigation, led by the UK Health Security Agency, is ongoing.
The agency has issued guidance to anyone who wishes to have this type of treatment, advising them to research their practitioner and make sure the product they are given is a legal medicine and licensed for use in the UK.
The Department of Health and Social Care said people's lives were being put at risk by "inadequately trained operators in the cosmetic sector" and the government was looking into new regulations.
"We urge anyone considering cosmetic procedures to consider the possible health impacts and find a reputable, insured and qualified practitioner," a spokesperson said.

Archaeology worlds

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Around 800,000 years ago, humanity faced a dire crisis that nearly led to its extinction, leaving only about 1,280 individuals to survive. A groundbreaking study published in *Science* reveals that a significant phenomenon known as an ""ancestral bottleneck"" played a crucial role in this dramatic population decline, with nearly 98.7% of early humans vanishing over a staggering 117,000-year period. Researchers believe this sharp drop was primarily triggered by severe climate changes, prolonged droughts, and widespread famine.

To investigate this pivotal period, scientists employed a genetic analysis technique known as FitCoal, which allowed them to track the population decrease and address inconsistencies in fossil records from both Africa and Eurasia. Interestingly, despite the catastrophic nature of this event, it may have been instrumental in shaping the evolution of modern humans. This tumultuous era likely facilitated the merging of chromosomes that set Homo sapiens apart from other hominin species like Neanderthals and Denisovans.

Experts underscore that the ability to control fire and the development of adaptive intelligence were crucial for survival during these arduous times. By examining this near-extinction scenario, researchers are gaining invaluable insights into human evolution and highlighting our species' remarkable resilience.

BBC NEWS

Glasgow

'Funeral scam' haunted my sister on her deathbed

Brian Allison and his late sister Anne had to come to terms with being given a stranger's ashes instead of their mother's

By Kayleigh Harvey, BBC Scotland, 14 October 2025

Brian Allison travelled more than 200 miles from Manchester to Glasgow to scatter his sister's ashes on the family grave.

As he stood at the headstone in St Kentigern's cemetery, where his father, mother and three other siblings already lay, he took a moment to remember Anne.

Her final weeks had been "haunted" by an unexplained mix-up with the ashes of their mother, Patricia, who died in April 2023.

Several months after Patricia's death, at the age of 100, it emerged the family had been given the wrong urn by funeral directors who are now the focus of a major police investigation.

Brian and Anne discovered the error just days before they planned to return to Scotland to scatter their mother's ashes.

"We had them for five months, then I found out it wasn't my mum, it was a total stranger," said Brian. "I'd been kissing this total stranger goodnight every night and obviously it's affected my mental health."

The siblings were informed of the error when they contacted Clydebank Crematorium after questioning the lack of paperwork they had received with the urn from the former A Milne Funeral Directors.

Brian said: "Anne called Clydebank Crematorium and we were told [my mum's] ashes were never collected and were still being held there almost a year after her death."

During this time, the family also learned that the bill for Patricia's cremation was still outstanding, despite the pensioner having purchased a funeral plan at the firm's Dumbarton office.
Anne had also taken out a funeral plan with the same company and found hers to be invalid too, prompting her to contact Police Scotland.

Five members of Brian's family lie in a plot at St Kentigern's cemetery in Glasgow


Patricia Allison, who died aged 100 in 2023, and her daughter Anne, who died this year aged 67

In May 2024, one of the largest ongoing financial police investigations was launched into the practices of the former A Milne Independent Funeral Directors.
Operation Koine is currently looking into more than 70 reports regarding practices at the firm.

Last summer two women, aged 37 and 55, and a 56-year-old man were arrested in connection with the investigation and released pending further inquiries.
Brian said the need for answers "haunted" his sister after she was diagnosed with terminal cancer last December.
"It affected Anne's health with the cancer because she was worried," he said.
Brian added that the knowledge he would be the one left to pay for her funeral, despite having a plan, weighed on her.
"Even on her deathbed in the hospital, she said to me, 'I'm sorry you've been left with this'."

The A Milne Funeral Directors office in Springburn has been closed down

Last month, police issued an appeal for anyone with concerns regarding the handling of cremated remains or pre-paid funeral plans with the former funeral directors - which also ran a premises in Springburn - to contact them.
Det Supt Robert Bowie told BBC Scotland News officers were working through "hundreds of lines of inquiry." Since that appeal, police confirmed they had "received more reports which are currently being assessed".
Brian Allison paid thousands of pounds of his own money for Anne's cremation after she died in August.
Her final request was to be brought back to Scotland, but Brian also has a memorial for both his mother and sister at his home in Manchester.
Brian said: "I keep a little shelf in the living room with candles and everything around the both of them.
"So [some of] the ashes I didn't put down today, they'll come back to Manchester and they'll be kept there in the house so that I know I can speak to the two of them."
He added: "I know it sounds strange when you're talking to a dead person but I talk to them every night. I say goodnight, I talk to them if I've had a bad day, tell them I love them."
Anne, who was 67 when she died, had moved from Dumbarton to live with Brian following the death of their mother. He said they had always been close growing up.
Losing both his mother and sister in the last two years has put a strain on the 62-year-old's mental health.
"When I'm at work I leave the mental health side of me at home, but when I'm not working I don't leave the house now."
Brian's final promise to Anne was to continue to fight for answers on what went wrong with the plans she and her mother purchased.
He said: "I'll carry this on until my dying day if I have to, because I think it's all wrong. It's not just my mum and my sister. It's all these other innocent people. You can't just let it go. To me it's not about the money, it's about respect."

Det Supt Robert Bowie revealed police have received hundreds of inquiries from people who dealt with the funeral directors

Brian's sister Anne died in August, after he promised to continue their fight for answers

Anne, who was 67 when she died, had moved from Dumbarton to live with Brian following the death of their mother. He said they had always been close growing up.

Losing both his mother and sister in the last two years has put a strain on the 62-year-old's mental health. "When I'm at work I leave the mental health side of me at home, but when I'm not working I don't leave the house now."

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BBC NEWS

Business

Vets should be made to publish prices, watchdog says

By Michael Sheils McNamee, business reporter and Jim Connolly & Abi Smitton, BBC News Investigations. 15 October 2025

Vets should be forced to publish price lists so pet owners can see costs up front and shop around for the best deal, the competition watchdog has said.

Owners are often unaware of prices or not given estimates for treatments that can run into thousands of pounds, its investigation into soaring vet costs found.

Vet prices have risen at nearly twice the rate of inflation, the Competition and Markets Authority (CMA) also found.

The CMA's proposals included making vets reveal if they are part of a large group, capping prescription fees and banning bonuses on offering specific treatments.

There are no standardised prices for treatments, and the initial CMA investigation found 84% of vet practice websites had no pricing information at all.

It comes after a BBC File on Four investigation in April found vet bills had skyrocketed, and heard from whistleblowers inside the industry who blamed higher bills on big companies buying up practices.

Hundreds of pet owners contacted Your Voice, Your BBC News, with concerns over vet bills.

Vets and animal charities told the BBC in June pet owners are increasingly having their sick animals put down or they are delaying taking them for treatment to avoid spiralling vet bills.

'£12,000 in vet bills'

Nicole Hawley, 26, got in touch via Your Voice, Your BBC News after receiving an unexpected £12,000 bill to treat her dog Ernie, after he inhaled a grass seed while out on a walk and it became infected.

"We were given two choices by the emergency vet, either put him down or pay an extortionate bill for surgery," she told the BBC.

Ms Hawley was in the process of finding a different pet insurance provider for Ernie when he fell ill, meaning she didn't have financial support.

She and her partner ended up taking out a loan to pay for the procedure, and used money they had been saving for their wedding.
"We didn't have the money. But it took us five minutes to decide that we would find it from somewhere," Ms Hawley said.
Many vets offer a monthly subscription which covers check-ups, vaccinations and regular flea and worm treatments for dogs and cats but the price and services included vary between practices.
What's Happening to Your Vet Bills?

Nicole put her wedding plans on hold after paying £12,000 for Ernie's vet bills

File on 4 Investigates looks at how the corporatisation of the vet industry has led to price hikes of more than 60% in the last 10 years.
Listen on Sounds
Veterinary prices had increased by 63% over a seven year period, which was nearly twice the rate of inflation, the CMA's Martin Coleman, told BBC Radio 4's Today programme.
"Many people were paying twice what they needed to for vet medicines," he said.
"It's not right to keep pet owners in the dark about key matters that affect them and their pets and their pockets.
"We're often not being told up-front basic information such as who owns the practice, the price of commonly used services, and we're not often given estimates of the likely price of treatment costing hundreds, even thousands of pounds."
The CMA also found practices owned by large vet groups charge 16.6% more on average than independent vets.
Mr Coleman said the regulatory system was set up in 1966, "when the world of veterinary services was very different to the world that we have today."
"There is regulation of individual vets, but there is no regulation of the businesses that own the majority of the practices in the country," Mr Coleman said.
The British Veterinary Association welcomed the recommendations for greater transparency and reform of the regulatory system, but president Dr Rob Williams said the association did have some concerns.
"In particular, we need clarity on the proposed introduction of comprehensive price lists, because how vet care is delivered is varied and complex and unless the CMA gets this right, it could end up creating greater confusion for consumers," he said.

Francesca Verney, Veterinary Director at independent practice Pet People, contacted the BBC after a previous report on the price of vet bills.

"It's frustrating to be thought of as us having the wrong motivations, being driven by money," she told the BBC.
"If we're going to do a CT scan on a dog, that machine has cost me a quarter of a million pounds, plus the staff to run it safely. It's a big deal. We also have to anaesthetise animals for procedures that we would ask humans to lie still for."

Francesca Verney says vets struggle to talk about money

'Pets are a luxury item'
Dr Natalie Morris Webb, who owns Malthouse Vets in Shropshire, said if people were concerned about the cost of owning a pet "then they need to be thinking about this before they get the animal ultimately." She said owners should insure their pets.
"We love our pets so much but ultimately they are a luxury item and we need to accept the fact that they're not cheap," she told BBC Radio's 5Live.
The CMA's recommendations include:

- Making it easier for pet owners to access cheaper medicines online, including by requiring vets to tell pet owners about savings they make by buying medicines online
- Where a medicine is likely to be needed frequently, automatically providing a written prescription to enable the pet owner to purchase the medicine elsewhere
- Capping the price of providing prescriptions at £16
- Requiring vets to give pet owners clear price information when they are choosing a treatment, with prices in writing for treatments over £500 and itemised bills
- Making the Royal College of Veterinary Surgeons to improve its 'Find a Vet' website to include pricing data
- Making vets give clear price information to pet owners arranging a cremation and pet care plans

Wednesday's findings into the £6.3bn sector are provisional, with interested parties now having until next month to make submissions before a final decision is published next year.
After the decision, changes will be implemented through a legally binding CMA order, which is expected to come before the end of 2026. Smaller vet businesses given additional time to implement it.

Your Voice, Your BBC News: What story do you want BBC News to cover

Science.Acumen

Around 300,000 years ago, multiple human species coexisted, but only "Homo sapiens" survived to the present day. These species included "Homo neanderthalensis" (Neanderthals), "Homo erectus", "Homo heidelbergensis", "Homo denisova" (Denisovans), "Homo floresiensis", and early "Homo sapiens".

Each adapted to distinct environments, from Europe's cold climates to Asia's diverse landscapes. "Homo sapiens" emerged in Africa, distinguished by advanced cognitive abilities, language, and social cooperation.

The reasons for "Homo sapiens" survival are multifaceted. Their superior problem-solving skills enabled tool innovation, such as projectile weapons, and cultural practices like art and burial rituals, fostering group cohesion.

Flexible diets and adaptability to varied environments allowed them to outcompete others. Genetic evidence suggests interbreeding with Neanderthals and Denisovans, which may have enhanced "Homo sapiens" immunity and resilience.

Meanwhile, species like Neanderthals faced challenges from climate change, limited genetic diversity, and competition for resources. "Homo erectus" and "Homo floresiensis" likely succumbed to environmental shifts or isolation.

By 40,000 years ago, most other species had vanished, leaving "Homo sapiens" dominant. Their ability to innovate, communicate, and adapt ensured their survival, shaping the modern human world

BBC NEWS

Health

Exciting results from blood test for 50 cancers

By Fergus Walsh, Medical editor

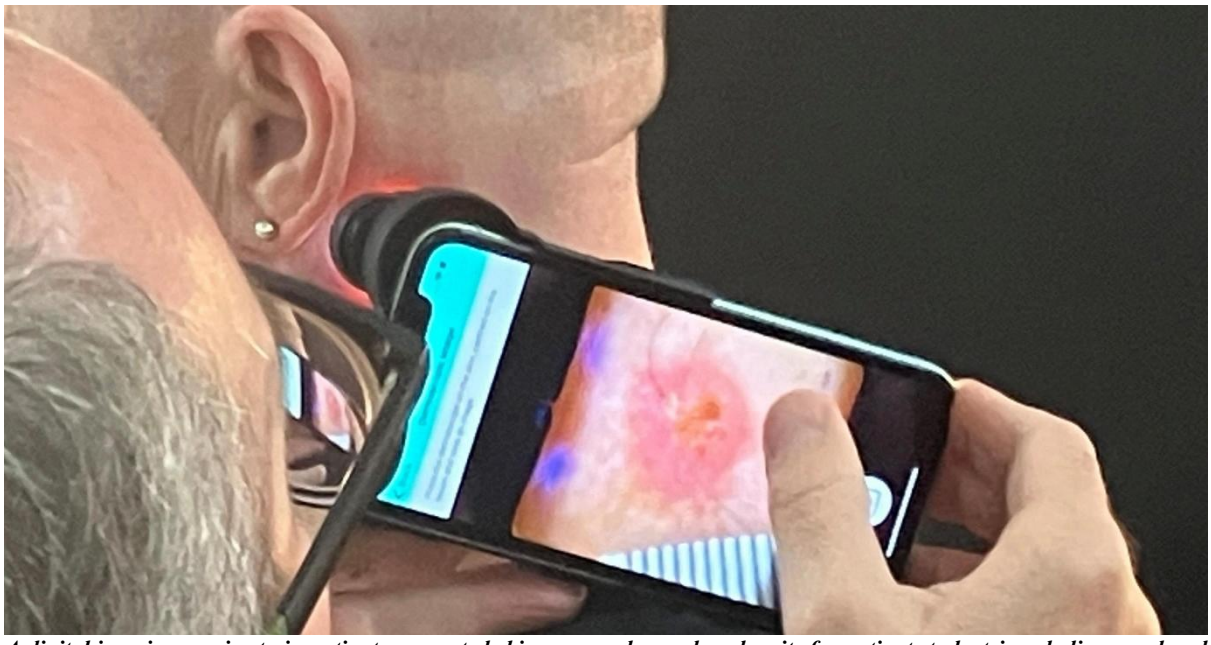
A blood test for more than 50 types of cancer could help speed up diagnosis, according to a new study.
Results of a trial in North America show that the test was able to identify a wide range of cancers, of which three-quarters don't have any form of screening programme.
More than half the cancers were detected at an early stage, where they are easier to treat and potentially curable.
The Galleri test, made by American pharmaceutical firm Grail, can detect fragments of cancerous DNA that have broken off a tumour and are circulating in the blood. It is currently being trialled by the NHS.
The trial followed 25,000 adults from the US and Canada over a year, with nearly one in 100 getting a positive result. For 62% of these cases, cancer was later confirmed.
Lead researcher Dr Nima Nabavizadeh, associate professor of radiation medicine at Oregon Health & Science University, said the data showed that the test could "fundamentally change" their approach to cancer screening.
He explained that it could help detect many types of cancer "earlier, when the chance of successful treatment or even cure are the greatest".
The test correctly ruled out cancer in over 99% of those who tested negative.
When combined with breast, bowel and cervical screening it increased the number of cancers detected overall seven-fold.
Crucially, three-quarters of cancers detected were those which have no screening programme such as ovarian, liver, stomach, bladder and pancreatic cancer.
The blood test correctly identified the origin of the cancer in nine out of 10 cases.
These impressive results suggest the blood test could eventually have a major role to play in diagnosing cancer earlier.

But scientists not involved in the research say more evidence is needed to show whether the blood test reduces deaths from cancer.
Clare Turnbull, professor of translational cancer genetics at The Institute of Cancer Research, London, said: "Data from randomised studies, with mortality as an endpoint, will be absolutely essential to establish whether seemingly earlier-stage detection by Galleri translates into benefits in mortality."
The topline results are to be released at the European Society for Medical Oncology congress in Berlin on Saturday, but the full details have yet to be published in a peer-reviewed journal.
Much will depend on the results of a three-year trial involving 140,000 NHS patients in England, which will be published next year.
The NHS has previously said that if the results are successful, it would extend the tests to a further one million people.
Sir Harpal Kumar, president of biopharma at Grail called the results "very compelling".
Speaking to BBC Radio 4's Today programme, he said: "The vast majority of people who die from cancer do so because we find their cancers too late."
Many cancers are found when they are "already very advanced" he added, explaining that the aim is to "shift to earlier detection, when we have the chance to use treatments that are much more effective and potentially curative".
But Naser Turabi of Cancer Research UK cautioned that further research is needed to "avoid over diagnosing cancers that may not have caused harm".
"The UK National Screening Committee will "play a critical role in reviewing the evidence and determining whether these tests should be adopted by the NHS," he added.
Related topics

BBC NEWS

Nottinghamshire

'Pictures of health' cut skin cancer check waits



A digital imaging service to investigate suspected skin cancers has reduced waits for patients to be triaged, diagnosed and treated in Nottinghamshire

Rob Sissons, Health correspondent, BBC East Midlands

Digital imaging of suspected skin cancers has dramatically cut waiting times for diagnosis and treatment in Nottinghamshire. Clinical photographers in parts of the county now see patients referred by GPs typically within a couple of days, rather than them having to wait what used to be sometimes weeks to see a consultant for just an initial appointment.
The imaging includes using artificial intelligence (AI) smartphone software, which then sees pictures sent to a consultant dermatologist to assess, without needing to meet the patient. Sherwood Forest Hospitals NHS Foundation Trust said the approach was freeing up specialists' time to focus on surgery.

Fiona Hayward-Lyon, with her skin lesion identified with marker pen - ready for surgery

Fiona Hayward-Lyon, from Farndon in Nottinghamshire, is one of nearly 2,000 patients seen by the trust with suspected skin cancer who have benefitted from faster access to diagnosis.
The service was fully introduced in June 2024 and one year on, has been described as a "big success" by the trust.
Mrs Hayward-Lyon had become concerned about a lesion on her forehead.
The 63-year-old's appointment for photographs was arranged within three days of seeing her GP, and it took just over four weeks to get the surgery, which took place in October.

"I'd had a red blemish on my forehead for a while and I suddenly noticed it was getting raised," she said. A dermatologist then examined her images remotely.
Only three per cent of patients under the trust's care require a face-to-face follow-up appointment after the initial photography, and some like Mrs Hayward-Lyon go on to require surgery.
In her case, a basal cell carcinoma - a type of skin cancer - was diagnosed needing removal.
She said: "I didn't expect to be seen so quickly. I can now move on and be a little more careful in the Sun."

Mrs Hayward-Lyon's operation was done as a day case procedure in Newark

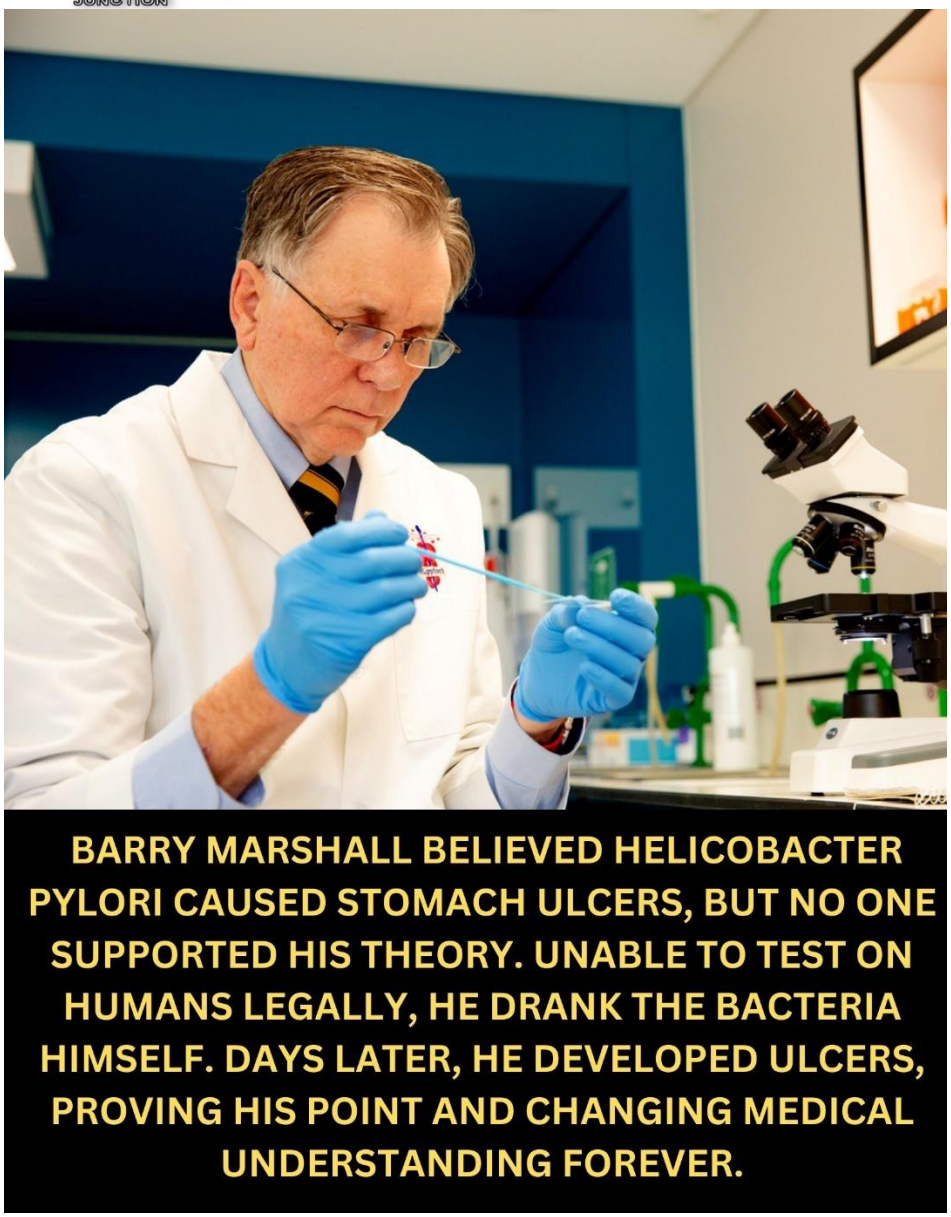
Consultant dermatologist Dr Ritu Singla, who treated Mrs Hayward-Lyon, said the photography service allowed medics to reassure patients sooner if they did not have cancer.
"We can rule out lots of benign [non-cancerous] lesions, which are the bulk of cases," she said. "It also enables us to start treatment sooner for those patients where cancer has been diagnosed."


Dr Ritu Singla said the project was freeing up more time for surgery

Dr Singla said: "Patients are more aware of skin cancer these days, [but] at the same time in the aftermath of the pandemic we had long waiting lists. We prioritised but some patients were waiting months for treatment."
There is a national NHS target for 96% of skin cancer cases to treated with 31 days of a decision to treat.
Prior to the introduction of the photography service, the trust achieved 72% in the first quarter of 2023-24.
Latest figures show 100% of patients in February 2025 were treated within the target time.


Jason Randall explained how he captures high-resolution images

Clinical photographer Jason Randall says he uses a special polarised light, a device called a dermatoscope, to help produce high-resolution images.
He said: "It enables the camera to see into the first layer of the skin not clearly visible to the naked eye and crucially the edges of the lesion."
Greater use of technology is one of the themes of the government's new NHS 10-year plan, which looks to improve efficiency, productivity and outcomes for patients.
Get in touch



In the early 1980s, Australian physician Barry Marshall challenged the prevailing medical belief that stress and spicy food were the main causes of stomach ulcers. Alongside pathologist Robin Warren, Marshall observed the presence of a bacterium called Helicobacter pylori in biopsy samples from patients suffering from gastritis and ulcers. Despite their careful research and consistent findings, the medical community largely dismissed their hypothesis, refusing to believe that bacteria could survive in the highly acidic environment of the human stomach.

Determined to prove his theory, Marshall took a daring step in 1984. He consumed a petri dish containing a live culture of H. pylori. Just a few days later, he began to exhibit clear symptoms of gastritis, including nausea, vomiting, and inflammation. A subsequent endoscopy confirmed the infection. To complete the demonstration, Marshall then treated himself using antibiotics, effectively curing the condition and proving that the bacterium was indeed the root cause of the ulcers—not stress or diet.

Marshall and Warren's groundbreaking work transformed the medical approach to ulcer treatment. Previously, patients were subjected to lifelong acid suppression therapies that only managed symptoms. Thanks to their discovery, antibiotic treatment became the new standard, offering a permanent cure. Their research not only altered clinical practice worldwide but also opened the door to new understanding in gastrointestinal medicine.

In 2005, their extraordinary contribution to science was recognized with the Nobel Prize in Physiology or Medicine. Their bold thinking and unshakable dedication to truth reshaped an entire field.

BBC NEWS

Essex

Teen who cannot eat or drink is making most of life

Isla had her bowel removed as a child and is fed via a tube to a major artery near her heart

Charlie Jones, BBC News, Essex

A teenager who has never been able to eat or drink due to a rare condition said she was determined to make the most of life, despite her health issues. Isla, from Stanford-le-Hope in Essex, had her bowel removed as a child and is fed via a tube to a major artery near her heart.

The 14-year-old was also recently diagnosed with osteoporosis, a condition that weakens bones, and now uses a wheelchair. "I just try and have a positive attitude," she said. "Sometimes it gets me down when I'm in pain, but most of the time I try not to let it bother me."

Isla's condition is so rare that it does not have a name. She has infusions into her bloodstream for 18 hours a day.

The teenager also has issues with her immune system, liver and kidneys and has contracted sepsis several times.

Isla was attending high school until last year when she got sepsis and has not yet been able to return.

"It hasn't been easy. I was doing so well at school, but the sepsis was a major setback, and I haven't been well enough to go back," she said.

Isla loves going to music concerts and is looking forward to learning to drive when she turns 16.

A recent Tate McRae concert was one of the best nights of her life, she said, even though she ended up crying herself to sleep with back pain.

She also managed to go on a cruise with her family this year, after a battle to get insurance, but was in excruciating pain with her back throughout it.

Her mother, Ashlee, gave up her job as a support worker for adults with learning difficulties when Isla was a baby, so she could care for her.

Ashlee's friend recently created a GoFundMe page, which has seen donations of more than £3,000 towards a specialist wheelchair, instead of her current basic NHS one.

Isla said she was "so grateful" and "overwhelmed" by the support.

Ashlee said: "I would love Isla to get a bespoke wheelchair, which could mean she can just feel like a normal teenage girl for a bit and give her some independence.
"Isla doesn't realise how amazing she is. She is exceptionally brave and resilient.
"I look at her and I just beam with pride. I don't know how someone can go through so much and be so caring and kind and happy."

Isla is very close to her family, including her parents and older brother

Isla has been in and out of hospital since she was born

GBN
BRITAIN'S NEWS CHANNEL

Archaeology breakthrough as 'biggest Tower of London dig in 40 years' unearths 50 Black Death bodies

Story by Sophie Little

The biggest excavation in decades at the Tower of London has revealed remains from up to 50 people, with certain burials suggesting victims of the Black Death are among the bodies.
The excavation is taking place behind a plywood door near the White Tower, the oldest part of the complex dating back to 1066.
Dozens of bodies have been found, and it is thought they were ordinary people who lived and worked in the palace, about whom researchers know very little.
Historic Royal Palaces is running the dig with Pre-Construct Archaeology, an independent firm. The pair are being advised by Historic England, with Alfred Hawkins, the curator of historic buildings at Historic Royal Palaces, calling it "hugely important."

"It is literally a generational opportunity. Historic Royal Palaces have never done an excavation like this and we won't do it again," Hawkins told The Times.
The dig is taking place at the Chapel Royal of St Peter ad Vincula, which is the final resting place of people such as Thomas More, Anne Boleyn and Catherine Howard, all of whom were executed on orders from Henry VIII.

So far, it has been confirmed that at least 25 burials were made in the small area, but remains have been found which could be from as many as 50 people.
While the Tower is known for its violent history, including the execution of three English Queens, none of the dead uncovered seem to have met a violent end. Researchers think some of the bodies may have been early victims of the plague as their burials appear "rushed" and are thought to date from the 14th century. DNA testing will confirm if they did die from the Black Death, which reduced London's population from 100,000 to 20,000 in one generation.

Another discovery uncovered grave goods including jars akin to incense burners, filled with charcoal, a custom which came from Norman Europe. This suggests the person buried was either a member of the ruling class, a foreign traveller, or perhaps even both.

Tower of London by the River Thames© GB News

Items such as stained and painted glass, sewing needles, a pendant, and a ring have also been found, as well as four cannon balls and a mortar.
Six years ago, a test dig uncovered two Tudor bodies in the area, but this only scratched the surface. The remains are all being treated with due respect, and once research has finished, they will be re-interred in a new ossuary. These findings have all been made possible by the diligent work of archaeologists who have dug up to three and a half metres down, and sifted 50 cubic metres worth of soil through a common sieve.
Not only has the dig uncovered bodies and goods, but it has also helped to confirm the map of the medieval chapel which acted as the spiritual heart of the Tower for years.
The building currently there is Tudor-built, dating from 1519-20. However, beneath the soil, a layer of ash has been discovered which seems to confirm records of a fire which burnt down Edward I's chapel on the site.
Under that, Reigate stone has been uncovered, which researchers think to be from work commissioned by Henry III in 1240. Even further down, evidence has been found of the 12th century chapel built by Henry I, although little is known about this.
The excavation also marks the Tower's modern function - it was necessitated by the upcoming construction of a lift to improve access for disabled people.

BBC NEWS

Nottinghamshire

'I am cancer free thanks to new blood treatment'

Stuart Downes was one of the first patients to benefit from the new CAR T-cell therapy service set up by the NHS in Nottingham

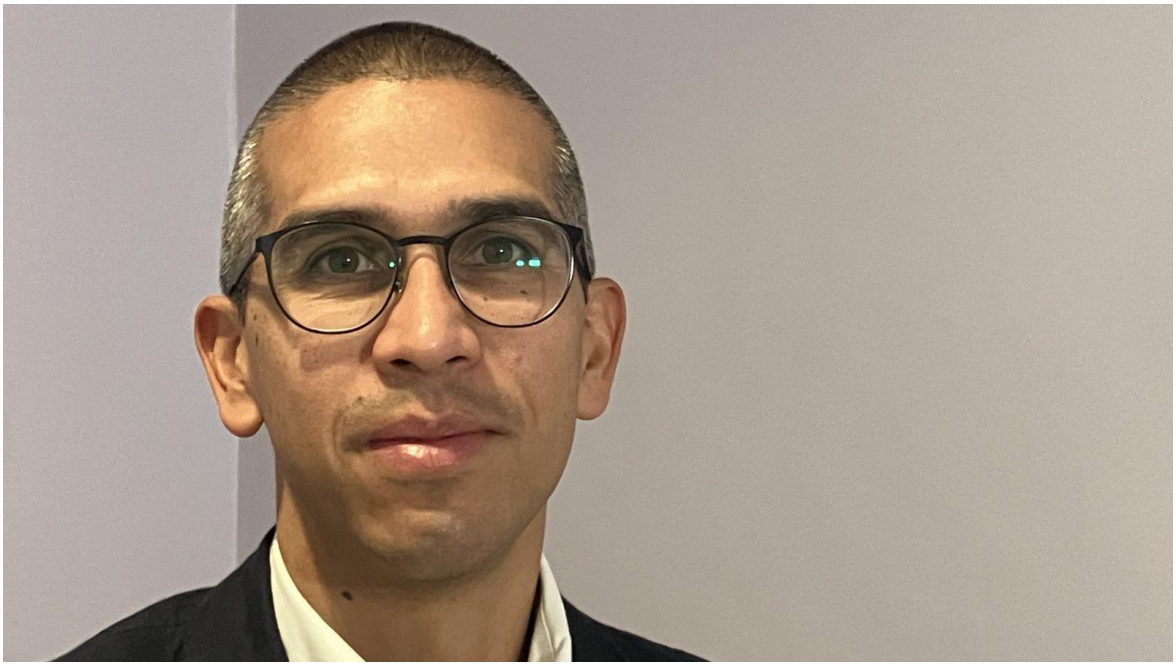
Rob Sissons, Health Correspondent, BBC East Midlands

"Phew" - that is the one-word Stuart Downes uses to sum up the last year after undergoing successful innovative treatment in Nottingham to treat his blood cancer.
The 65-year-old underwent CAR T-cell therapy at the first NHS centre in the East Midlands to be set up to offer the specialised form of immunotherapy. Now experts at the unit at Nottingham City Hospital say they hope to offer it to more patients who, like Stuart, were diagnosed with the

most common form of lymphoma. Stuart, who lives at Great Ponton, Lincolnshire, said the transformation in his health has been "amazing".

Stuart Downes with consultant haematologist Dr Nicolas Martinez-Calle, the head of the Nottingham CAR T-cell service

Stuart is one of 24 patients who have now undergone CAR T-cell therapy in Nottingham since doctors introduced the new service in the city in February 2024.
He had been feeling increasingly unwell after being diagnosed with diffuse large B cell lymphoma (DLBCL).
He had not responded well to chemotherapy and understood the CAR T-cell therapy was a "last chance" to attempt to cure his condition.
Over five hours, a machine removes white blood cells containing precious T-cells from the bloodstream. The cells are processed in the Netherlands and altered to become CAR T-cells, and there is a three-week wait before the new cells can be put back.



Dr Nicolas Martinez-Calle, head of the new Nottingham CAR T-cell service, says they hope to help more patients in future who may not have been able to have the treatment in the past

The cells are infused via a drip back into their bloodstream. The new cells are designed to selectively recognise, target and attack the cancer.
Three months after his treatment, Stuart said he received "fantastic news". He recalled his consultant telling him "there is no sign of cancer. It looks like it has worked".
Stuart said: "I felt elated, 'phew' was my reaction".
However, he is philosophical: "I know I am not totally out of the woods. I am in remission, but this has given me a second go at life.
"I feel so much better and have more energy."
Now in Nottingham the hope is to offer more patients the potentially life-saving treatment.
Dr Nicolas Martinez-Calle, a consultant haematologist who runs the new service, said the immunotherapy treatment "typically has a 40% to 60% chance of success".
Some patients - who in the past may not have been suitable to have the treatment - may now be able to have it thanks to a new blood product called lisocabtagene (known as liso-cel or breyanzi), which can mean fewer side effects.
Dr Martinez-Calle says this should mean "we are probably able to offer the CAR T-cells to some more people in their older age range between 70 and 75".
Nottingham is one of a network of NHS hospitals offering CAR-T cell therapy in the East Midlands. The service is also now provided at the Leicester Royal Infirmary.

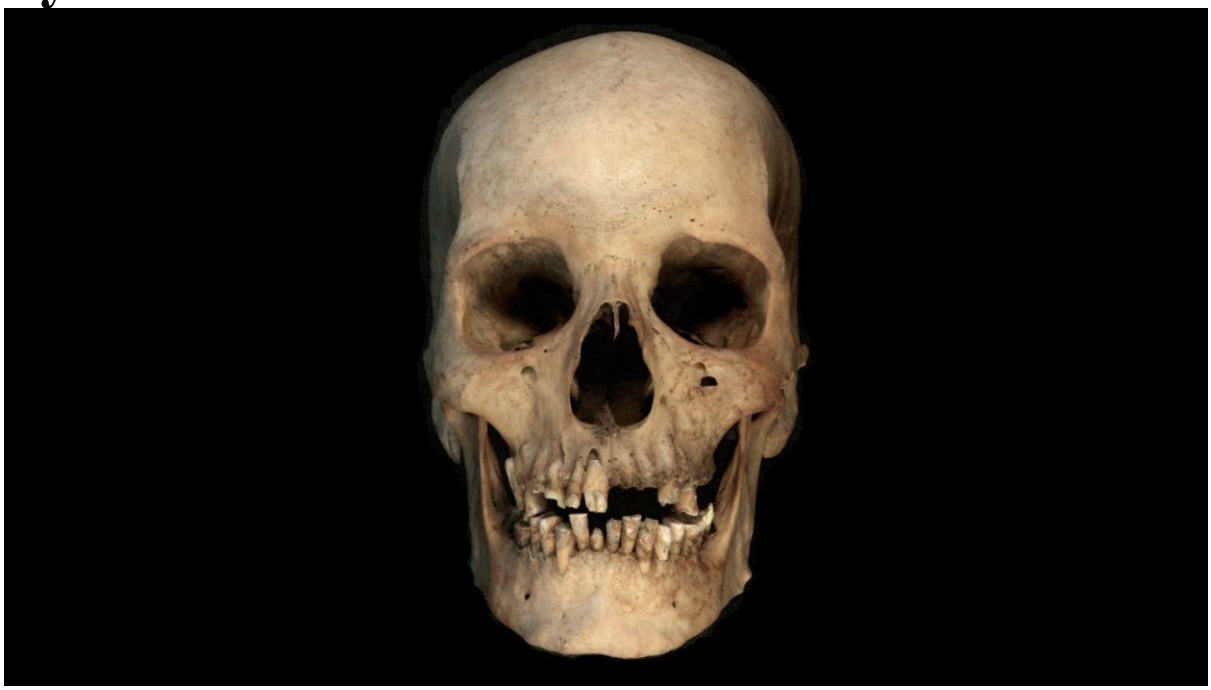
Professor Chris Fox is involved in clinical research to improve outcomes for patients with diffuse B cell lymphoma

Professor Chris Fox is involved in cutting-edge research to help patients during the three weeks while they wait for the CAR T-cells to be prepared in the Netherlands. Some do not respond well to existing treatments.
The University of Nottingham and the city hospital's haematology unit are among a number of centres across the UK taking part in the PORTAL trial.
The research is led by King's College London which is investigating a new drug combination therapy for adults who are not responding well to the drug treatments currently available during that period.
Back in Lincolnshire, Stuart welcomes the latest research and advances.
"I just couldn't be more pleased with how my treatment has gone in Nottingham, so the fact they are expanding it is fantastic, and more research offers hope."

BBC NEWS

Science & Environment

Ancient Egyptian history may be rewritten by DNA bone test



Tests on the skull could give new insights into ancient history

Pallab Ghosh, Science Correspondent @BBCPallab

A DNA bone test on a man who lived 4,500 years ago in the Nile Valley has shed new light on the rise of the Ancient Egyptian civilisation.
An analysis of his skeleton shows he was 60 years old and possibly worked as a potter, but also that a fifth of his DNA came from ancestors living 1,500km away in the other great civilisation of the time, in Mesopotamia or modern day Iraq.
It is the first biological evidence of links between the two and could help explain how Egypt was transformed from a disparate collection of farming communities to one of the mightiest civilisations on Earth.
The findings lend new weight to the view that writing and agriculture arose through the exchange of people and ideas between these two ancient worlds.
The lead researcher, Prof Pontus Skoglund at the Francis Crick Institute in London, told BBC News that being able to extract and read DNA from ancient bones could shed new light on events and individuals from the past, allowing black and white historical facts to burst into life with technicolour details.
"If we get more DNA information and put it side by side with what we know from archaeological, cultural, and written information we have from the time, it will be very exciting," he said.
Our understanding of our past is drawn in part from written records, which is often an account by the rich and powerful, mostly about the rich and powerful.
Biological methods are giving historians and scientists a new tool to view history through the eyes of ordinary people.
The DNA was taken from a bone in the inner ear of remains of a man buried in Nuwayrat, a village 265km south of Cairo.

The skeleton has revealed extraordinary details of the man's life

He died between 4,500 and 4,800 years ago, a transformational moment in the emergence of Egypt and Mesopotamia. Archaeological evidence indicated that the two regions may have been in contact at least 10,000 years ago when people in Mesopotamia began to farm and domesticate animals, leading to the emergence of an agricultural society.

Many scholars believe this social and technological revolution may have influenced similar developments in ancient Egypt – but there has been no direct evidence of contact, until now.

Adeline Morez Jacobs, who analysed the remains as part of her PhD at Liverpool John Moores University, says this is the first clear-cut evidence of significant migration of people and therefore information between the two centres of civilisation at the time.

"You have two regions developing the first writing systems, so archaeologists believe that they were in contact and exchanging ideas. Now we have the evidence that they were.

"We hope that future DNA samples from ancient Egypt can expand on when precisely this movement from West Asia started and its extent."

The man was buried in a ceramic pot in a tomb cut into the hillside. His burial took place before artificial mummification was standard practice, which may have helped to preserve his DNA.

By investigating chemicals in his teeth, the research team were able to discern what he ate, and from that, determined that he had probably grown up in Egypt.

But the scientific detective story doesn't stop there.

Prof Joel Irish at Liverpool John Moores University conducted a detailed analysis of the skeleton to build up a picture of the man as an individual.

"What I wanted to do was to find out who this guy was, let's learn as much about him as possible, what his age was, his stature was, what he did for a living and to try and personalise the whole thing rather than treat him as a cold specimen," he said.

The bone structure indicated that the man was between 45 and 65 years old, though evidence of arthritis pointed to the upper end of the scale. He was just over 5ft 2in tall, which even then was short.

Prof Irish was also able to establish he was probably a potter. The hook-shaped bone at the back of his skull was enlarged, indicating he looked down a lot. His seat bones are expanded in size, suggesting that he sat on hard surfaces for prolonged periods. His arms showed evidence of

extensive movement back and forth, and there were markings on his arms where his muscles had grown, indicating that he was used to lifting heavy objects.
"This shows he worked his tail off. He's worked his entire life," the American-born academic told BBC News.

The remains were discovered in 1902 in a ceramic pottery coffin

A pictogram in the tomb of Amenemhat near Nuwayrat shows how potters worked

Dr Linus Girdland Flink explained that it was only because of a tremendous stroke of luck that this skeleton was available to study and reveal its historic secrets.
"It was excavated in 1902 and donated to World Museum Liverpool, where it then survived bombings during the Blitz that destroyed most of the human remains in their collection. We've now been able to tell part of the individual's story, finding that some of his ancestry came from the Fertile Crescent, highlighting mixture between groups at this time," he said.
The new research has been published in the journal Nature.

Cornwall

Two baby beavers born as part of wildlife project

The beaver kits at The Lost Gardens of Heligan are a couple of months old

Caroline Robinson, BBC News, South West

Two baby beavers have been born in Cornwall as part of a wildlife reintroduction project.
The parent beavers, Twiggy and Byrti, were introduced to a purpose-built enclosure on the Lost Gardens of Heligan estate in 2023 and 2024 respectively.
It was part of a national programme of reintroducing the species more than 400 years after their extinction in Britain, said The Lost Gardens of Heligan.
Toby Davies, wildlife coordinator at the gardens, said: "They looked to be a couple months old, but that's quite common for them to hide them away for a couple of months, and then all of a sudden, they kind of spring up."
He added: "It's just such amazing news, I keep saying to everyone, I'm like a proud dad."
Mr Davies said in the wild baby beavers, or kits as they are called, would usually stay with the parents for a couple years before on.
The Lost Gardens of Heligan said beavers were an important keystone species and their reintroduction was being monitored to gauge their impact on local biodiversity, flood mitigation and grazing livestock.
It worked with The Welsh Beaver Project, Beaver Trust and Natural England on their reintroduction programme.
As well as beavers, the gardens have reintroduced water voles and glow worms to the estate and bosses said they were working on reintroducing red squirrels in future.
Mr Davies said the beavers kits were yet to be named but would be named soon.
Follow BBC Cornwall on X, external, Facebook, external and Instagram, external. Send your story ideas to spotlight@bbc.co.uk, external.

The Lost Gardens of Heligan said it was monitoring the reintroduction of beavers to assess their impact on biodiversity

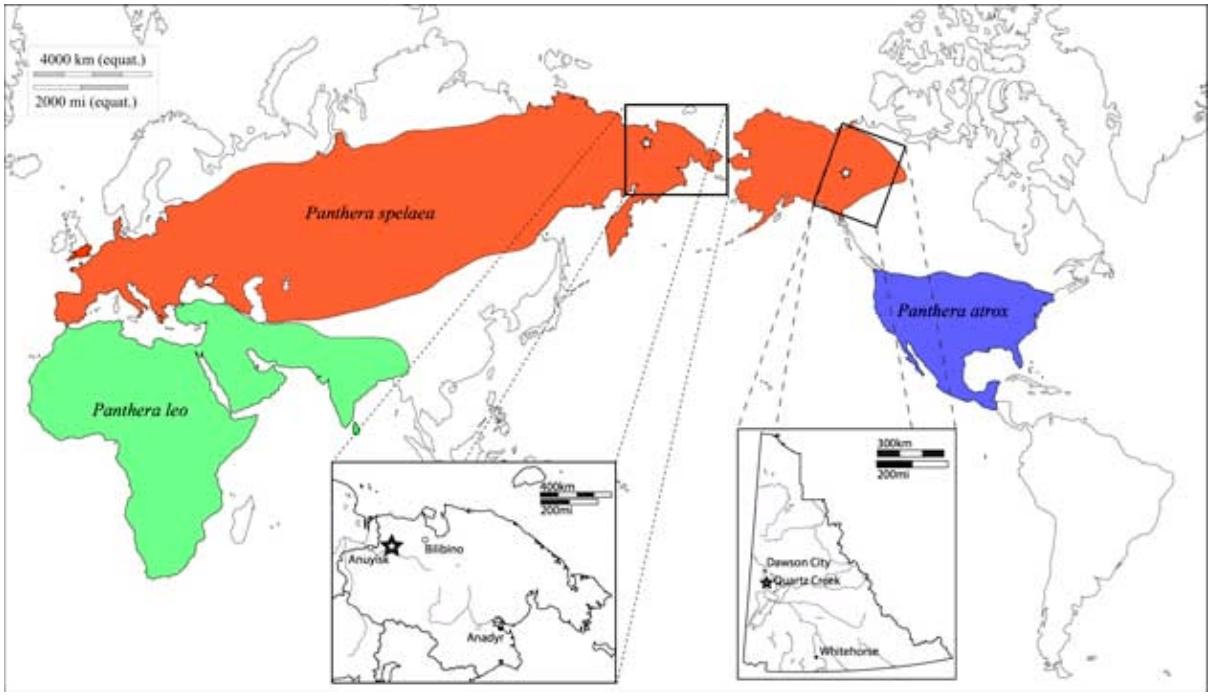
ATI

50,000-Year-Old Extinct Lion Found Frozen In The Siberian Permafrost With Its Head Resting On Its Paw

By Gabe Paoletti

The permafrost of Siberia has the perfect conditions to preserve biological specimens for tens of thousands of years.
Though nowadays we associate lions with Africa, millions of years ago, ancient lions traipsed across Europe, Asia, and North America.
One of these ancient lions, a young cub, was recently unveiled after being found frozen in the Siberian tundra of Russia by a Abyisky district resident, reported *The Siberian Times*.
The approximately one-year-old cub was frozen alive, with his head still resting on his paw. It is not yet clear whether the cub was male or female.

The head of the prehistoric fauna studies at the department of Yakutian Academy of Sciences, Dr. Albert Protopopov, said, "It is a perfectly preserved lion cub, all the limbs have survived. There are no traces of external injuries on the skin."
Tests will be carried out on the cub to discover its exact age, but experts estimate the frozen creature is between 20,000 and 50,000 years old.
This cub is a Eurasian Cave Lion, or *Panthera leo spelaea*, one of an extinct subspecies of lions that roamed across Europe, Russia, and even Alaska from 370,000 to 10,000 years ago.
The permafrost, or permanently frozen ground, of Siberia, has the perfect conditions to preserve biological specimens for tens of thousands of years.



Wikimedia Commons The historic ranges of subspecies of cave lions.

In fact, two lion cubs of the same species were discovered in the Siberian tundra in 2015. However, this newest discovery is preserved in better condition than those found previously.
Unlike the 2015 cubs, who died at around two to three weeks of age, the new cub is older, giving it features like full grown teeth that allow for a better dating of the animal.
"Everyone was amazed then and did not believe that such a thing is possible, and now, two years later, another cave lion has been found in the Abyiski district," said one of the scientists who analyzed the frozen cub.
The cub has been given to the Russia's Republic Academy of Sciences, where it will undergo further study. In 2016, Russian and Korean researchers already discussed cloning cave lions from previous samples in 2016, and this newly discovered cub will likely contribute to these efforts.

ATI

Rare Skeleton Of A 150-Million-Year-Old Ceratosaurus Dinosaur Sells For $30.5 Million At Auction

By Ainsley Brown | Edited By Jaclyn Anglis

It's one of only four Ceratosaurus skeletons that have ever been discovered, and it's the only specimen of a juvenile Ceratosaurus.
The skeleton of a Ceratosaurus dinosaur was sold at auction for $30.5 million, making it the third-most-expensive fossil to ever sell at auction.
Before going up at auction, the fossil was on display at the Mountain America Museum of Ancient Life at Thanksgiving Point in Lehi, Utah. The Ceratosaurus fossil was originally estimated to go for between $4 million and $6 million.

The specimen is the only juvenile skeleton of its species ever found, and is only the fourth Ceratosaurus skeleton ever discovered.

Matthew Sherman/Sotheby's The juvenile Ceratosaurus skeleton is the only one of its kind.

The Ceratosaurus' Journey To Auction

The juvenile Ceratosaurus skeleton was first discovered in 1996 near Bone Cabin Quarry, Wyoming. The area is known to be a dinosaur fossil hot-spot.
It was a miraculous find — only three other Ceratosaurus skeletons have been found, according to Sotheby's, where the fossil was put up for auction. It's also the only one of these skeletons to be a juvenile.
The skeleton stands more than six feet tall and measures about 11 feet long, and dates back over 150 million years. It also has an almost complete skull, one of the main selling points of the fossil.
The juvenile skeleton is made up of 139 original fossil bone elements as well as sculpted materials.
The Ceratosaurus dinosaurs are characterized by their distinctive nasal horns and bony-armored backs and tails. The carnivore would've roamed the floodplains of the modern-day American West.
By 2000, the skeleton had been acquired by the Mountain America Museum of Ancient Life at Thanksgiving Point in Lehi, Utah. It was on display at the museum for over 20 years. But last year, 2024, the museum sold the skeleton for an undisclosed sum to a company called Fossilogic.
Fossilogic had been formed by a man named Brock Sisson, who had worked at the Mountain America Museum of Ancient Life back when he was a teenager. After the company finished and mounted the Ceratosaurus specimen, they prepared to put it up for auction at Sotheby's.
In total, the bidding lasted just six minutes. As of now, Sotheby's has not revealed who the Ceratosaurus skeleton was sold to.
The Auction At Sotheby's Sold The Third-Most-Expensive Fossil
The Ceratosaurus skeleton sold for millions more than its original estimated value. Before the auction, Sotheby's had estimated the fossil would go for between $4 million and $6 million. It sold for $30.5 million.

It's the third-most-expensive fossil to have ever been sold at auction. Sotheby's also sold the biggest record breaker, the largest Stegosaurus fossil named Apex, for $44.6 million to billionaire Kenneth Griffin last year. Meanwhile, a Tyrannosaurus rex skeleton named Stan holds second place, which sold at Christie's for $31.8 million in 2020.
The Ceratosaurus skeleton was reportedly not studied at its former institution. According to *The New York Times*, this fact, combined with the high selling point, may be bad news in the eyes of some paleontologists.

Matthew Sherman/Sotheby's The Ceratosaurus skeleton is fragile due to it being that of a younger dinosaur.

Matthew Sherman/Sotheby'sThe Ceratosaurus skeleton is about six feet tall and 11 feet long.

The president of the Association of Applied Paleontological Sciences, Andre LuJan, told *The New York Times* he is concerned about the possible financial challenges that commercial paleontology operators might encounter. It could now be more expensive for digs to take place on private lands. "Are museums going to look at these fossils from private lands as a potential cash cow?" LuJan asked. "This was something that was accepted by everyone as hallowed ground, and now it's been desecrated."
Cassandra Hatton, the vice chairman and global head of science and natural history at Sotheby's, disagreed with this take, also adding the new owner is planning on loaning the Ceratosaurus skeleton to a museum.
"This dinosaur was in a privately held institution for 30 years. It was not studied at that institution," Hatton said. "There is now perhaps the opportunity that it will be studied."

BBC NEWS

Latin America

Teeth marks suggest 'terror bird' was killed by reptile 13 million years ago

The researchers say the terror bird did not survive the encounter

Victoria Gill, Science correspondent, BBC News

Teeth marks made on the leg bone of a large avian reptile known as a terror bird 13 million years ago suggest an even bigger predator may have killed it, scientists say. Terror birds were top predators - they could be taller than a human and had powerful legs and hooked, flesh-ripping beaks.

Palaeontologists in Colombia matched teeth marks on the fossilised leg bone of one of these fearsome birds to a caiman, or a crocodile-like reptile.
3D digital scans of the bites allowed the scientists to reconstruct what they believe was a "battle to the death" that the terror bird did not survive.

The researchers scanned the teeth marks in the leg bone and compared it with skulls and teeth of crocodile-like predators

The new study, published in the journal *Biology Letters*, compared the size and shape of the teeth marks to the skulls and teeth of crocodile-like predators in museum collections. It provides rare evidence, the researchers say, of an interaction between two extinct top predators at the time.
The leg bone the scientists studied was first unearthed more than 15 years ago in Colombia's Tatacoa Desert. When the bird lived in the swamps of that area 13 million years ago, it would have been about 2.5m tall and would have used its legs and beak to hold down and rip at its prey.
What the scientists are not able to prove conclusively is whether this particular, unfortunate terror bird was killed in the attack, or if the caiman scavenged its remains.
"There is no sign of healing in the bite marks on the bone," explained lead researcher Andres Link from the Universidad de Los Andes in Bogotá, Colombia. So if it wasn't already dead, it died in the attack. That was the last day that bird was on this planet - then a piece of its leg bone was found 13 million years later."
The Tatacoa Desert is home to rich deposits of fossils from an epoch known as the Middle Miocene. At that time, it was a humid swamp, where river sediments trapped and fossilised the bones of dead animals, resulting in the preserved remains found there today.
This particular bone was first discovered about 15 years ago by local fossil collector César Augusto Perdomo.
The Colombian scientists worked closely with Mr Perdomo, studying and cataloguing fossils that he has gathered in his museum. It was when scientists were working in the museum that they realised that this fist-sized piece of leg bone came from a terror bird.
That was an exciting discovery - terror bird fossils are rare. But Dr Link and his colleagues were also fascinated by the puncture marks in the bone, which had clearly been made by the teeth of another powerful predator.
The Tatacoa Desert is home to rich deposits of fossils from an epoch known as the Middle Miocene.
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The teeth marks are clearly visible on the piece of leg bone

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That was an exciting discovery - terror bird fossils are rare. But Dr Link and his colleagues were also fascinated by the puncture marks in the bone, which had clearly been made by the teeth of another powerful predator.

César Augusto Perdomo has been collecting fossils since he was a child

This new analysis of the marks revealed that they most closely match an extinct caiman species called Purussaurus neivensis, a crocodilian that would have been up to five metres long.
The researchers say it would have ambushed its prey from the water's edge, much like crocodiles and caimans do today.
"I would imagine it was waiting for prey to be nearby," said Dr Link.
If this was indeed a battle between two apex predators, Dr Link says that provides insight into an ancient ecosystem. It reveals that ferocious terror birds were much more vulnerable to predators than previously thought.
"Every piece of a body helps us to understand so much about life on the planet in the past," Dr Link told BBC News.
"That's something that amazes me - how one tiny bone can complete the story."

BBC NEWS

Health

'My dad started spying on my mum' - the drugs causing sexual urges

Noel Titheradge, Investigations correspondent @noeltitheradge

Sarah says her elderly father's prescription drugs made him obsessed with porn

When "Sarah" climbed up into the attic of her father's house - she was completely unprepared for what she would find. Her father, "James", was a modest man who worked most of his life for the same company. He retired about 20 years ago when he was diagnosed with Parkinson's. He had managed the tremors and balance difficulties caused by the disorder by taking a prescription drug called Ropinirole.
But during the Covid-19 pandemic, Sarah had grown increasingly alarmed about her father's secrecy and wanted to see what he had been spending his time doing. In the loft, she discovered reams of handwritten notes and a dozen recording devices he had been using to bug his own home.

Sarah discovered recording devices her father had been using to bug his own home

In writing and on tape he had documented innocent sounds his wife had made as she moved around the house, and while she slept, to try to prove she was having an affair. He had also catalogued details of numerous chat lines and porn websites he had been obsessively using.
When Sarah told her elderly mother about what she had found, she was horrified to hear that James had also been sexually coercive towards her. It was only when Sarah took him to see his specialist nurse five years ago that she learned the medication her father was on could have such extreme side effects. "Oh, he's gone down the randy route, has he?" the nurse said.
The couple are now living separately in their old age, because James poses too much of a risk to his wife, says Sarah. James lives in a specialist care home and Sarah says she has been told that he has sexually assaulted staff there. "This medication has torn my family apart," says Sarah - whose name we have changed along with her father's.
Sarah has power of attorney for both her parents, including for their medical treatment. She has carefully weighed their interests in deciding to tell her family's story, she says, but wants people to know about the impact the drugs can have.
James's case is one of 50 the BBC has now been contacted about, the majority concerning men being treated for movement disorders whose behaviour changed dramatically after being prescribed medication from a specific family of drugs. Often, behaviour changed after many years of taking the medicines at increasing doses, the men told us.

In March, we revealed how women had not been warned by doctors that taking the same type of medication for restless leg syndrome (RLS) could cause them to cruise for sex and gamble compulsively - placing them at personal risk and ruining their finances, careers and relationships.
Many of the cases we have now learned of involve the exploitation of women and children. These include:

- **A man who was convicted of child sexual offences after abusing a child**
- **An octogenarian who says he has become addicted to pornography including bestiality and child abuse images**
- **A father of three children who said the drugs left him needing to have sex up to seven times a day - and caused him to walk out on two marriages when partners could not satisfy him**

All three men said they had had no previous history of such sexual behaviour before taking the drugs. They also said they felt profound shame about their behaviour but believed the medication helped their conditions.
Other men the BBC spoke to said they did not want to take themselves off the drugs because the medication had led them to discover new sexual interests - which are legal and consensual - and because they enjoyed their increased libido.
One married grandfather in his 60s has begun crossdressing and has entered into online relationships with men. Another man says the drugs disinhibited homosexual feelings he had not previously explored.
Prescription records show that some of the men we spoke to tried reducing their dosage but all felt it had negatively impacted their health.
The Ropinirole that James takes belongs to a family of drugs known as dopamine agonists, which are prescribed for Parkinson's, RLS, pituitary tumours and other conditions.
The risk of impulsive behaviour side effects of dopamine agonist medication have long been known - but the BBC has discovered that doctors are still not warning all patients who have been prescribed the drugs for a variety of conditions.
In March we revealed how British drug company GSK had found a link between Ropinirole and what it called "deviant" sexual behaviour - including paedophilia - in 2003.
GSK told the BBC it had shared these findings with health authorities, included this safety advice in medication leaflets, and conducted extensive trials for the drug which has been prescribed for 17 million treatments.
But warnings about such behaviour were not included in leaflets until 2007 - and, even now, only specify "altered" sexual interest and "excessive" or "increased" libido as risks.

Paulette Hamilton MP wants warnings in medication leaflets to be strengthened and made clearer

Safety advice about the medication's "toxic" side-effects needs to be strengthened immediately because their impact can be "devastating", according to the acting chair of the Health Select Committee, Labour MP Paulette Hamilton. "Nine out of 10 people do not read what is on those leaflets," she says. "And if you do read it, what does it mean by altered sexual interest? I haven't got a clue."

Leaflet listed side effects of Ropinirole

You may experience the following side effects:

- inability to resist the impulse, drive or temptation to perform an action that could be harmful to you or others, which may include:
  - strong impulse to gamble excessively despite serious personal or family consequences.
  - altered or increased sexual interest and behaviour of significant concern to you or to others, for example, an increased sexual drive.
  - uncontrollable excessive shopping or spending
  - binge eating (eating large amounts of food in a short time period) or compulsive eating (eating more food than normal and more than is needed to satisfy your hunger)
- episodes of overactivity, elation or irritability

inability to resist the impulse, drive or temptation to perform an

action that could be harmful to you or others, which may include:

altered or increased sexual interest and behaviour of significant

concern to you or to others, for example, an increased sexual drive.

The drugs work by mimicking the effects of dopamine, a natural chemical that helps transmit messages in the brain, such as those governing movement. Dopamine is also known as the "happy hormone" because it is activated when something is pleasurable or we feel rewarded.
Dopamine agonists can over-stimulate such feelings - helping sufferers of some movement disorders which may be caused by low levels of dopamine. But they can also diminish the appreciation of consequences, leading to impulsive behaviour - according to academics.
The medication can also actually worsen existing symptoms of restless legs - according to dozens of the people who spoke to the BBC - sometimes causing an uncontrollable urge to move in other parts of the body.
This is a well-documented risk for those who take the medication over a prolonged period, and is known as augmentation.

- **If you have more information about this story, you can reach Noel directly and securely through encrypted messaging app Signal on: +44 7809 334720, by email at noel.titheradge@bbc.co.uk, external or on SecureDrop**

The BBC has also learned of concerns about two studies that looked at the ability of another dopamine agonist drug - Rotigotine - to tackle such exacerbation of health conditions. Both were sponsored by the drug's manufacturer, Belgian firm UCB.
We have been told that senior officials at the company repeatedly dismissed evidence of augmentation caused by Rotigotine, during the first study in 2012. One of its authors, Dr Diego Garcia-Borreguero, says UCB staff sat-in on and discussed findings with academics. He says the interference was "subtle", but that the published results were not impartial.
The BBC has also discovered that eight out of nine authors of a second Rotigotine study in 2017 had been paid at some point by UCB - and that five of them were direct company employees.
The paper's conclusions - that Rotigotine was effective in treating augmentation - are "ridiculous", according to Dr Andy Berkowski, a neurologist who has co-authored clinical practice guidelines for the treatment of RLS in the US. He says data shows that more than 50% of the patients stopped taking the drug during the study largely because of adverse events or a lack of effectiveness - and more than half of those who completed it required an increase in dosage, potentially because of the worsening of their RLS symptoms.
UCB says its studies were unbiased, underwent independent peer review, and that authors who were its employees, or who it had prior affiliations with, fully complied with guidelines on disclosing conflicts of interest.
It said that Rotigotine's effectiveness was proven in multiple trials and most patients who completed its 2017 study experienced a significant clinical improvement. This corresponds to 37 of the 99 patients who began the study.

- ***A list of organisations in the UK offering support and information with some of the issues in this story is available at BBC Action Line.***

Dopamine agonist drugs were prescribed nearly 1.5 million times by GPs alone in England last year, according to published data seen by the BBC.
Another drug, Aripiprazole – a partial dopamine agonist, used to treat mental health problems - is also known to cause impulsive behaviours. It was prescribed for more than 1.7 million treatments in England alone last year, often to younger patients.
One patient taking the drug told us his compulsive gambling had become so bad that he was stealing to fund his habit. The mother of another believes the medication caused her son to expose himself in public.
The UK's drug safety regulator, the MHRA, says it has no plans to change its warnings about dopamine agonist drugs.
It previously told the BBC that sexual impulses vary and a general warning about activities which may be harmful is included.
The Royal College of GPs said its updated curriculum - which is used to train doctors and will be published next month - will now include the monitoring of impulsive behaviour side effects for RLS, thought to affect between 6% to 17% of patients.
A side effect can be considered to be "common" when it affects just 1% of the people who take the medicine, according to health guidance body NICE.
The Department for Health and Social Care did not comment.

Around 125,000 years ago, Neanderthals in what is now central Germany established what researchers now term a prehistoric "fat factory", dramatically shifting our understanding of their dietary sophistication . Located at the Neumark-Nord 2 lakeside site, their operation involved organized hunting, butchery, bone processing, and calorie extraction at a scale once thought unique to modern humans . Archaeologists uncovered over 120,000 bone fragments from at least 172 large mammals—including deer, horses, aurochs, and even straight-tusked elephants—alongside 16,000+ flint tools and hammerstones, and clear signs of controlled fire use in a tightly clustered area of roughly 50 m² .

Neanderthals systematically crushed fat-rich bones into tiny pieces, then boiled them in water, allowing the liberated bone grease to rise to the surface for skimming—producing a calorie-rich lipid source essential for survival, particularly to avoid "rabbit starvation", a form of protein poisoning when fat or carbohydrates are insufficient .

This labor-intensive process required careful planning and logistical foresight. The team likely cached fat-rich bone parts across the landscape before transporting them seasonally to the processing site. Bone rendering tools, anvils, and fire infrastructure point to purpose-built task-specific zones designed for efficient fat production .

These findings push back the earliest evidence of intensive fat extraction by tens of thousands of years—well before similar behaviors documented among Upper Paleolithic Homo sapiens ~28,000 years ago . This work underscores that Neanderthals were strategic resource managers, with nuanced understanding of nutrition, planning, and storage, dismantling the stereotype of them as unsophisticated or purely instinct-driven .

Overall, Neumark-Nord reveals Neanderthals not just as hunters, but as proto-industrial food processors—highly intelligent beings capable of planning complex tasks, shaping their environment, and maximizing caloric return from their prey.

Follow Kenny McCaffery

ATI

Elephant Bird: The Extinct 1,700-Pound Creature From Madagascar That Was The Largest Bird To Ever Live

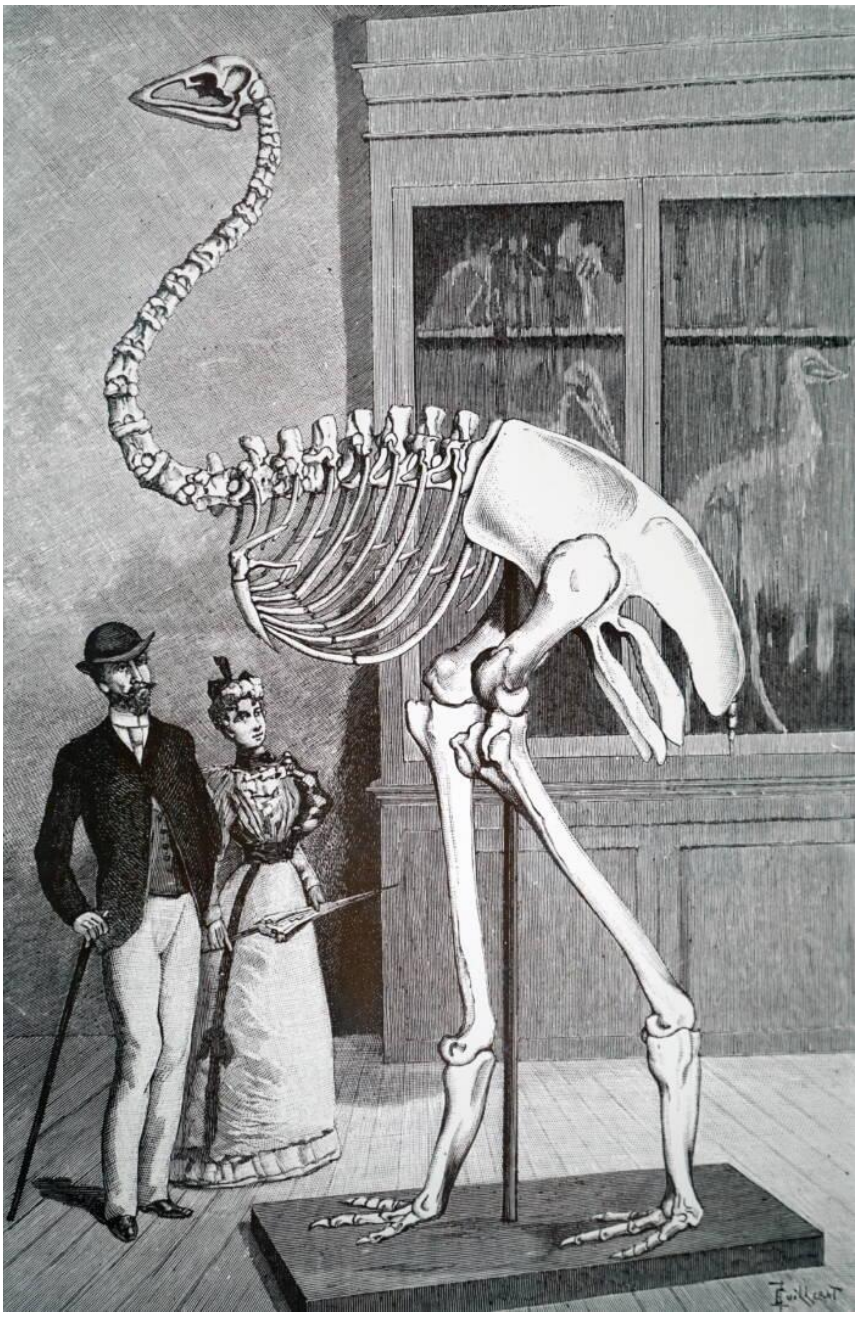
By Bernadette Giacomazzo | Edited By Kaleena Fraga

Before they died out roughly 1,000 years ago, elephant birds could grow up to 10 feet tall and laid the largest eggs ever documented.

Before it went extinct 1,000 years ago, the elephant bird of Madagascar was certainly a sight to behold. In fact, one species of this flightless bird is widely believed to be the largest bird that ever lived.

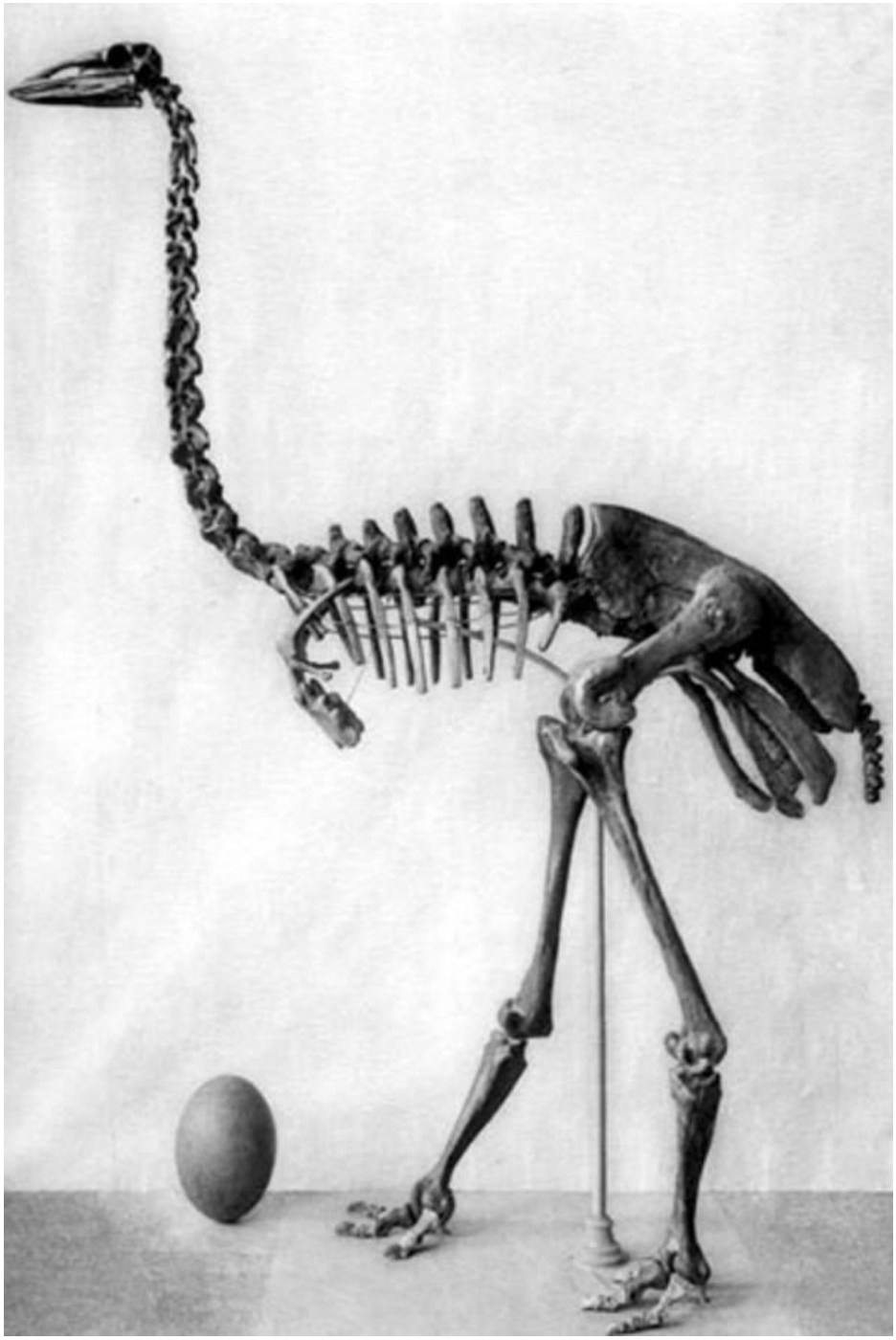
Though long the stuff of legends — these bird may have inspired stories of the mythical roc (or rukh) creature — elephant birds were very real. That said, they've long been something of a mystery for scientists. It's only in recent years that researchers have suggested that elephant birds of the *Aepyornithidae* family include four distinct species: *Mulleornis modestus*, *Aepyornis hildebrandti*, *Aepyornis maximus*, and *Vorombe titan*.

Driven to extinction shortly after humans settled in Madagascar, the story of this colossal bird is still being told.



World History Archive An engraving of the elephant bird from the 19th century.

gascar

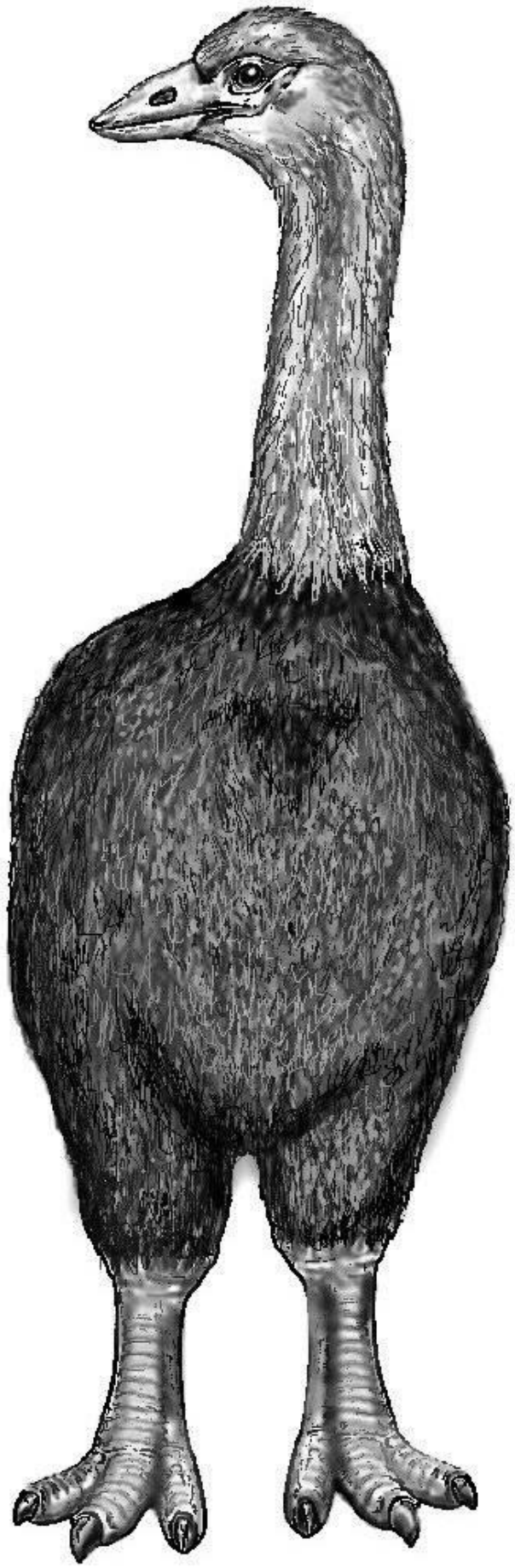


Public DomainThe skeleton of Aepyornis maximus , one of the elephant bird species.

Long before the elephant bird was scientifically studied, it existed in myth. Explorers in the 13th and 14th centuries, including Ibn Battuta and Marco Polo, relayed stories of a giant bird that lived near Madagascar, which they claimed was the mythical creature known as roc or rukh. As late as the 19th century, the British explorer and novelist William Winwood Reade similarly claimed that, "The existence of the Roc… is now proved by the discovery of an immense egg in a semi-fossil state in Madagascar."

In fact, this mythical bird creature — and its eggs — was the elephant bird, a real creature that went extinct around 1000 to 1200 C.E.

Elephant bird fossils are abundant — so abundant that researchers originally believed that there were as 15 species of these massive creatures. However, recent research suggests that there were just four species of these birds split across three genera: *Mulleornis modestus*, *Aepyornis hildebrandti*, *Aepyornis maximus*, and *Vorombe titan*.



Acrocynus/Wikimedia CommonsA depiction of how elephant birds looked. Though they resembled ostriches, they were more closely related to kiwis.

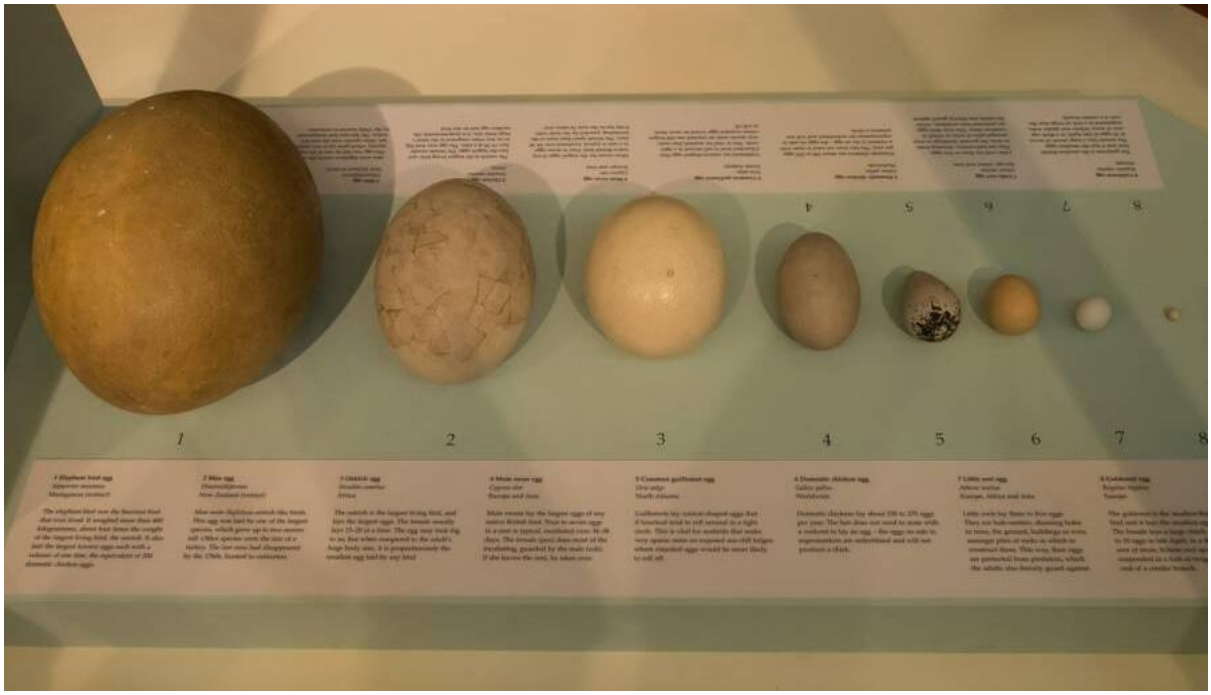
These birds had conical beaks, stubby legs, three-toed feet, and small wings that were useless for flying. Though they resemble ostriches, they're more closely related to kiwis, and they likely lived in forests and ate plants.

But the most impressive thing about elephant birds were their size.

One Of The Largest Birds In The World

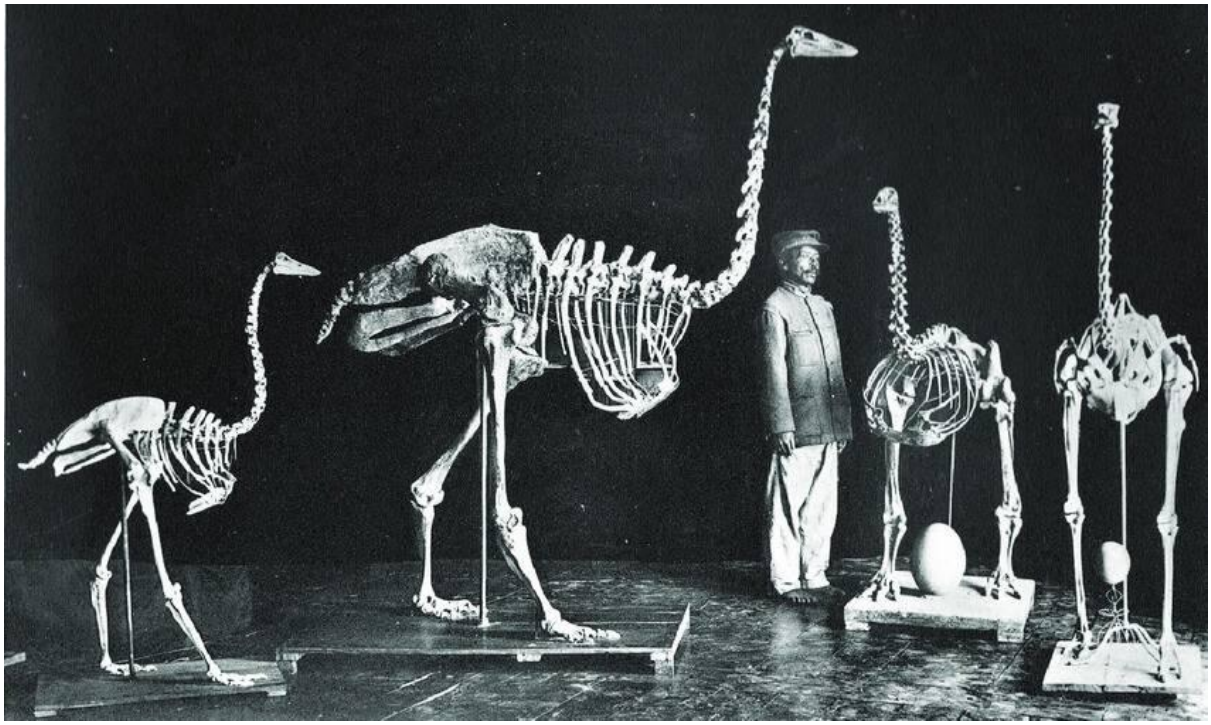
Though myths about the elephant bird long abounded, they were first given a scientific description by French zoologist Isidore Geoffroy Saint-Hilaire in 1851. Saint-Hilaire called the birds *Aepyornis maximus*, or "Greatest high-bird." According to the science magazine *Capeia*, Saint-Hilaire also noted that elephant bird eggs were the largest of any documented species.

These eggs could be as tall as 13 inches and hold roughly two gallons of liquid, or the equivalent of about 150 chicken eggs. And indeed, the size of the elephant bird matched their massive eggs. Many stood 10 feet tall and weighed around 1,000 pounds. But the largest of the species is believed to be *Vorombe titan*.



Denis Bourez/Wikimedia CommonsAn elephant bird egg, far left, compared to eggs from other birds.

Originally identified as the species *Aepyornis titan* in 1894, recent studies suggest that *Vorombe titan* belongs to a distinct genus. (*Vorombe* is Malagasy for "big bird.") While its cousins may grow up to 1,000 pounds, researchers believe that *V. titan* could have been as much as 1,700 pounds. If so, that would make *V. titan* the largest bird ever documented — even larger than the *Dromornis stirtoni*, a flightless bird from Australia that went extinct 20,000 years ago and weighed 1,100 pounds. In short, these were massive — but gentle — land creatures who thrived on a tiny island off the coast of Africa for thousands of years. So, how did these giant bird go extinct?



Public DomainAn elephant bird skeleton displayed alongside other bird skeletons. To date, the elephant bird is considered the largest bird to ever walk the earth.

The Extinction Of The World's Largest Bird

Simply put — and perhaps unsurprisingly — it was most likely human behavior that caused the mighty elephant bird to go extinct.
As the BBC reported in 2018, these giant birds and early humans seemingly coexisted on Madagascar for centuries. However, human activity eventually chipped away at the elephant bird population.
Not only did humans hunt and butcher the birds for their meat, but they also stole the birds' eggs. Early humans might have used the eggs for food — just one giant egg could easily feed an entire human family — but it's also possible that they used them to store rum or as bowls.
This pressure on elephant birds, combined with climate change and changes to their environment, ultimately led to their extinction roughly 1,000 years ago. By 1200 C.E., the birds had died out completely, leaving behind only myths — and plenty of fossilized eggs and bones.
But could new technology bring the extinct bird back to life?

Robert vant Hoenderdaal / Alamy Stock PhotoA model of an elephant bird.

In recent years, scientists have toyed with the idea of de-extinction, or the idea of bringing extinct animals back to life. Animals like the dodo, the Tasmanian tiger, and the woolly mammoth have all been proposed as possible de-extinction candidates.
Though there's currently no de-extinction project focused on the elephant bird, this extinct species could be a good candidate. Little DNA has been found in their bones, which have been bleached by the Madagascar sun, but fossilized elephant bird eggs are a rich source of DNA.
As such, perhaps the story of the elephant bird isn't quite over. Though the last of these creatures went extinct some 1,000 years ago, they left behind a rich source of DNA in their eggs. As humans grapple with the idea of bringing animals back from the dead, perhaps the elephant bird — or some version of it — can be revived. If that happens, then maybe these gigantic birds will one day wander through the forests of Madagascar once again.

ATI

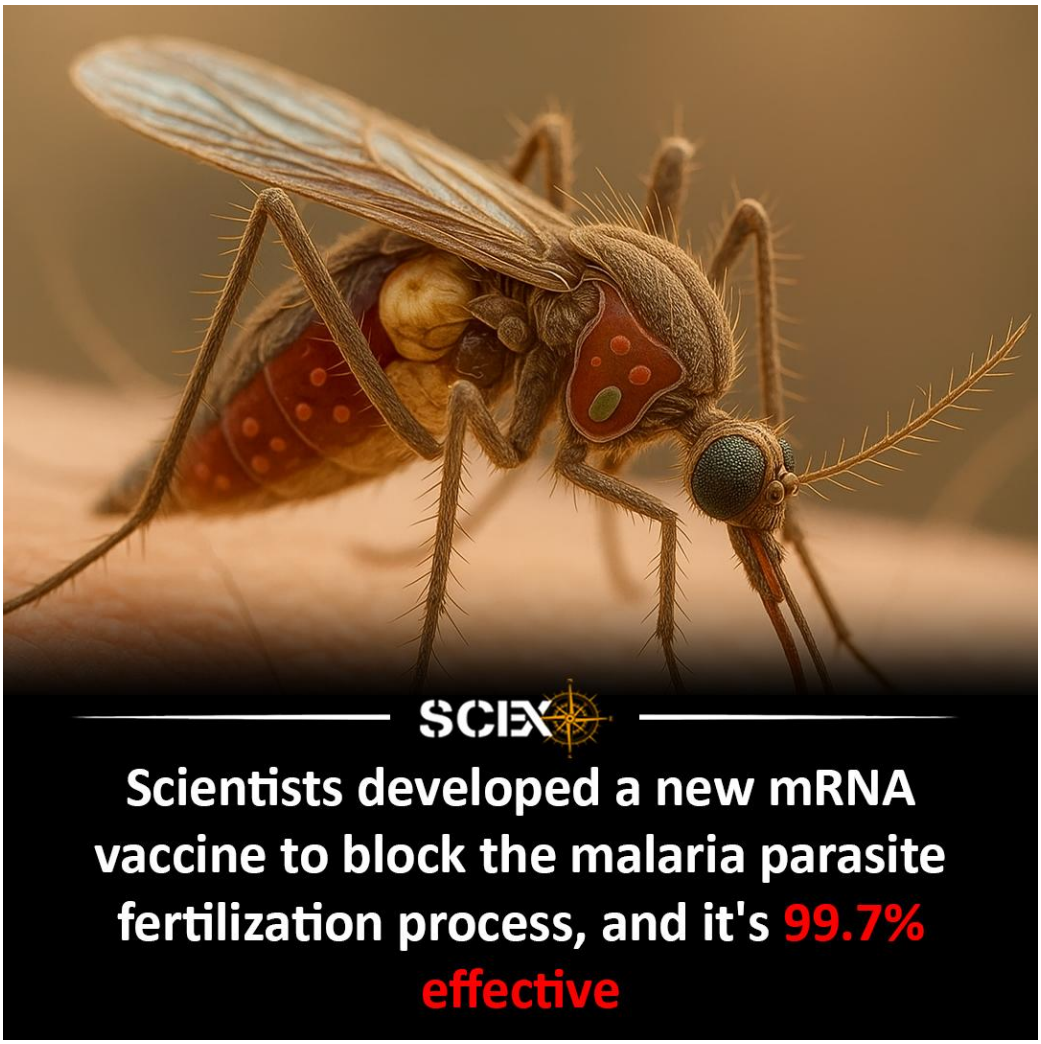
Scientists Create mRNA Vaccine That Stops Malaria Parasite From Reproducing – 99.7% Effective in Lab Tests In a major leap toward ending malaria, scientists at Australia's Walter and Eliza Hall Institute have developed an experimental mRNA vaccine that blocks the malaria parasite from reproducing inside mosquitoes — cutting transmission by an astonishing 99.7% in laboratory studies. Using advanced cryo-electron microscopy, the team mapped in unprecedented detail how two crucial parasite proteins, Pfs230 and Pfs48/45, fit together like a lock and key during the mosquito stage of the parasite's life cycle. This protein pairing is essential for the parasite's fertilization process inside the insect.

By pinpointing the exact "connection site" between these proteins, researchers created an mRNA vaccine that trains the human immune system to produce antibodies targeting this bond. When mosquitoes bite vaccinated individuals, these antibodies neutralize the fertilization proteins, stopping the parasite from reproducing — and breaking the chain of transmission.

With malaria infecting ~300 million people and killing ~600,000 annually, this approach could be a game-changer when used alongside existing vaccines and treatments, attacking the parasite at multiple stages. The next step: human clinical trials to confirm safety and effectiveness in the real world.

Source: Dietrich, Melanie H., et al. Science (2025). DOI: 10.1126/science.eady0241

#Malaria #MedicalBreakthrough #mRNA #VaccineResearch #MosquitoControl #GlobalHealth



BBC NEWS

Nottinghamshire

'I'm proud my wife donated her body to medicine'

Ann Shawyer (right) chose to donate her body to medical education and training after she was diagnosed with terminal cancer

Asha Patel, BBC News, Nottingham and Ash Geaney, BBC News, Nottingham

When former nurse Ann Shawyer died of cancer in January, she continued to devote herself to medicine. She had decided years earlier to consent to body donation, which allows people to leave their bodies to medical training and research after death. "Even in death, she still carried on helping people," her husband Alan Shawyer said. The 76-year-old said he now wanted other people to consider becoming body donors.

Ann worked at City Hospital in Nottingham, where she was born, for 30 years. When she was diagnosed with bowel cancer in 2021, she and Alan had been aware of the body donation centre at the hospital, and decided to make inquiries about the process.

She died aged 82, with Mr Shawyer by her side, on 4 January. "It was a bit of a complete circle in one respect," said Mr Shawyer, who now lives in Lincoln. "I was obviously very sad after 56 years with Ann and I'm still extremely sad seven months down the track. But I'm very proud, so proud, that she did that."

There are a number of centres and medical schools that accept body donations in the UK, which are licensed by the regulator, the Human Tissue Authority.

People can choose to donate their bodies to the National Repository Centre, based at City Hospital, by filling in a consent form.

Donors must fit a certain criteria - for example, they cannot have died of an infectious disease or have undergone a post-mortem examination.

They can also choose between a restriction of two years, or no time restriction, for the length of time their body can be retained.

The centre can also arrange a cremation and funeral, unless a donor wishes for private funeral arrangements to be made once their "donor journey" is complete.
On Friday, the centre unveiled a memorial tree at Gedling Crematorium in Nottinghamshire, in memory of donors.

The couple met in 1969, when they were in their 20s and lived together in Hucknall, Nottinghamshire, for 20 years before moving to Lincoln

Mark Curwood, senior anatomy technologist at the centre, said the tree created a space for families of donors "to come and reflect" or scatter ashes.
"[Donors] are essential to what we do but also the family are equally as important as that donor is," he said. He added families could choose for their loved ones not to be dissected and could opt out of a donor being transferred to different medical schools

A tree was unveiled alongside a commemorative plaque

across the country. "If that enables us to fulfil that donor's last wish then we will do whatever we can," he added.
Mr Shawyer, who has also signed up to be a donor, said he continued to keep close contact with the centre, which regularly calls to update him on his wife's journey.
He said he believed more people would consent to body donation if they knew more about it.
For him and his partner, deciding to donate their bodies was "never a question".
He added: "My question is always why would you not? Because it's a big help to everybody.
"I've had a lot of work done, I've had two replacement knees, two replacement shoulders.
"Where does the surgeon learn the skill to replace the knee and the shoulders? They've got to learn on a body."

BBC NEWS

Health

Knee implant used by NHS known for years to be faulty

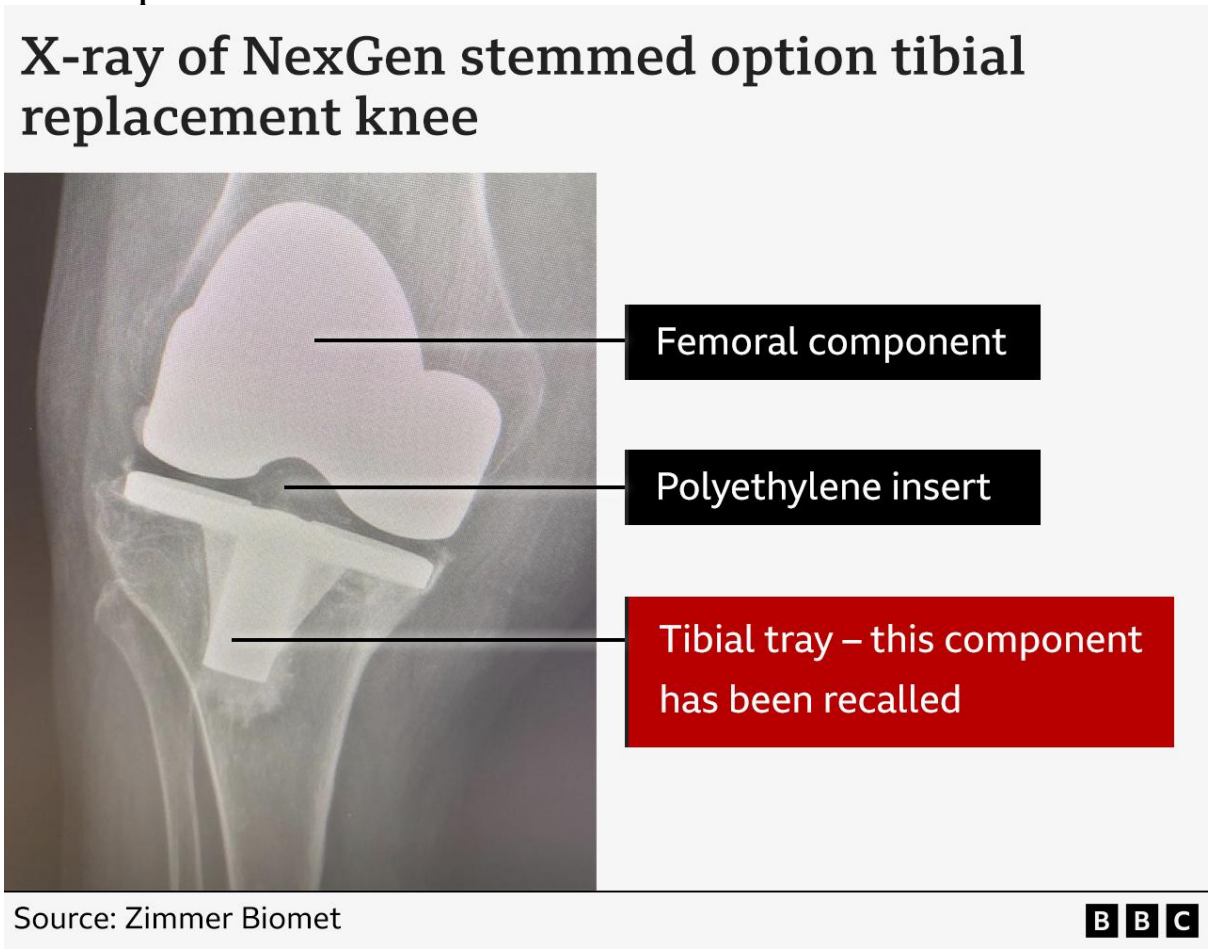
Debbie Booker's knee implant led to serious and ongoing health problems

Jim Booth, Adrian Goldberg & Nazrin Wilkinson

A knee-replacement implant, used in thousands of UK operations, was known to have a concerning failure rate eight years before it was finally withdrawn, the BBC has discovered.
Patients have told File on 4 Investigates how they were left immobile or addicted to painkillers after receiving the NexGen knee implant, because it ended up slipping out of place. Hundreds of people have now had to undergo a second corrective operation.
Knee surgeons say the implant's US manufacturer, Zimmer Biomet, took too long to acknowledge there was a problem with one particular component.
Zimmer Biomet says patient safety is its "top priority" and that its products are approved in accordance with the relevant regulations.
Debbie Booker from Southampton had an operation to replace her left knee in 2016. Although initially it appeared to have been successful, she started to experience severe pain a year later while on holiday in Majorca. "I laid a bag of ice on my knee and for four days I had to do that every few hours because I was in agony," she says.
A knee replacement involves removing damaged surfaces of the femur (thigh bone) and the tibia (shin bone) and replacing them with artificial components.
Debbie says the pain resulted from the knee implant slipping from the tibia and wearing away the bone. Over the next few months she says she became reliant on prescription painkillers: "I was on fentanyl and morphine. It took me a long time to come off of the morphine because I was addicted."
She has since had a second knee replacement, but the problems caused by the initial failed implant have caused long-lasting health problems, she says. "It's put my whole body out of alignment, I walk with a limp," says Debbie. As a result, she is now awaiting a hip replacement.
Another patient, "Diana" (not her real name), had a knee implant fitted in 2021 which also slipped and started to wear away her shin bone, leaving her virtually immobile.

"The consultant told me every time I stood up, I was standing on a broken leg. It was absolute agony," she says. Diana asked to be anonymous as she used to work in the NHS.

As part of their knee replacements, both Debbie and Diana had received a specific implant section, known as a "stemmed option tibial component", also known as a "tibial tray". In broad terms, this section lacked a layer of plastic contained in earlier, well-regarded versions of the NexGen replacement knee.



Zimmer Biomet started marketing this modified version in 2012. It was cheaper than the earlier model, so it made financial sense for the NHS, according to Prof David Barrett, a knee specialist at Southampton University. "[The NHS] were justified by saying, 'we have every reason to think it'll be fine,'" he says.

In the decade that followed, more than 10,000 patients were fitted with this version of the implant. However, File on 4 Investigates has discovered that concerns were first flagged in 2014 by the National Joint Registry (NJR) which keeps a record of implant surgery across England, Wales and Northern Ireland.

At that point, there was insufficient data to draw any reliable conclusions, the NJR told us. It is not an easy task to isolate a specific component that is not working as it should, it added.

Further concerns about the implant were raised in Ireland two years later, in 2016, by Prof Eric Masterson, a knee surgeon in Limerick. Prof Masterson's corrective-surgery rate had soared after he started using NexGen implants in 2012 and he found his professional competence being called into question. "That was a lonely place," he tells File on 4 Investigates. "You spend a lifetime building up a career and a reputation, and it's very easy to have that career shredded."

When he raised questions with Zimmer Biomet representatives, they assured him there wasn't a widespread problem, he says - an account echoed by NHS surgeons who told us they had found themselves in similar situations.

Prof Masterson asked to be put in touch with surgeons in the UK to compare notes. However, confidential internal company documents seen by File on 4 Investigates reveal the company was

only willing to contact surgeons on his behalf if they were considered "friends of Zimmer Biomet" and "happy with their NexGen patients".

Prof Eric Masterson said the failure rate of the implant started to impact his career and reputation

Zimmer Biomet failed to act quickly enough after the problem was identified, according to Prof Leila Biant, one of the UK's leading knee surgeons. She says concerns were raised by herself and other colleagues as far back as 2017.
"The issue is [the company's] initial reluctance to acknowledge a problem and to not really engage with a process to evaluate these patients until [Zimmer Biomet] got to a situation where they had to," she tells us.

Zimmer Biomet failed to acknowledge the problem quickly enough, says Prof Leila Biant

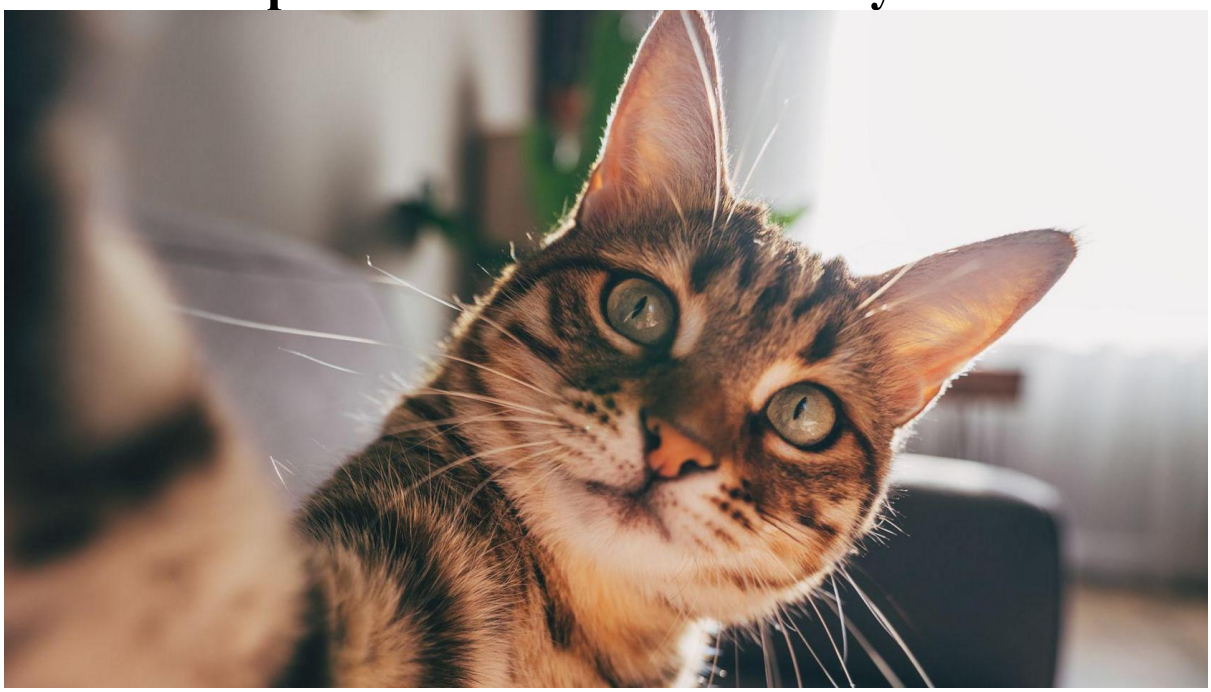
In 2022, the NJR estimated that patients were nearly twice as likely to need corrective surgery after receiving the NexGen implant, when compared with the average knee implant.

In the same year, Zimmer Biomet recalled any unused implants from the UK market.
Estimations of failure rates for the tibial tray component in this NexGen implant vary from 6% (twice as much as should be expected) to 19%, according to peer-reviewed academic studies.
In a statement, the company told the BBC: "Zimmer Biomet is committed to the highest standards of patient safety, quality, and transparency. When new data becomes available, we act appropriately, responsibly, and in accordance with applicable regulatory requirements."
All 10,000 patients fitted with the problematic implants should now have been recalled for a review by the hospitals where they had their initial operations. Hundreds have already had to have a second operation, and others are likely to follow as problems come to light.
The cost of rectifying the problem is not cheap. Each revision costs between £10,000 and £30,000 because the implant is very specialised, says Prof Barrett from Southampton University.
"Patients are in hospital for a lot longer and they require more support. So this is a very significant expense," he says.
As a result, the total bill is estimated to run into millions of pounds.
Zimmer Bionet did not respond when File on 4 Investigates asked if it would be contributing to the cost of these operations. However, we have seen a confidential company email, sent in 2022, telling sales staff to say that "Zimmer Biomet will not cover diagnostic, follow-up or revision costs up front".
NHS England told us it was "currently reviewing the case involving Zimmer Biomet NexGen knee implants".

BBC NEWS

Edinburgh, Fife & East Scotland

Cats develop dementia in a similar way to humans



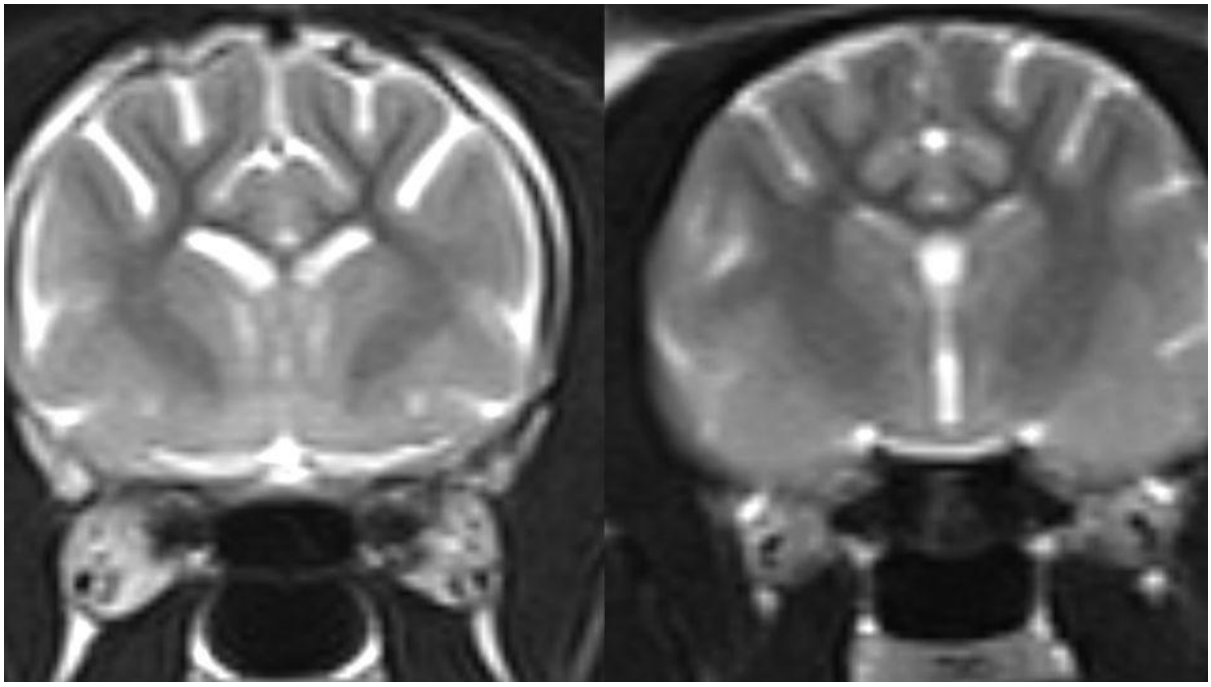
Scientists in Edinburgh discovered that feline dementia could share many factors with Alzheimer's in humans

Calum Watson

Cats develop dementia in a similar way to humans with Alzheimer's disease, leading to hopes of a breakthrough in research, according to scientists.

Experts at the University of Edinburgh carried out a post-mortem brain examination on 25 cats which had symptoms of dementia in life, including confusion, sleep disruption and an increase in vocalisation. They found a build-up of amyloid-beta, a toxic protein and one of the defining features of Alzheimer's disease. The discovery has been hailed as a "perfect natural model for Alzheimer's" by scientists who believe it will help them explore new treatments for humans.

Dr Robert McGeachan, study lead from the University of Edinburgh's Royal (Dick) School of Veterinary Studies, said: "Dementia is a devastating disease - whether it affects humans, cats, or dogs. Our findings highlight the striking similarities between feline dementia and Alzheimer's disease in people. This opens the door to exploring whether promising new treatments for human Alzheimer's disease could also help our ageing pets."
Microscopy images of older cats which had previously shown symptoms of feline dementia revealed a build-up of amyloid-beta within the synapses - the junctions of brain cells.



The light areas in the MRI image on the left show more brain tissue loss in a living cat with dementia compared with a normal feline brain, pictured right

Synapses allow the flow of messages between brain cells, and losing these causes reduced memory and thinking abilities in humans with Alzheimer's. The team believe the discovery in cats could help them get a clearer understanding of the process, offering a valuable model for studying dementia in people.
Previously, researchers have studied genetically-modified rodents, although the species does not naturally suffer from dementia. "Because cats naturally develop these brain changes, they may also offer a more accurate model of the disease than traditional laboratory animals, ultimately benefiting both species and their caregivers," Dr McGeachan said.
Will this research benefit cats? The researchers found evidence that brain support cells - called astrocytes and microglia - engulfed the affected synapses. It's known as synaptic pruning, an important process during brain development but which contributes to dementia.
Prof Danielle Gunn-Moore, an expert in feline medicine at the vet school, said the discovery could also help to understand and manage feline dementia. "Feline dementia is so distressing for the cat and for its person," she said. "It is by undertaking studies like this that we will understand how best to treat them. This will be wonderful for the cats, their owners, people with Alzheimer's and their loved ones."
The study, funded by Wellcome and the UK Dementia Research Institute, is published in the European Journal of Neuroscience and included scientists from the Universities of Edinburgh and California, UK Dementia Research Institute and Scottish Brain Sciences.

BBC NEWS

Health

Survival rates for most deadly cancers making little progress, experts warn

Nick Triggle, Health correspondent @nicktriggle

The number of people surviving cancer has improved hugely in the past 50 years, but experts warn progress has been uneven with some cancers with the worst survival rates falling further behind.

For some, including melanoma skin cancer, 10-year survival is now above 90% in England and Wales, while for all cancers half of patients can expect to live that long - double the figure in the early 1970s.

But a London School of Hygiene and Tropical Medicine study said there had been little improvement in those affecting the oesophagus, stomach and lungs - and less than 5% survive pancreatic cancer for 10 years.

The government said it was committed to making more progress with a new strategy due soon.

The researchers said advances in treatment and earlier detection were behind the improvements in survival seen for many cancers.

Breast cancer is a perfect example of this, with 10-year survival rates rising from 42% to more than 76% between 1971 and 2018.

The period saw the introduction of an NHS breast screening programme, plus targeted therapies for different types of breast cancer.

In comparison, the cancers with the lowest survival rates tend to be the hardest to detect and have the fewest treatment options.

Alongside pancreatic cancer, the study says these include oesophagus, stomach and lung cancers, which all still have 10-year survival rates below 20%, after only a small amount of progress since the 1970s.

This has meant the gap between the cancers with the best and worst survival rates has nearly doubled.

'Amazing job'

Matt Black is someone with first-hand experience of how the type of cancer you get makes a huge difference.

In 2019 the 60-year-old lost his sister, Harriette, to pancreatic cancer, 20 years after his father-in-law died of oesophageal cancer.

Five years ago he was diagnosed with bowel cancer which has above average survival rates. Soon after developing symptoms he had surgery and was given the all-clear.

"NHS staff do an amazing job, but it's such a difficult time to be a cancer patient, especially for those with cancers which aren't easy to spot or treat.

"It's so important that there is more research and support for cancer services here, so that more people can be as fortunate as me," says Matt.

The researchers also warned that, while overall survival was still improving, the rate of progress had slowed during the 2010s. Longer waits for diagnosis and treatment are thought to be partly to blame.

Michelle Mitchell, chief executive of Cancer Research UK, which funded the study, said: "Thanks to research, most patients today are far more likely to survive cancer than at any other point in the past.

"But the reality is that this progress is slowing – and for some cancers it never got going in the first place."

The charity wants the government's forthcoming strategy to focus on:

- **cutting waiting times**
- **early detection, including full introduction of a lung cancer screening programme**
- **investment in research, particularly targeting the most deadly cancers**

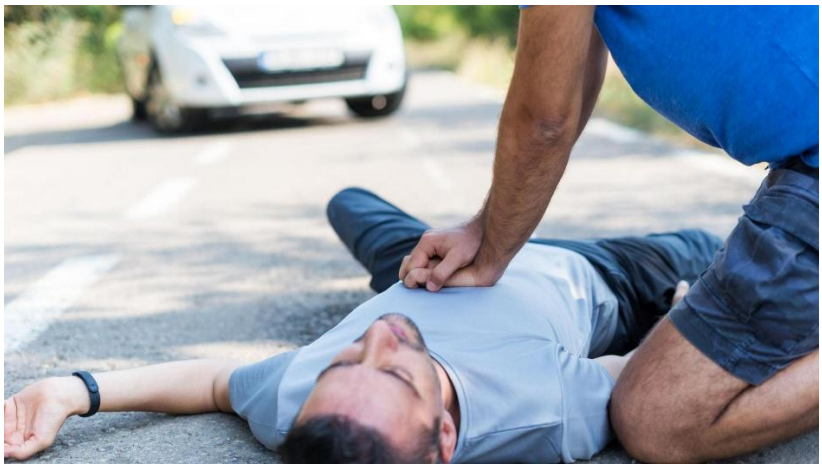
A Department of Health and Social Care spokesman said cancer care was a priority. with some progress already made on waiting times.

"The national cancer plan will set out how we will improve survival rates further and address the unacceptable variation between different cancer types," he added.

BBC NEWS

Health

Driving theory test to include CPR first aid questions



Michelle Roberts, Digital health editor, BBC News

People sitting their driving theory test will soon need to swot up on life-saving cardiopulmonary resuscitation (CPR) skills, the UK's Driver and Vehicle Standards Agency (DVSA) has decided.
All road users are being encouraged to learn the basics and know how to use a defibrillator in an emergency. It's hoped the questions, which will be added to the car and motorcycle theory test in early 2026, could prevent avoidable deaths.
Drivers are often first on the scene when someone suffers a cardiac arrest, says the DVSA. Adding the information into the official learning materials means that the 2.4 million learner drivers who take their theory test each year will have a better understanding of the skills to use in an emergency, it says.
Learning materials have already been updated with the new content, including questions such as "Who can use a public access defibrillator?" - the answer being "everyone".
A defibrillator gives a jolt of energy to the heart, which can help get it beating normally.
The devices are designed to be user-friendly, with clear instructions.
If CPR is given and a defibrillator used within the first minutes of collapse, survival rates could be as high as 70%, evidence suggests. Without it, fewer than one in 10 survive.
If someone is unconscious and not breathing normally, call 999 and start CPR straight away.
This can be "hands-only" CPR to deliver timely chest compressions to get blood pumping.
One of the new theory test questions is about the correct depth to push down.
To carry out a chest compression, the NHS advises:

- **kneel next to the person and place the heel of your hand on the breastbone at the centre of their chest. Place the palm of your other hand on top of the hand that's on their chest and interlock your fingers**
- **position yourself so your shoulders are directly above your hands**
- **using your body weight (not just your arms), press straight down by 5 to 6cm (2 to 2.5 inches) on their chest**
- **keeping your hands on their chest, release the compression and allow their chest to return to its original position**
- **repeat these compressions at a rate of 100 to 120 times a minute until an ambulance arrives or for as long as you can**

James Cant, chief executive of Resuscitation Council UK, said: "We're delighted to be working with the DVSA and other partners to introduce CPR and defibrillator awareness into the driving theory test.
"By embedding these life-saving skills into such a widely taken assessment, we can help ensure that more people, from all communities, gain the knowledge and confidence to act during a cardiac arrest."

ATI

Scientists Just Documented A ‘Big-Butt Starfish’ On The Atlantic Seafloor Off The Coast Of Argentina

By Ainsley Brown | Edited By John Kuroski

Believed to belong to the genus Hippasteria, this pinkish-orange creature was found clinging to a rock at a depth of 3,280 feet — and despite its nickname, the cleft area between two of the creature's legs is not its posterior.

Schmidt Ocean Institute/YouTubeThe “big-butt starfish” was spotted during an underwater expedition at Argentina’s Mar del Plata submarine canyon.

Scientists recently documented dozens of unique ocean species, some of them previously unknown, during an underwater expedition off the coast of Argentina. Perhaps most notably among these discoveries, scientists spotted a starfish with the appearance of a big butt and an uncanny likeness to Patrick Star from the animated show *SpongeBob SquarePants*.

The starfish has been dubbed the “big-butt starfish,” and scientists have a few theories to explain its striking anatomy. It was found in the Mar del Plata submarine canyon during an international expedition using a remotely-operated vehicle. The expedition aimed to explore seldom-seen corners of this especially biodiverse region. And the creatures recorded during this mission certainly did not disappoint, the “big-butt starfish” chief among them.

The “Big-Butt” Starfish Discovered On The Seafloor Off The Coast Of Argentina

The starfish likely belongs to the genus *Hippasteria*, and is notable for its short appendages and plump center. It was discovered during a livestreamed portion of the expedition. After online viewers saw this unique sea star, those who spoke Spanish started calling it “estrella culona” — or “big-butt star” — in the chat.

Unlike humans, starfish anatomy doesn’t actually have a rear end. The central disk of the starfish, where the “big butt” appears to be, isn’t actually where a sea star’s anus is. “Although starfish do have a complete digestive system and an anus, it’s not in the location people are pointing to on social media,” Mariela Romanelli, a biologist and curator at Argentina’s National Museum of Natural Sciences, told *Infobae*. “Still, the resemblance to Patrick Star’s butt is pretty hilarious.”

Nickelodeon/YouTubeThe "big-butt starfish" quickly became noted for its resemblance to cartoon character Patrick Star from the show SpongeBob SquarePants.

The anus is actually located at the center of the sea star's upper surface. Meanwhile, the mouth is located on the central disk, usually on the side planted on the seafloor for feeding.

Scientists have a few theories as to how this particular starfish acquired its "big butt." One hypothesis is related to the starfish's diet. It's possible that this particular sea star is well fed, giving it a plump center.

Another possibility is that the "big butt" is simply an illusion resulting from gravity. The starfish was found on a vertical surface, meaning it's possible that any extra weight on its center disk could've been naturally pulled it down to create something that resembles human glutes.

Other Bizarre Creatures Found At The Mar Del Plata Submarine Canyon

Schmidt Ocean Institute/YouTubeAlong with the unique starfish, scientists also found a rare violet sea cucumber.

The "big-butt starfish" was found during an expedition of Argentina's Mar del Plata submarine canyon led by the National Scientific and Technical Research Council and the Schmidt Ocean Institute. The team used a remotely operated vehicle to document the various species living in the underwater region at as much as 13,000 feet below the surface.
The project has been running since July 23, and it continues to reveal unique sea creatures, some never seen in the region before. The team is continuing to livestream the dives, providing a unique opportunity for the public to witness a deep-sea expedition.
Along with the sea star, scientists have documented a diverse range of more than 25 species of fish. They also found carnivorous sea sponges that have never been seen in the South Atlantic before.
Furthermore, scientists have spotted vertebrates and crustaceans that inhabit the extremely dark depths of this underwater canyon.
Another notable find was a sea cucumber of the *Benthodytes* genus. It had a striking violet color and was dubbed "batatita," or "little sweet potato." This sea cucumber specimen was collected by the scientists (unlike the sea star), and is reportedly alive and well.
The team's expedition is currently still in progress and the Schmidt Ocean Institute's official YouTube channel is livestreaming the expedition through August 10, 2025.

ATI

Scientists Discover An Ancient Blue Whale Fossil Larger Than Any That's Ever Been Found

By Marco Margaritoff | Edited By John Kuroski

Not only is this the largest blue whale fossil ever uncovered, but it also indicates that the species lived 1.5 million years earlier than we thought.

Wikimedia Commons A blue whale skeleton in London's Natural History Museum.

Scientists have long known that the blue whale is the largest animal that has ever lived. What hasn't been known until now, however, is that the ocean giant roamed the planet far earlier than previously established — 1.5 million years ago, during the early Pleistocene. And we now know this thanks to the largest ancient blue whale fossil ever found.

According to *National Geographic*, the 85-foot-long specimen is now officially the largest on record. Though its size falls short of modern-day blue whales by 15 feet, the find has more consequential ramifications to consider.

Published in the journal *Biology Letters*, the research described an impressively large skull and suggests the fossil's age has forced evolutionary biologists to reassess the entire species' historical timeline.

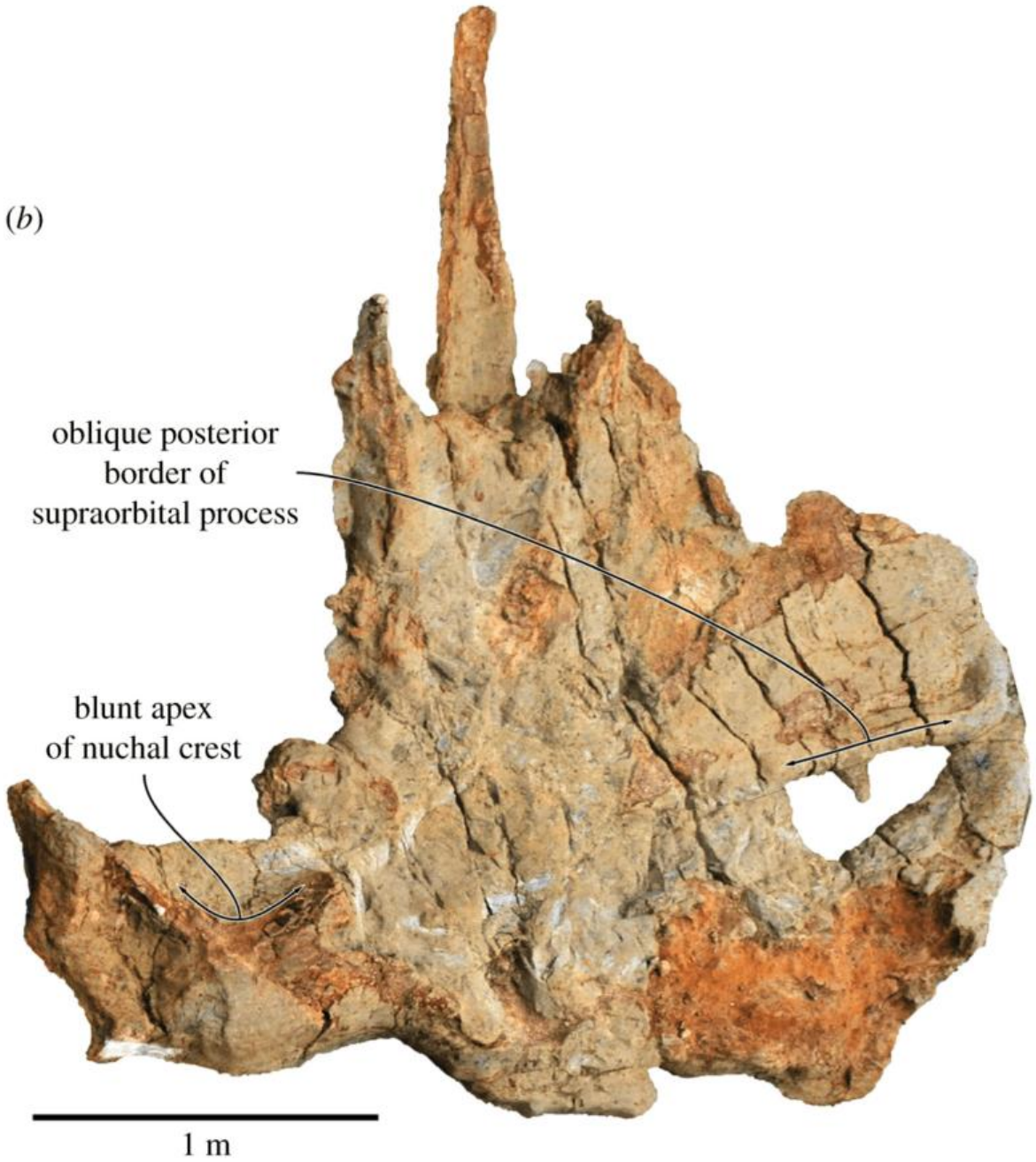
"The fact that such a large whale existed that long ago suggests that large whales had been around for quite a while," said study co-author Felix Marx, a paleontologist at the Royal Belgian Institute of Natural Sciences in Brussels. "I don't think species can evolve to such a size overnight."

G. BianucciThe excavation site in Matera, Italy.

Finding whale fossils that are older than 2.5 million years is extremely rare, making it just as difficult to establish just what made blue whales into the behemoths they are. With numerous ice ages freezing parts of the world's oceans and lowering sea levels during this timeframe, the remains of whales that died are likely relegated to dozens of feet below sea level.

As for this particular 85-footer, the fossil was essentially stumbled upon in 2006 by a southern Italian farmer near Matera. When he noticed some large vertebrae protruding from a lake he used to irrigate his fields, he made sure to let an interested party know.

It took three fall seasons to successfully lower the lake's water level without jeopardizing the farmer's harvest. In the end, it was paleontologist Giovanni Bianucci of the University of Pisa who managed to claim this historical prize.



Biology LettersThe fossil's cranium in dorsal view.

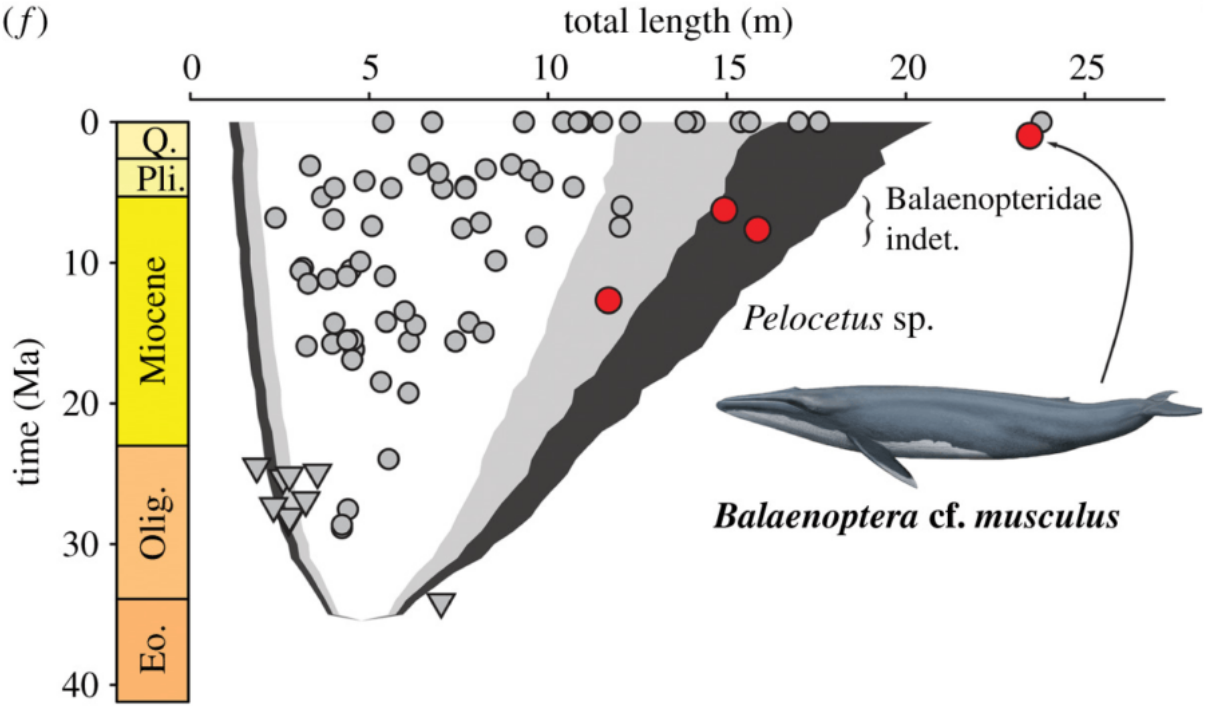
When Bianucci and his team recovered the colossal remains, they correctly assumed they belonged to a blue whale. Of course, they didn't yet know just how old these bones really were, but their discovery has shed new light on how gradual the species' growth has actually been across millennia.

The new fossil might also help reveal that the rise of giant whales has been more gradual than previously believed, argues Marx.

A 2017 study analyzing the size of all known baleen whale species — many of which are only known from fossils — indicated that the increase in whales' sizes occurred rapidly, about 300,000 years ago.

This 85-footer, however, is far older than that — and doesn't fit into the established timeframe. Its mere inclusion in the 2017 data set means "the most probable date (of gradual whale-size

increases) was pushed back to 3.6 million years, and likely even further, possibly as far back as six million years."



Biology LettersThe varying body lengths of ancient blue whale fossils over time with the Matera whale represented by the red dot at the right.

Marx is currently hard at work on a project in Peru, where numerous whale fossils have been found though not yet recovered. Once more, including their relative sizes into the above algorithm only confirms Marx's theory that whale size increases were far more gradual than previously posited.
"I'm aware of multiple large whales of at least the same age that haven't been described yet," he said.
For paleontologist Cheng-Hsiu Tsai of National Taiwan University, Marx's conclusions are in complete alignment with his own findings. Tsai discovered the remains of what is probably the second-largest fossilized whale ever found and has argued ever since that baleen whales grew bigger and more gradually.
"To be honest, this fossil does not surprise me at all," he said. "I expect that we should find something bigger and geologically even older soon."

Next, read about the disturbing blue whale challenge. Then, learn about the bizarre whale/dolphin hybrid known as the wholphin.

ATI

Experts Identify A New Species Of Manta Ray — And It Can Grow As Wide As A Standard Two-Car Garage

By Ainsley Brown | Edited By Jaclyn Anglis

Prior to this discovery, scientists only acknowledged two other manta ray species, the giant oceanic manta ray and the reef manta.

Bryant Turffs/Marine Megafauna FoundationThe Atlantic manta ray shares some traits with the other two known species of manta ray.

Scientists have discovered a new species of manta ray — and it's only the third known in the whole world.

The sea creature was first spotted by conservation biologist Andrea Marshall 15 years ago, but has now officially been declared a new species of manta ray called the Atlantic manta ray. For a long time, scientists only recognized one species, the giant oceanic manta ray. However, a 2009 discovery by Marshall and other experts led to the classification of the reef manta species.

Scientists believe the Atlantic manta ray may have split from the giant oceanic manta species relatively recently, providing a unique opportunity to study the evolution of manta rays.

The Identification Of The Atlantic Manta Ray Was 15 Years In The Making

Marshall first saw what would become known as the Atlantic manta ray off the eastern coast of Mexico 15 years ago. She had spent years studying the other two known species of manta rays, and realized this particular ray didn't look like either one.

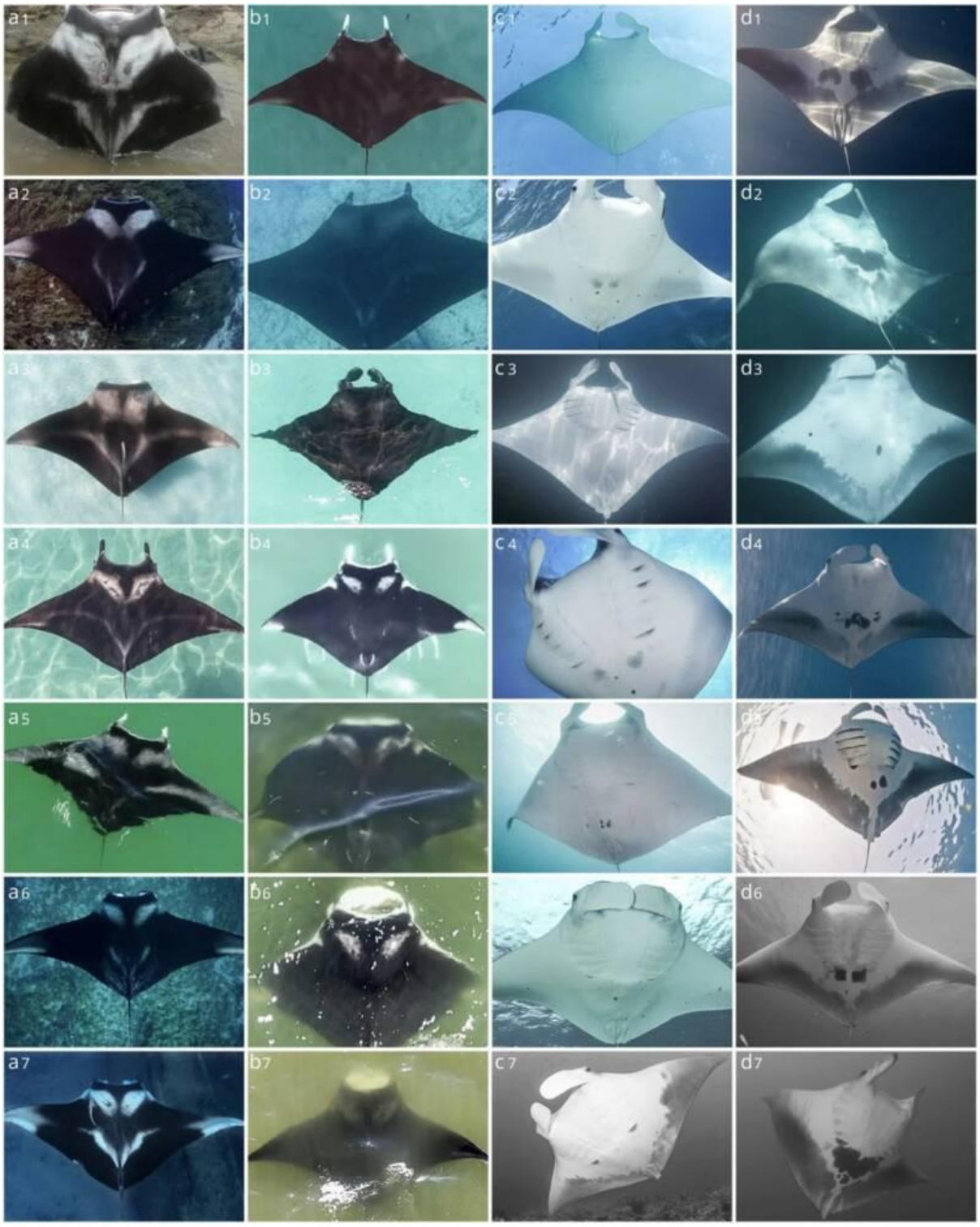
After the initial sighting, Marshall spent years studying different manta rays and their subtle colors, patterns, sizes, and preferred habitats. Genetic testing of a dead manta ray that washed ashore in 2017 eventually confirmed Marshall's theory: There was indeed a third species of manta ray out there.

Marshall and her team of scientists published a paper in July 2025 describing the new species, officially named *Mobula yarae*, in *Environmental Biology of Fishes*.

The Atlantic manta ray can grow to between 16 and 20 feet wide, however scientists have mainly studied younger rays of the species, which tend to be smaller in size. They share a similar habitat as that of the reef manta rays, which are primarily found in coastal waters.

The *M. yarae* favors Atlantic tropical and subtropical waters. It lives along the east coast of the United States, the Gulf of Mexico, the Caribbean Sea, all the way down to the coast of Brazil.

***M. yarae* is now the third documented species of manta ray, along with the giant oceanic manta (*Mobula birostris*) and the reef manta (*Mobula alfredi*). Marshall was one of the scientists involved in the discovery of the reef manta in 2009.**



Projeto Mantas do Brasil and Marine Megafauna Foundation databaseThe Atlantic manta ray is unique for its color variation and distinctive markings.

“It was huge for me as an early career scientist and such a privilege to go through every step of the process, which, toward the end, included traveling around the globe to document their respective ranges across the world’s oceans,” Marshall wrote in an Instagram post about the yet-to-be-named Atlantic manta ray discovery in 2022. “Did I ever expect to do something like that again? Hell no.”

The Atlantic manta ray shares some physical traits with the other two species of manta ray, but the features that set it apart are its distinctive dark belly spots, V-shaped white shoulder patches, and notably light coloration around the mouth and eyes.

The Discovery Of The Atlantic Manta Ray Is Important For Conservationists

Janneman Conradie/Marine Megafauna FoundationMarshall first spotted the third species of manta ray off the coast of Mexico.

The official discovery of the Atlantic manta ray can aid scientists in pursuing conservation work. Scientists can now better tailor their recommendations and studies to each specific species of manta ray, resulting in more effective conservation and protection.
The Atlantic manta ray, for example, is particularly vulnerable to boat strikes and getting caught in fish lines due to their habitat by the coastline.
Now that this species has been identified, scientists can better protect it. However, there is still much to be learned about *M. yarae*.
Marshall's colleagues are continuing her work, as she has been on long-term medical leave since suffering severe health issues last year. Right now, the team is gearing up to begin satellite tagging studies to monitor the Atlantic manta ray population, according to the team's statement.
"Kids often ask me if, in this day and age, there is really anything left to discover. I always laugh and end up telling my story because I am living proof that there is," Marshall said in her 2022 Instagram post. "The only barrier we face is being close-minded and assuming we know it all, when in fact we have barely scratched the surface."

After reading about the discovery and identification of the Atlantic manta ray, read about the massive new stick insect species uncovered in Australia. Then, take a look at 11 of the weirdest animals on Earth.

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