

**26 MAY 2019**

## AHAETULLA LAUDANKIA

### Why in news?

A group of researchers has discovered a tenth species of the vine snake of genus Ahaetulla after a gap of more than a century.

### More on news:

The Ahaetulla laudankia, the newly discovered snake, was first spotted by researchers in Simlipal Biosphere reserve of Odisha.

### About Simlipal Biosphere reserve:

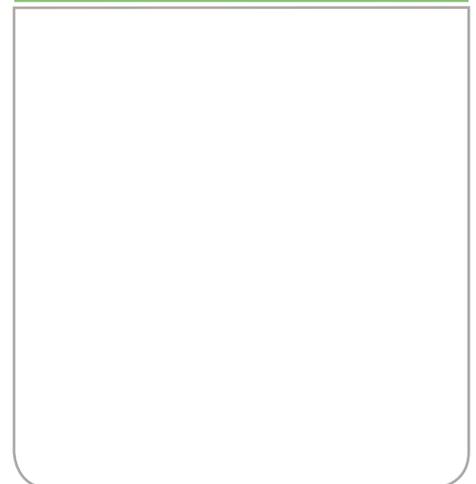
- It comprises of the entire Simlipal sanctuary, the adjoining Nato and Satkoshia Reserve forests.
- Simlipal is in the eastern end of the eastern ghats and classified in the Chhotanagpur biotic province of the Mahanadian bio-geographic region.
- The prominent rivers flowing in this reserve include Budhabalanga, Kharkai river and Deo river.
- Two permanent waterfalls namely Barehipani and Joranda is present within this reserve.
- The elephant population of Simlipal is the major surviving concentration of the Central-Indian population.
- Other important fauna of this reserve include Bengal Tiger (IUCN status - endangered), Gaurs (IUCN status - Vulnerable), Fishing Cat (IUCN status - Vulnerable), Leopard Cat, Chousingha or four-horned antelope (IUCN status - Vulnerable).
- Important tribes living in this region are Kharias, Gondhs, Santhal, Kolarian, Mundari etc.
- This reserve is part of the UNESCO World Network of Biosphere Reserves since 2009.



## JAYAKWADI DAM

- It is located on Godavari river at the site of Jayakwadi village in Paithan taluke of Aurangabad district in Maharashtra.
- It is a multipurpose dam with the water from the dam is mainly used to irrigate agricultural land in the drought-prone Marathwada Region of the state.
- It also provides water for drinking and industrial usage in the areas of Aurangabad and Jalna district.
- The surrounding area of the dam has a bird sanctuary.
- The foundation of the dam was laid in 1965 by the then Prime minister of India Lal Bahadur Shastri.
- The dam was inaugurated in 1976 by the then Prime minister Indira Gandhi.
- Nath Sagar Jalashay is the name of the reservoir formed by Jayakwadi dam.
- The dam is also fed by Pravara river.
- Dnyaneshwar Udyan is the garden situated on the banks of Nath Sagar Lake.

### NOTE



## SUPERCONDUCTIVITY BREAKTHROUGH

### In news:

A team led by Prof. Anshu Pandey from the Indian Institute of Science (IISc), Bengaluru confirms that their material exhibits major properties of superconductivity at ambient temperature and pressure.

### What is super conductivity?

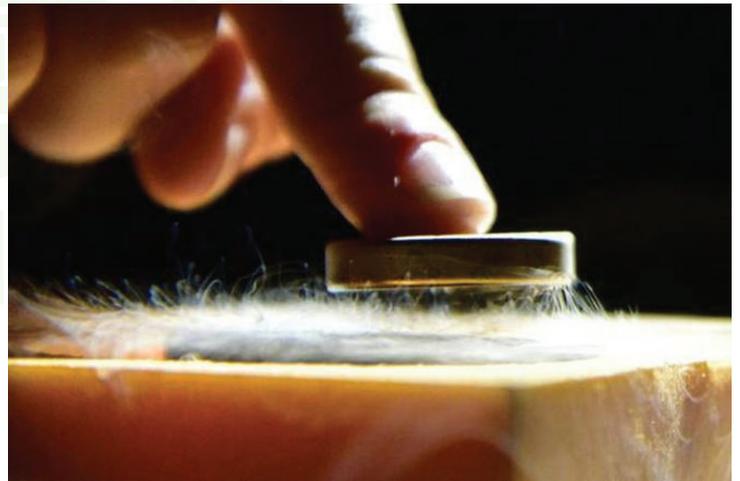
- Superconductivity is the phenomenon in which a material offers zero, or vanishingly low, resistance to the passage of electrical current below a certain temperature, called its critical temperature.
- When a material is cooled below the superconducting transition temperature in a magnetic field it expels magnetic flux thereby appearing to levitate.
- Since the mid-20th century, scientists have been looking for a material whose critical temperature is near room temperature – near 0° C – but so far without success.

### Issue with the research:

- A prominent complaint against the researchers' previous paper had been that they hadn't included details of how they'd prepared their samples, so other research groups couldn't attempt to reproduce their results.

### Achievement:

- Their material exhibits resistivity of about 10-12 ohm-metre – 10,000-times lower than that of good metallic conductors like copper, gold and silver.
- More significantly, the authors report a much higher superconducting transition temperature of 286 K (~13° C) compared to the 236 K (-37° C) earlier.
- In their new submission, the authors report that they have investigated a total of 128 nanostructured samples of silver-gold composites, compared to just 33 earlier.



### Uses of superconductors:

- fast digital circuits
- powerful superconducting electromagnets used in maglev trains
- magnetic resonance imaging (MRI) and nuclear magnetic resonance (NMR) machines
- magnetic confinement fusion reactors (e.g. tokamaks)
- focusing magnets in particle accelerators
- low-loss power cables

## PRELIM BITS

### LIMESTONE MINES NEAR DEER SANCTUARY GETS NOD

- National Board for Wildlife (NBWL) has granted clearance to five limestone mines on private land spread over 100 hectares within 10 km of the Gangaikondan Spotted Deer Sanctuary in Tirunelveli.

### NOTE

