

### NEWSPAPER HIGHLIGHT

The natural world is rife with pairs of antagonists. Plants and viruses, insects and pathogens, bacteria and their phages, and so on. In these systems, it is an interesting question to study how the resistance to a pathogen, in the case of the host, and virulence towards the host, in the case of a pathogen, evolve. Towards understanding this better, Indian Institute of Science Education and Research Mohali researchers have taken up the system of the fruit fly (*Drosophila melanogaster*) and a bacterial pathogen that affects the fruit fly, sometimes even causing death – *Pseudomonas entomophilia* – have been coevolved to study the pathway of evolution taken by the system of antagonists. In this case, they find that being surrounded by enemies actually makes the organism stronger, or fitter, to combat the enemy.

India has been witnessing largescale deployments of augmented reality (AR) and virtual reality (VR) across business verticals in the recent past, especially after the pandemic's onset, said Tata Elxsi, a design and technology services firm. While AR and VR technology has been around since the early 1990s, its use was hitherto limited to the defence and heavyspending sectors due to the high cost of the software and hardware tools associated with it. "We are now seeing increased deployments of this technology by edtech, manufacturing, healthcare, retail, media and entertainment sectors and other verticals," Aditya S. Chikodi, GM and Head, Innovation Design and Visualisation Group, Tata Elxsi said.

Devastation in spring The Chixulub meteorite impact that killed the dinosaurs, and many other life forms, occurred in springtime, finds a new study published in Nature. The researchers studied growth rings in the bones of exquisitely preserved fish fossils and deduced this. Additional evidence was provided by the distribution, shapes and sizes of bone cells which are known to fluctuate with season.

Time dilation is a phenomenon predicted by Albert Einstein and refers to the stretching of time intervals when moving at high speeds or passing near intense gravitational fields. Now, in a feat of measurement science, physicists, publishing in Nature, have shown that two tiny atomic clocks placed a

### SLOTH BEAR

1. A new study has found that the **sloth bear, dhole and tiger are the most affected among apex predators globally due to road development**. A Sloth Bear (*Melursus ursinus*) is an omnivorous mammal that can live up to 40 years. Sloth bears are the only bears to routinely carry their young on their backs.
2. Habitat - Sloth bears live in a variety of dry and moist forests and in some tall grasslands, where boulders, scattered shrubs and trees provide shelter. This shaggy-coated sloth bear is native to India, Sri Lanka and Nepal. They are currently considered extirpated, or no longer present, in Bangladesh and may also be absent from Bhutan. Diet - Sloth bears primarily eat termites and ants.
3. Social Structure - Sloth bears are considered solitary, although they are occasionally seen in groups when resources are plentiful.
4. Threats - Habitat loss and poaching. Degradation and loss of forests (caused by fire, overgrazing and over-extraction of forest resources) are believed to have resulted in a 40% decline in the sloth bear's population over the last 30 years.

### CHERNOBYL ACCIDENT 1986

1. After a brief but fierce battle, Russian troops were able to capture the Chernobyl nuclear plant in northern Ukraine. Chernobyl Nuclear Disaster Site is located around 16 km away from the city of Chernobyl and a little over 100 km away from Ukraine's capital city of Kyiv.
2. This power plant witnessed the world's worst nuclear disaster in 1986. The Chernobyl accident in 1986 was the result of a flawed reactor design that was operated with inadequately trained personnel. The disaster occurred when in the then Soviet-controlled Ukraine carried out a. A botched safety test ran by some technicians led to many explosions at Chernobyl's reactor No. 4 and a partial meltdown of its core.
3. The explosions exposed the core and released clouds of radioactive material into the atmosphere. In 2005, the UN predicted that around 4,000 people may eventually die due to radiation exposure.
4. The radiation also affected neighbouring Belarus as well as parts of Russia and Europe. To put the scale of the tragedy into perspective — it is said to have released 400 times more radiation than the atomic bomb that was dropped on Hiroshima in Japan.
5. Since the accident, Chernobyl's "exclusion zone (a 32-km radius around the site) has remained largely uninhabited, while the plant's remaining three reactors were all shut down by 2000. A sarcophagus built to cover the reactor after the accident has since deteriorated, resulting in radiation leaks.

### DUGONG

1. Marine Biologists have welcomed the Tamil Nadu government's decision to go ahead with the establishment of a conservation reserve for the dugong in the Gulf of Mannar, Palk Bay between India and Sri Lanka. Dugong (*Dugong dugon*) is a sirenian herbivorous mammal species native to parts of the Indian littoral.
2. Dugongs are cousins of manatees. But, unlike manatees, which use freshwater areas, the dugong is strictly a marine mammal. Commonly known as "sea cows," dugongs graze peacefully on sea grasses in shallow coastal waters of the Indian and western Pacific Oceans. Threats - Human activities such as the destruction and modification of habitat, pollution, rampant illegal fishing activities, vessel strikes, unsustainable hunting or poaching and unplanned tourism.
3. Loss of seagrass beds due to ocean floor trawling was the most important factor behind dwindling dugong populations in many parts of the world. They also often become victims of bycatch, the accidental entanglement in fishing nets.
4. Population - **There were just 250 dugongs in the Gulf of Mannar (Tamil Nadu), Andaman and Nicobar Islands, and the Gulf of Kutch (Gujarat) according to the 2013 survey of the Zoological Survey of India**. The dugongs that inhabited waters

millimetre away from each other tick at different rates.

In a new study, researchers at the Harbin Engineering University in China have unravelled the mechanism that drives the fish forward while swimming. Through precise control of body fluctuations, pressure fields are created in the form of movable vortex pairs of high and low pressure regions that enable them to swim.

India, along with China and the UAE, abstained from the United Nations Security Council (UNSC) resolution sponsored by the U.S. and Albania on Saturday, and cosponsored by nearly 80 countries that sought to condemn Russian aggression and called for the immediate withdrawal of Russian military from Ukraine. The resolution, supported by 11 UNSC members, was vetoed by Russia. The U.S. vowed to take the issue to the General Assembly. "India is deeply disturbed by the recent turn of developments in Ukraine," said India's UN Permanent Representative T.S. Tirumurti. "We are also deeply concerned about the security of the Indian community."

The Cabinet approved changes to India's foreign direct investment (FDI) policy to allow global investors to participate in the initial public offering of Life Insurance Corporation of India (LIC) shares expected to be launched soon. Foreign investors will now be able to invest up to 20% in LIC shares under the automatic approval route, government sources said.

Seeking to provide more opportunities to Indian students in the field of medical education, Prime Minister Narendra Modi on Saturday urged the private sector "to get into this field in huge quantities" and sought the intervention of State governments to make "good policies in giving land for this type of work".

The Export Credit Guarantee Corporation (ECGC) has decided to withdraw coverage for shipments to Russia with effect from February 25, which is a huge setback for exporters, industry body FIEO said.

Drone startup Garuda Aerospace Private Ltd. has plans to raise more than \$30 million to meet its capital expenditure requirements for manufacturing high quality drones for agricultural applications.

Refugees fleeing Russia's invasion of Ukraine continued to pour across its western borders on Saturday, with around 1,00,000 reaching Poland in two days and some finding temporary sanctuary in sports halls and others in churches.

off the Odisha, West Bengal and Andhra Pradesh coasts two centuries back became extinct now.

### LACHIT BORPHUKAN

1.The Chief Minister of Assam had announced many projects in connection with the 400th birth anniversary of Lachit Borphukan. Lachit Borphukan was the commander of the Ahom forces and an icon of Assamese nationalism. In 1669, Aurangzeb dispatched the Rajput Raja Ram Singh I to recapture territories won back by the Ahoms in previous battles. So, the Battle of Alaboi was fought the Alaboi Hills in North Guwahati between the Ahoms and Mughals in which the Ahoms suffered severe reverses.

2.Lachit Borphukan, after suffering a massive defeat at Alaboi, decimated the Mughals within just two years in 1671 (Battle of Saraighat). Lachit won the Battle of Saraighat (Naval battle) on the River Brahmaputra. Lachit was an able commander and his courage is all the more lauded because he was terribly ill during the war. Today, Lachit Borphukan's victory is honoured with a gold medal given every year to the best cadet graduating from the National Defence Academy (NDA).

3.Ahom Kingdom-This kingdom was found by Chaolung Sukapha, who was a 13th century ruler. Ahom Kingdom ruled Assam for six centuries. The Ahoms ruled the land till the province was annexed to British India in 1826 with the signing of the Treaty of Yandaboo. They created a new state by suppressing the older political system of the bhuiyans (landlords). The Ahom state depended upon forced labour.

4.Those forced to work for the state were called paiks. Ahom society was divided into clans or khels. A khel often controlled several villages. The Ahom king was the supreme commander of the state as well as the Military. The king himself led the state forces in the time of wars. The Paiks (serving and nonserving) were the main army of the state. The full contingent of the Ahom Army consisted of infantry, navy, artillery, elephantry, cavalry and spies.

### UNITED NATIONS ENVIRONMENT ASSEMBLY

1.The United Nations Environment Assembly (UNEA) is hosted by United Nations Environment Programme (UNEP) every two years. Created in 2012 to replace the Governing Council, the UNEA is the governing body of the UNEP.

2.It brings together representatives of the 193 Member States of the UN, businesses, civil society and other stakeholders to agree on policies to address the world's most pressing environmental challenges.

3.All the members of the United Nations General Assembly (UNGA) are members of the UNEA. Headquartered in Nairobi, Kenya, the UNEP is led by a Senior Management Team that's chaired by our Executive Director. It releases the Global Environment Outlook report (GEO).

### INDIA'S FIRST CHEETAH SANCTUARY

1.National Park in Madhya Pradesh could become the country's first-ever cheetah sanctuary. Although the plan of bringing cheetahs to India was in the works for more than a decade, it came close to a realisation after the Supreme Court's nod in January 2020.

2.The cheetah, *Acinonyx jubatus*, is one of the oldest of the big cat species, with ancestors that can be traced back more than five million years to the Miocene era. The cheetah is also the world's fastest land mammal. It is listed as vulnerable in IUCN red listed species.

3. The country's last spotted feline died in Chhattisgarh in 1947. Later, the cheetah — which is the fastest land animal — was declared extinct in India in 1952. The Asiatic cheetah is classified as a "critically endangered" species by the IUCN Red List, and is believed to survive only in Iran.

### BLOATWARE APPS

1.Also known as Potentially Unwanted Programs (PUP), bloatware apps are needless programs that take a toll on your device's performance. Bloatware apps are being criticized for taking up the storage of the device unnecessarily and affecting the system's battery life and overall performance.

2.Generally, these apps that run in the background are hidden and locating them becomes a tough job for the users. It could be any software on your computer, phone or tablet that consumes a lot of resources like — memory, storage and battery life. There

**Poland will not play their 2022 World Cup playoff with Russia in Moscow on March 24 because of the Russian invasion of Ukraine, the president of the Polish football federation said.**

**The Union Cabinet, chaired by Prime Minister Narendra Modi, has approved the national rollout of the Central sector scheme Ayushman Bharat Digital Mission (ABDM) of the Ministry of Health and Family Welfare with a budget of ₹1,600 crore for five years. The National Health Authority (NHA) will be the implementing agency of the Ayushman Bharat Digital Mission (ABDM).**

are three most common types of bloatwares that can be found on any device.

**3.**Utilities: These types of bloatwares come from manufacturers and third-party developers and are usually pre-loaded on your device. These offer added functionality to your device. Trialware: Users can experience the app as most of them offer free trial modes in new devices.

**4.**However, these programs keep on consuming your device's resources, even after the trial period is over. Adware: These types of bloatware typically gets downloaded while downloading softwares from the internet.