

World News Roundup



A picture taken on Feb 22, shows carved sculptures of a donkey facing (Also inset): the partial head of a camel at the site of an archaeological discovery about eight kilometres north of the city of Sakaka in Saudi Arabia's northwestern Al-Jouf province. (AFP)

Space

Airbus satellite hailed

Dormant desert life hints at possibilities on Mars

MIAMI, Feb 27, (AFP): It may rain once a decade or less in South America's Atacama Desert, but tiny bacteria and microorganisms survive there, hinting at the possibility of similar life on Mars, researchers said Monday.

The desert, which spans parts of Chile and Peru, is the driest non-polar desert on Earth and may contain the environment most like that of the Red Planet, said the report in the Proceedings of the National Academy of Sciences.

Lead researcher **Dirk Schulze-Makuch**, a professor and planetary scientist at the Technical University of Berlin, and colleagues took a trip to the desert in 2015 to learn more about what kind of life might exist there.

Then, unexpectedly, it rained. Scientists detected an explosion of biological activity in the soil, and quickly began using sterile spoons to scoop up samples.

Genomic analyses helped identify the several apparently indigenous species of microbial life — mostly bacteria — that had somehow adapted to live in the harsh environment by lying dormant for years, then re-animating and reproducing once it rained.

"In the past, researchers have found dying organisms near the surface and remnants of DNA, but this is really the first time that anyone has been able to identify a persistent form of life living in the soil of the Atacama Desert," Schulze-Makuch said.

"We believe these microbial communities can lay dormant for hundreds or even thousands of years in conditions very similar to what you would find on a planet like Mars and then come back to life when it rains." Scientists returned to the Atacama in 2016 and 2017 for follow-up visits, and discovered that the same microbial communities in the soil were gradually reverting to their dormant state.

But they did not completely die off. Single-celled organisms, found mainly in the deeper layers of the desert, "have formed active communities for millions of years and have evolved to cope with the harsh conditions," said the PNAS report.

Since Mars had oceans and lakes billions of years ago, researchers say early life forms may have thrived there, too. The world's space agencies are sending robotic vehicles to Mars in a bid to uncover signs of life, but any attempt to return samples to Earth will be costly and complicated.

Also:

PORTSMOUTH, UK: British astronaut **Tim Peake** on Monday hailed a "groundbreaking" satellite being built by Airbus which its developers say will bring an unprecedented level of flexibility to space telecommunications.

The Eutelsat Quantum satellite is being put together by the multinational company in Portsmouth, on the south coast of England, where it was unveiled Monday ahead of transfer to France for testing later this year.

When launched in 2019 it will for the first time allow a commercial satellite to be fully reconfigurable while in orbit, with operators able to change key elements in real time, such as its frequency and which parts of the earth it covers.

"What is really new is the level of flexibility that the satellite will provide and so this will be thanks to a combination of technologies that we will put on board the satellite," said **Yohann Leroy**, deputy CEO of French satellite operator Eutelsat.



A technician in the cleanroom explains details about the Eutelsat Quantum satellite, billed as the first commercial satellite to be fully configurable in orbit, at Airbus Space and Defence in Portsmouth, southern England on Feb 26. (AFP)



Dale



Figueres

Discovery

'Seed bank' turns 10: Norway's 'doomsday' seed bank, which seeks to protect the world's crops from natural disasters, on Monday said it had gathered more than a million varieties as it marked its 10-year anniversary.

Dubbed the "Noah's Ark" of food crops, the Global Seed Vault is located deep inside a mountain on Svalbard, a remote Arctic island in a Norwegian archipelago and has the capacity to store up to 4.5 billion seeds. Launched in 2008, the Svalbard vault was on Monday marking its 10th anniversary by taking shipments of more than 76,000 seed samples, with depositors from all over the world delivering crops such as black-eyed peas, the Bambara groundnut and the Estonian onion potato.

Although housed in Norway, the seeds belong to the donor states and institutions and they can withdraw them at their convenience.

The delivery raises to 1,059,646 the overall number of unique crop varieties deposited in the so-called "doomsday vault" since it opened on Feb 26, 2008 with the aim of providing a "fail-safe seed storage facility, built to stand the test of time and the challenge of natural or man-made disasters."

"I am extremely happy to announce that more than one million seeds will pass through this door to be secured forever," said Norway's Agriculture Minister **Jon Georg Dale**. (AFP)

Women fight warming: Cities will be the battleground and women can be effective warriors on the frontlines in the fight against climate change, activists and leaders said on Monday.

Investing in the education and leadership of women and girls will provide a much-needed boost in efforts to slow global warming, said attendees at the Women4Climate conference organised by C40, a global alliance of cities, in Mexico City.

"For thousands of years we've been investing in the education of men, in their rise to positions of leadership and decisions," **Christiana Figueres**, former head of the United Nations Framework Convention on Climate Change (UNFCCC), told the group.

Archaeology

'Work of artistry & creativity'

Ancient camel sculpture in Saudi desert

AL-JOUF, Saudi Arabia, Feb 27, (AFP): Squinting in the Saudi desert, Hussain al-Khalifah points at his unprecedented archaeological discovery — camels carved on russet-hued rocky spurs that could shed new light on the evolution of rock art.

Around a dozen humped sculptures, some of them damaged from erosion and vandalism, are possibly around 2,000 years old and were recently found in a private property along a desert crossing in the northern province of Al-Jouf.

Chiseled on three rocky spurs, the sculptures, which also depict equids, or hooved mammals, show a level of artistic skill unseen in other rock art forms in the Saudi desert.

They could help unravel the mysteries of ancient life in the Arabian peninsula.

"They are a work of artistry and creativity," Khalifah said, giving AFP a tour of the desolate area in Al-Jouf, now well known in archeological circles as "the camel site".

Khalifah, part of a Franco-Saudi research team that explored the site in 2016 and 2017, said he accidentally discovered the carvings some years ago when a local friend told him about a "camel-shaped mountain".

"Instead when I visited the area, I found camels were carved in the mountain outcrops. This is truly unique," he said.

Camels — for centuries venerated as the "ship of the desert" — are a familiar

motif in artworks from the kingdom.

But the three dimensional engravings in Al-Jouf, some featuring only part of a camel's body such as the hooves, differ from those discovered at other Saudi sites.

Many are perched high on the outcrops and would have required ropes or scaffolding.

One engraving in particular stands out — a camel facing what appears to be a donkey, mule or horse, animals that have rarely been represented in the region's rock art.

Great

"The three dimensional carvings show great skill in their level of naturalism and their sheer size," Maria Guagnin, from the Germany-based Max Planck Institute for the Science of Human History, told AFP.

"This may potentially change our understanding of prehistoric population dynamics and cultural traits."

But the site is shrouded in mystery, with little information on who created the carvings or the tools they used.

Khalifah said the closest may be the Nabateans, a nomadic Arab tribe known for founding the city of Petra in modern-day Jordan that was carved out of sandstone desert cliffs.

The discovery has shone a spotlight on Saudi Arabia's rich bedouin heritage. The kingdom is endowed with thousands of examples of painted rock art and ancient inscriptions.

Archaeologists last year used Google

Maps to find hundreds of stone "gates" built from rock in a remote Saudi desert, which may date back as far as 7,000 years.

They also discovered evidence of 46 lakes that used to exist in Saudi Arabia's northern Nefud desert, which experts say has lent credence to the theory that the region swung between periods of desertification and a wetter climate.

The carvings in Al-Jouf may be the most significant recent discovery.

"This is an important scientific discovery which reminds us of the important pre-Islamic history of Saudi Arabia," archaeologist Guillaume Charolux, from France's Centre National de la Recherche Scientifique (CNRS), told AFP.

"I can only hope that it will lead people to discover the variety and richness of the Saudi Arabian past," said Charolux, who led the research team with Khalifah.

The carvings have different styles, which suggests there was more than one artist behind them.

It is possible, archaeologists say, that the Al-Jouf site was one of veneration or on a caravan route used as a resting place or boundary marker.

"My hypothesis today is that the sculptors are local people, and that the site is an emblematic place on the regional and caravan routes towards Mesopotamia," said Charolux.

More fieldwork is now needed to find the answers.

"We haven't done this investment with women," said Figueres, who now leads "Mission 2020," a global initiative to lower greenhouse gas emissions.

The Women4Climate conference brought together mayors, business leaders and leaders working to curb climate change. It was the second such conference held since world

leaders agreed in Paris in 2015 on a goal of slowing the rise in average global temperatures. "It is clear the battle will be fought especially in urban areas," said Patricia Espinosa, the current UNFCCC head.

"It's clear if we want to face climate change, women and girls from all the world should be central actors," she said. "We have

little time left." (RTRS)

Elephant genome study: The most comprehensive elephant genome study ever conducted, covering seven living and extinct species, is offering some surprises about the family tree of the world's largest land animal while also settling a debate about Africa's elephants. Researchers said on Monday their research confirmed that the two types of African elephants, those inhabiting forests and those roaming savannas, are separate species that have lived in nearly complete isolation from one another for the past half million years despite their close proximity.

They join the Asian elephant as the world's three existing elephant species.

The scientists sequenced the genomes of two African savanna elephants, two African forest elephants, two Asian elephants, two extinct so-called straight-tusked elephants, four extinct woolly mammoths, including two from North America and two from Siberia, one extinct Columbian mammoth and two extinct American mastodons. Mastodons are not classified as members of the elephant lineage but are cousins.

"I hope that this study can create an appreciation for the rich evolutionary history of elephants and emphasize the need for protecting the only three elephant species that still walk the planet today, who are all under imminent risk of extinction from poaching and habitat loss," said Harvard Medical School geneticist Eleftheria Palkopoulou, one of the researchers.(RTRS)



Mexico City Environment Secretary Tanya Muller (center), along with other participants of the annual Women4Climate conference, pose for pictures during the closing ceremony of the event, on Juarez Avenue in Mexico City on Feb 26. (AFP)