

Black Tigers

September 17, 2021

In news– Recently, scientists solved the mystery of black tigers in Similipal tiger reserve, Odisha.

Key findings of the study-

- The researchers have identified a single mutation in a gene that causes their distinctive stripes to broaden and spread into their tawny pelt, occasionally appearing entirely dark.
- A **team led by ecologist from the National Centre for Biological Sciences (NCBS), Bangalore**, have discovered that **the coat colouration and patterning** that make the wild cats appear dark is **due to a single mutation in the Transmembrane Aminopeptidase Q (Taqppep) gene**.
- **Different mutations in this gene are known to cause similar changes in coat colour** in several other species of cats, including cheetahs.
- The abnormally dark or black coat in such tigers is termed **pseudo melanistic or false coloured**.
- Photos captured from Similipal in 2018 showed eight unique individuals, three of which were **'pseudo melanistic' tigers, characterised by wide, merged stripes**.
- **Pseudo-melanistic tigers** have thick stripes so close together that the tawny background is barely visible between stripes.
- The black tigers are mutants and **are Bengal tigers with a single base mutation**.
- **This is the first and only study to investigate the genetic basis for this phenotype (look)**.
- The researchers combined genetic analyses of other tiger populations from India to show that the Similipal black

tigers may have arisen from a very small **founding population of tigers and are inbred, providing an answer to the question that had perplexed so many.**

- It noted that **tigers in the Similipal Tiger Reserve are an isolated population in eastern India, and gene flow between them and other tiger populations is very restricted.**
- This has important implications for tiger conservation as such isolated and inbred populations are prone to extinction over even short periods of time.
- **The only other black tigers outside of Similipal in India exist at the Nandankanan Zoological Park in Bhubaneswar, Ranchi Zoo and Chennai's Arignar Anna Zoological Park,** where they were born in captivity.
- Genetic tracing proved that these captive-born tigers **shared a common ancestry with Similipal tigers.**

Similipal tiger reserve-

- **Similipal, which derives its name from 'Simul' (Silk Cotton) tree,** is a national park and a Tiger Reserve.
- It is a compact block of elevated plateau located in the central portion of the **Mayurbhanj district of Odisha.**
- The Tiger Reserve originated as a hunting ground for the surrounding royalty.
- It was formally **designated a tiger reserve under Project Tiger in May 1973.**
- The Government of Odisha declared Similipal as a wildlife sanctuary in 1979 with an area of 2750 sq. km.
- Later in 1980, Government of Odisha proposed 303 sq. km of the sanctuary as National Park.
- It has some beautiful waterfalls like Joranda and Barehipani.
- It has been conferred with **legal status** as per

provisions of Section 38V of Wildlife (Conservation) Act, 1972.

- The Government of India declared it as **a biosphere reserve in 1994.**
- **UNESCO added this National Park to its list of Biosphere Reserves** in May 2009.
- This tiger reserve **also comes under Mayurbhanj Elephant Reserve** that includes the adjacent Hadgarh and Kuldiha Wildlife Sanctuaries.
- Similipal comes **under the Deccan Peninsula Biogeographic Zone, Chhotanagpur Province** and Mahanadian Region.

Prominent tribes are Kolha, Santhala, Bhumija, Bhatudi, Gondas, Khadia, Mankadia and Sahara.