

IN BRIEF



Pasta-like rocks best bet for life on Mars: study
WASHINGTON
Rocks on the surface of Mars that look like layers of pasta may be the most obvious sign of life on the Red Planet, a NASA-funded study suggests. The bacterium that controls the formation of such rocks on the earth is ancient and thrives in harsh environments that are similar to conditions on Mars, said the study published in the *Astrobiology*. PTI



Puerto Williams is world's southernmost city
SANTIAGO
Puerto Williams, a growing hamlet draped in snow-covered peaks on the southern tip of the South American continent, has been upgraded to the category of "city" by Chilean authorities, making it the world's southernmost city. Puerto Williams has nudged out Ushuaia, Argentina. REUTERS



Moby cancels book tour over Portman claims
LOS ANGELES
Musician Moby has cancelled his book tour after a furore over his claim in the book that actress Natalie Portman flirted with him in 2001. The actress said she was surprised to hear him describe it as dating. She said, "my recollection is a much older man being creepy with me when I just had graduated high school." REUTERS

Fifty bright sparks vie for spelling bee crown

Winner will walk away with \$50,000

REUTERS
OXON HILL
Fifty young spellers, winnowed down from hundreds of contestants, will battle it out on the last day of the Scripps National Spelling Bee on Thursday when the champion will walk away with a \$50,000 prize.
The three-day competition in Maryland started on Tuesday with a record 562 spellers aged 7 to 15. Spellers had to ace common words such as "intolerable" and "detrimental" as well as more obscure terms such as "annus mirabilis" and "hibernaculum."
By Wednesday morning, there were still 490 contestants left in the competition

World's smallest baby survives after 5 months in neonatal ICU

Doctors had said the girl, the size of a large apple at birth, would die in an hour

AGENCE FRANCE-PRESSE
LOS ANGELES

A California hospital on Wednesday disclosed the birth of the world's smallest baby ever to survive, weighing a mere 245 grams – the same as a large apple – when she was born.
The girl, nicknamed Saybie by hospital staff, was born 23 weeks and three days into her mother's pregnancy at Sharp Mary Birch Hospital for Women and Newborns in San Diego, California.
The father was told by doctors that he would have about an hour with his daughter before she passed away. "But that hour turned into two hours which turned into a day, which turned into a week," the mother said in a video released by the hospital.
Doctors said Saybie was delivered via emergency cesarean section in December



Bundle of joy: A nurse holding Saybie after she was released from the NICU in San Diego, California. A close-up of the baby, right. • AFP

at 23 weeks and three days gestation in the womb after severe pregnancy complications that put her mother's life at risk. A typical pregnancy lasts 40 weeks.
After nearly five months at the hospital's neonatal intensive care unit, Saybie was discharged home earlier this month weighing a healthy 2.2 kg and sporting a graduation cap.
"She is a miracle, that's for sure," said Kim Norby,

one of the nurses who cared for Saybie as she fought to survive – with a sign by her crib that read "tiny but mighty" cheering her on.
Miracle baby
Emma Wiest, another nurse featured in the video, said Saybie was so small at birth that "you could barely see her on the bed."
Doctors said that apart from Saybie's fighting spirit, her survival as a micro preemie – a baby born before 28 weeks' gestation – could be attributed to the fact that she suffered no serious complications after birth.
Saybie's ranking as the world's tiniest baby ever to survive is according to the Tiniest Babies Registry, maintained by the University of Iowa. The previous record was held by a baby born in Germany in 2015 who weighed seven grams more than Saybie.

Like a drone, the vehicle from Alaka'i Technologies takes off and lands vertically. It's one of many similar electric flying crafts in production, including prototypes from Boeing and Air-

Hydrogen-powered flying machine readies for take off

Five-seater Skai has a range of 644 km and can carry 454 kg

ASSOCIATED PRESS
LOS ANGELES

A transportation company is betting its sleek new hydrogen-powered electric flying vehicles will someday serve as taxis, cargo carriers and ambulances of the sky, but experts say they will have to clear a number of regulatory hurdles before being approved for take off years in the future.
With six rotors on the roof and seats inside for five people, a passenger model of the Skai (pronounced "sky") unveiled on Wednesday near Los Angeles resembles an oversized drone crossed with a luxury SUV.



Latest tech: The Skai prototype, a hydrogen fuel cell powered aircraft, during an event in California. • REUTERS

Vertical landing
Like a drone, the vehicle from Alaka'i Technologies takes off and lands vertically. It's one of many similar electric flying crafts in production, including prototypes from Boeing and Air-

bus that made successful test flights this year, according to Vertical Flight Society, an industry group.
Most are powered by batteries, which can add a lot of weight. The Skai instead uses very light hydrogen fuel cells to run its rotors, giving it a range of 644 km and the capacity to carry 454 kilograms in people or freight, the company says.
"We just couldn't get to the point where we could have enough batteries to get to the payload that we knew we needed," CEO Stephan Hanvey said of the choice to switch to hydrogen power.
It would be flown by an on-board pilot using a pair of joysticks, but the technology exists to eventually fly it remotely and even autonomously, Mr. Hanvey said.

‘Children of today better off than 20 years ago’

Report also warns that the number of them living in war zones or forced to flee homes has gone up

SPECIAL CORRESPONDENT
NEW DELHI

Children born today have a better chance than at any time in history to grow up healthy, educated and protected, with the opportunity to reach their full potential, says the Global Childhood Report recently released by Save the Children, an NGO working for the education and protection of child rights.
"Even a generation ago, a child was twice as likely to die before reaching age 5, 70% more likely to be involved in child labour and 20% more likely to be murdered," it says.
The document indicates that in 2000, an estimated 970 million children were robbed of their childhood due to ill-health, malnutrition, exclusion from education, child labour, child marriage, early pregnancy and violent death. That number has reduced to 690 million which effectively means that at least 280 million children are better off today than they would have been two decades ago.
"A comparison of End of Childhood Index scores finds the overall situation for children has improved in 173 of

176 countries since 2000. Tremendous progress is taking place in some of the poorest countries, providing ever increasing evidence that development work is paying huge dividends in countries where needs are greatest."
However, it warns that the world has made less progress in reducing adolescent births and child homicide, and there has been no progress at all in reducing the number of children living in areas of violence and conflict.
"In fact, the number of children living in war zones or forced to flee their homes due to conflict has skyrocketed since 2000. Today, 1 child in 4 is being denied the right to a childhood – a time of life



Children have a better chance of growing up healthy, educated and protected.

that should be safe for growing, learning and playing. These stolen childhoods are increasingly concentrated in the world's conflict zones," says the report.
Highest displacement
When we look at number, there are 30.5 million more forcibly displaced people now than there were in 2000, an 80% increase.
"The world is experiencing the highest levels of displacement on record. Children make up about 30% of the world's population, but more than half the world's refugees are children."

Space ride



Choose a planet: Actors Harrison Ford, Mark Hamill, Billy Dee Williams, filmmaker George Lucas and Walt Disney's CEO Bob Iger on the stage at "Star Wars: Galaxy's Edge" in Disneyland Park, California, on Thursday. • REUTERS

Nandankanan loses its beloved orangutan



A file photo of the orangutan. • SPECIAL ARRANGEMENT

STAFF REPORTER
BHUBANESWAR

The Nandankanan Zoological Park (NZP) has lost one of its beloved members – 41-year-old orangutan, an extant species of great apes.
According to NZP, the orangutan named 'Bini' died at around 9.40 p.m. on Wednesday due to age-related complications. He also suffered from respiratory tract infection.
The orangutan was taken out of the enclosure a year

ago. "The animal was under treatment for a year by experts from the College of Veterinary Science and Animal Husbandry, OUAT. Experts on orangutans from the United Kingdom and Singapore were also giving constant advice," said NZP authority.
The lone female orangutan was brought from Pune zoo on November 20, 2003. Tissue samples were collected for further investigation to correlate the cause of death.

Singapore eyes a farming revolution

It wants to be food secure as climate change, population growth threaten global supply

REUTERS
SINGAPORE

Singapore, the tiny South-east Asian city-state, is an unlikely place for a farming revolution.
With tiered fish farms, vegetable plots atop office buildings and lab-grown shrimp, the island aims to beef up its own food production and rely less on imports to feed its 5.6 million people.



Urban farming: Kale grown at an indoor farm being packed for delivery in Singapore. • REUTERS

Space a challenge
Singapore produces about 10% of its food but as climate change and population growth threatens global food supplies, it aims to raise that to 30% by 2030 under a plan known as '30-by-30'.
The challenge is space.
With only 1% of Singapore's 724 sq km land area devoted to agriculture and production costs higher than the rest of Southeast Asia,

the pressure is on new urban farmers to answer the government's call to "grow more with less".
"Whenever I talk about food security in Singapore, I tell folks don't think land – think space. Because you can go upwards and sideways," said Paul Teng, a professor specialising in agricul-

ture at Nanyang Technological University.
Sustenir Agriculture is one of more than 30 vertical farms in Singapore, which has seen a doubling in so-called sky farms in three years.
The hydroponic farm grows non-native varieties like kale, cherry tomatoes

and strawberries indoors under artificial lights and sells the produce to local supermarkets and online grocers.
Sustenir raised \$16 million from backers, including Singapore state investor Temasek and Australia's Grok Ventures last year, which will be used for an expansion in Singapore and opening in Hong Kong.
Temasek is also providing funds to Apollo Aquaculture Group which is building a \$70 million highly-automated, eight-storey fish farm.
Apollo says the new farm will deliver more than a twenty-fold increase in its annual output of 110 tonnes of fish. "It is too unpredictable to do things now in the traditional way," said Apollo CEO Eric Ng, citing problems with algae blooms in recent years that have wiped out farmers' fish stocks.

Microbes in body could help predict future health

Repeated tests may help those at risk

ASSOCIATED PRESS
WASHINGTON

We share our bodies with trillions of microbes that are critical to staying healthy, but now scientists are getting a much-needed close look at how those bugs can spur disease.
A single test to see what gut bacteria you harbour would not tell much. Research published on Wednesday found that repeat testing spotted the microbial zoo changing in ways that eventually may help doctors determine who's at risk of preterm birth, inflammatory bowel disease, even diabetes.
At issue is what's called the microbiome, the community of bacteria, viruses and fungi that live on the skin or in the gut, nose or reproductive tract.
"The instability of our microbiome might be an early indicator of something going awry," said Dr. Lita Proctor, at the National Institutes of Health.



Microbiomes start forming at birth and change with age. • GETTY IMAGES/ISTOCKPHOTO

A hot field
Microbiomes start forming at birth and are different depending on whether babies were born vaginally or via C-section. And they change with age and different exposures, such as a course of antibiotics that can wipe out friendly bacteria along with infection-causing ones.
For a year, a Harvard-led team tracked 132 people with conditions such as Crohn's disease and some healthy people for comparison. As the diseases wax and wane, so does microbial activity, researchers report-

ed in the journal *Nature*. Surprisingly, many times a patient's gut microbiome changed radically in just a few weeks before a flare-up.
Some of the microbes produce molecules that keep the intestinal lining healthy, likely one reason the disease worsened when those bugs disappeared, Proctor said.
Also in *Nature*, a Stanford University-led team tracked 106 people for four years, some healthy and some pre-diabetic. Up to 10% of pre-diabetics will develop diabetes each year, but there's little way to predict who.
The researchers did quarterly tests for microbial, genetic and molecular changes, plus testing when the volunteers caught a respiratory infection and even while some deliberately put on and lost weight. Not surprisingly, they found a list of microbial and inflammatory early warning signs of brewing diabetes.
But most interestingly, people who are insulin-resistant showed delayed immune responses to respiratory infections, correlating with tamped-down microbial reactions.