Prelim Bits 18-09-2021 | UPSC Daily Current Affairs

Black Tigers

A study on black tigers of Similipal Tiger Reserve showed that a mutation in Transmembrane Aminopeptidase Q (Taqpep) gene caused black stripes to broaden or spread into the orange-brown coloured background.

- Simlipal's small and isolated tiger population led to inbreeding and the anomalous appearance characterised by wide, merged stripes.
- **Pseudo-melanism** is a rare stripe pattern variant of tigers, which is distinguished by stripes that are broadened and fused together.
- This condition is observed in both wild and captive tigers.
- Pseudo-melanism is different from true melanism, a condition characterised by unusually high deposition of melanin, a dark pigment.
- **Rare** - Mutants are genetic variations which may occur spontaneously, but not frequently, in nature.
- Black tigers were sought out as a novelty by trophy hunters for their unusual appearance. So, only a few survived to establish blood lines.
- Besides, pseudo-melanism is caused by a recessive (hidden) gene. But these genes are rare and it is unlikely that two unrelated tigers will carry the same one and pass it on together to a cub.
- In an ideal tiger world, where far-ranging individuals are never short of choices for partners, that makes succession of black tigers a rarity.
- **Success rate** - Under exceptional circumstances, a black tiger may succeed as part of a very small (up to 5 individuals) founding population that is forced to inbreed in isolation for generations.
- This will offer the recessive gene frequent chances to show up.
- **Natural selection** is also favouring melanistic leopards as their darker coats confer a selective advantage in both hunting and avoiding hunters in Simlipal's tropical moist deciduous and semi-evergreen forest.

  Natural selection eliminates the weakest from a gene pool, and the traits of the more successful get passed on.

Other Records

- Pseudo-melanistic tigers are also present in three zoos in India where they were born in captivity.
  1. Nandankanan Biological Park (Bhubaneswar),
  2. Arignar Anna Zoological Park (Chennai) and
  3. Bhagwan Birsa Biological Park (Ranchi)
- All of them have ancestral links to one individual from Simlipal.

General Sherman Tree

Two wildfires in California (Colony fire & Paradise) are burning through the Sequoia National Park, the Sierra Nevada that is home to the world's largest tree.

Sequoia trees are fairly fire-resistant trees.

- General Sherman tree (Sequoiadendron giganteum) is the world's largest in terms of volume. This tree is about 2,200 years old.
- It stands at a height of 275 feet (taller than the leaning tower of Pisa).
- It has a diameter of 36 feet at the base. Even 60 feet above the base, the tree has a diameter of 17.5 feet.

Cuba is Vaccinating Children

Cuba has become the world's first country to authorise the use of Covid-19 vaccines for children as young as 2-years-old.

- Cuba's Medicines Regulatory Agency authorised the emergency use of the domestically produced Covid-19 vaccine (Soberana 2) for children & adolescents aged 2-18.
- Cuban government said that the nationwide inoculation drive for children was being sped up with the reopening of schools for in-person classes in mind from October, 2021.

UNICEF report (2020) - Children in Latin American countries have lost 4 times as many school days as other children around the world.

- Initially the focus of Cuba's vaccination drive was inoculating frontline workers and elderly people in badly affected areas.
- But after a spike in infections among children following the emergence of the Delta variant, Cuba shifted its focus to vaccinating younger children.
- Vaccinating children & other low-risk groups is being criticised because billions around the world have not received even one shot, which even includes some frontline workers.

Cuban Vaccines

- In Cuba, Children and adolescents will receive doses of Soberana-2, while adults will receive Abdala.
- Both Soberana 2 and Abdala are conventional conjugate vaccines, which mean that a part of the coronavirus spike protein is fused with a carrier molecule in order to boost both efficacy and stability.
- But, both of these vaccines are not recognised by the WHO.

Investing in Equity Market

On a day when the Sensex and Nifty closed at fresh highs, the SEBI chairman cautioned investors against market risks and called for due diligence before investing.

- The investors in securities market should be consciously aware of the fact that such

investments are subject to market risks.

- There is a big surge in retail participation in equity markets.
- Investors should not only go for fundamentally strong and better run companies. But they should also follow the basics of investment like,
    a. Asset allocation (Investors should not get tempted and divert funds from other assets like FDs, debt MFs, PF, gold etc into equities),
    b. Due diligence (i.e., basic check on the company) before investing in primary and secondary markets,
    c. Avoiding leveraged investment and going for professional advice.

Citizen Arrester

- It is a form of the vigilante in the United States, which is supported by a law that makes vigilantism respectable.

Vigilantism is the practice of ordinary people in a place taking unofficial action to prevent crime or to catch and punish people believed to be criminals.

- A 'citizen arrester' enjoys **legal status** and whose actions are protected by a law that permits him or her to pursue and arrest a person accused of breaking the law.
- Because of its potential for abuse in the US, there is a debate on the need to circumscribe the scope, and eligibility, of who can be a citizen arrester.
- The concept of 'citizen arrester' draws on a legal convention that comes from the Common Law tradition in England (dating from 12th Century.)

Source: PIB, The Hindu, The Indian Express

