



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

Black Tigers

A study on black tigers of Simlipal Tiger Reserve showed that a mutation in Transmembrane Aminopeptidase Q (Taqppep) 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 Arrestor

- 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



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