

## International

# Case cracked: mystery Antarctica fossil is 'massive prehistoric egg'

## 'The Thing' - a mysterious football-sized fossil

**TOKYO:** Scientists had nicknamed it "The Thing" - a mysterious football-sized fossil discovered in Antarctica that sat in a Chilean museum awaiting someone who could work out just what it was. Now, analysis has revealed the mystery fossil to be a soft-shelled egg, the largest ever found, laid some 68 million years ago, possibly by a type of extinct sea snake or lizard. The revelation ends nearly a decade of speculation and could change thinking about the lives of marine creatures in this era, said Lucas Legendre, lead author of a paper detailing the findings, published Wednesday in the journal *Nature*. "It is very rare to find fossil soft-shelled eggs that are that well-preserved," Legendre, a post-doctoral fellow at the University of Texas at Austin, told AFP.

"This new egg is by far the largest soft-shelled egg ever discovered. We did not know that these eggs could reach such an enormous size, and since we hypothesise it was laid by a giant marine reptile, it might also be a unique

glimpse into the reproductive strategy of these animals," he said. The fossil was discovered in 2011 by a group of Chilean scientists working in Antarctica. It looks a bit like a crumpled baked potato but measures a whopping 11 by seven inches - 28 by 18 centimeters. For years, visiting scientists examined the fossil in vain, until in 2018 a palaeontologist suggested it might be an egg.

### A mammoth find

It wasn't the most obvious hypothesis given its size and appearance, and there was no skeleton inside to confirm it. Analysis of sections of the fossil revealed "a layered structure similar to a soft membrane, and a much thinner hard outer layer, suggesting it was soft-shelled," Legendre said. Chemical analyses showed "the eggshell is distinct from the sediment around it, and was originally a living tissue." But that left other mysteries to unravel, including what animal laid such an enormous egg - only one bigger has been found, produced by the now-extinct elephant

bird from Madagascar. The team believe this egg wasn't from a dinosaur - the types living in Antarctica at the time were mostly too small to have produced such a mammoth egg, and the ones large enough laid spherical, rather than oval-shaped, ones. Instead they believe it came from a kind of reptile, possibly a group known as Mosasaurs, which were common in the region.

### Soft-shelled dinosaur eggs

The paper was published in *Nature* along a separate study that argues that it wasn't only ancient reptiles that laid soft-shell eggs - dinosaurs did too. For years, experts believed dinosaurs only laid hard-shelled eggs, which are all that had been found. But Mark Norell, curator of palaeontology at the American Museum of Natural History, said the discovery of a group of fossilised embryonic Protoceratops dinosaurs in Mongolia made him revisit the assumption. "Why do we only find dinosaur eggs relatively late in the Mesozoic and why only in a couple groups of dinosaurs," he said

he asked himself. The answer, he theorized, was that early dinosaurs laid soft-shell eggs that were destroyed and not fossilized. To test the theory, Norell and a team analysed the material around some of the Protoceratops skeletons in the Mongolia fossil and another fossil of two apparently newborn *Mussaurus*.

They found chemical signatures showing the dinosaurs would have been surrounded by soft, leathery eggshells. "The first dinosaur egg was soft-shelled," Norell and his team conclude in the paper. Norell's findings may have implications for the fossil once named "The Thing" - which is now known as *Antarcticoolithus*, according to a review of the studies published in *Nature*. They "could implicate some form of dinosaur as the proud parent," wrote Johan Lindgren of Lund University and Benjamin Kear of Uppsala University. "Let us hope that future discoveries of similarly spectacular fossil eggs with intact embryos will solve this thought-provoking enigma." — AFP

## US sanctions dozens including Syrian first lady

**WASHINGTON:** The United States on Wednesday imposed sanctions on Syrian President Bashar al-Assad's wife and dozens of others as it vowed a vast pressure campaign under a new law that has already rattled the war-torn nation's economy. The Caesar Act, which took effect Wednesday, punishes under US law any company that works with Assad, casting a cloud over efforts to rebuild Syria. "We anticipate many more sanctions and we will not stop until Assad and his regime stop their needless, brutal war against the Syrian people," Secretary of State Mike Pompeo said in a statement, vowing a "sustained campaign of economic and political pressure."

The first batch of designations target 39 people or entities, including Assad personally as well as his wife Asma — the first time she has been hit by US sanctions. Under the law, any assets in the United States will be frozen. Assad has been under US sanctions since he began to crush an uprising in 2011. Born in Britain to a cardiologist father and diplomat mother, Asma Al-Assad is a former investment banker who had styled herself as a progressive reformer and modern face of the Assads. She announced in August that she had recovered from breast cancer. Pompeo in his statement charged that Asma Al-Assad, with the support of her husband and her own Akhras family, "has become one of Syria's most notorious war profiteers."



**IDLIB:** Residents watch as a young Syrian man performs a 'parcours', an obstacle course method derived from military training, over the ruins of a building destroyed during past shelling by pro-regime forces, in the town of Binnish in the country's northwestern Idlib province. — AFP

### Effects felt in Syria

Assad, backed by Russia and Iran, has succeeded in winning back most of Syria after a war that has killed more than 380,000 people and saw the rise of the ultra-violent Islamic State movement. In its first batch of sanctions the United States focused on Syrians and avoided targeting companies from crucial ally Russia. James Jeffrey, the US pointman on Syria, said Russia had recently shown greater willingness to "at least explore" steps alongside Western nations to ease the Syria crisis.

The Treasury Department took action against companies involved in major property projects for post-war Syria, accusing Assad of razing homes in opposition strongholds to benefit his loyalists. The targets include Marota City, an under-con-

struction luxury residential complex, and Grand Town Tourist City, a development near the Damascus airport set to include an exclusive hotel and golf course. People and groups designated by the State Department include Mohammed Hamsho, one of Syria's most prominent entrepreneurs, and the Fatemiyoun, an Iranian-led division of Afghan Shiite Muslims that has been deployed to prop up Assad. The Caesar Act, passed by the US Congress last year with bipartisan support, aims to prevent Assad's normalization without accountability for human rights abuses. The Act is named after a Syrian former military photographer who fled in 2014 at great personal risk with 55,000 images of brutality in Assad's jails. The measure also blocks US reconstruction assistance. — AFP

## Study shows how quickly COVID spreads at home

**PARIS:** The novel coronavirus is twice as infectious within households than similar diseases such as SARS, with a substantial number of additional infections spreading before a COVID-19 sufferer shows any symptoms, according to modeling released yesterday. Researchers based in China and the United States said their findings could have profound impacts on reducing the number of new infections as the pandemic progresses. Using data on 350 COVID-19 patients and nearly 2,000 of their close contacts in the city of Guangzhou, China, the researchers estimated the virus' "secondary attack rate" - that is, the probability that an infected person transmits the disease to someone else. They found that while the average patient had just a 2.4 percent chance of infecting someone they did not live with, that figure jumped to 17.1 percent - around one in six - among cohabitants.

According to their models, which rely on data collated in January and February but have been updated to reflect the latest developments, the likelihood of household infection was highest among over-60s, and lowest among under-20s. The overall chances of infecting a family member or live-in partner with COVID-19 are twice as high as with SARS, and three times higher than MERS, another coronavirus, they found. Significantly, the researchers found that the probability of a COVID-19 carrier infecting a family member or flatmate was significantly higher - 39 percent - before they started showing symptoms than afterwards. This suggests that the virus is easily transmissible within its incubation period and may be passed on by individuals who don't know they are infected. The team said that isolation within households cut the total number of COVID-19 cases among the study cohort by 20-50 percent compared with no quarantine. — AFP