

Anthropocene and new shrew species

- The Geological era that we live in is called the Anthropocene.
- This is because of the global impact that humans and their activities have made after they evolved.
- A notable effect of changes seen in the Anthropocene has been a rapid increase in the rate of extinction of other species.



- Scientists from the Zoological Survey of India (ZSI) have discovered a new species of insectivorous mammal, a white-toothed shrew, from Narcondam Island of the Andaman and Nicobar group of islands.
- The species *Crocidura narcondamica* is a new addition to the list of mammals found in the country. Shrews are small and mouse-like mammals, and they live in sub-leaf stratum in the forests. Insects are the primary diet of these animals.



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Monoclonal antibodies vs polyclonal bodies

What are monoclonal antibodies?

- Monoclonal antibodies (also called moAbs or mAbs) are proteins made in laboratories that act like proteins called antibodies in our bodies. Antibodies are parts of your immune system.
- They seek out the antigens (foreign materials) and stick to them in order to destroy them.
- Laboratory-made monoclonal antibodies help stimulate your own immune system.
- The word “monoclonal” refers to the fact that the antibodies created in the laboratory are clones.
- They are exact copies of one antibody.
- The generic names of the products often include the letters “mab” at the end of the name.

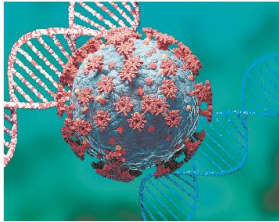
- What is the difference between monoclonal antibodies and polyclonal antibodies?
- The difference between the two types of antibodies is in the names.
- “Mono” refers to one and “poly” refers to many. Monoclonal antibodies are clones of just one antibody, and they bind to one antigen only.
- Polyclonal antibodies come from several different types of immune cells and will bind to more than one antigen.

How are monoclonal antibodies used?

- Monoclonal antibodies are used for diagnosis, disease treatment and research. They're used:
- As probes to identify materials in laboratories or for use in home-testing kits like those for pregnancy or ovulation.
- To type tissue and blood for use in transplants.
- For diagnosis.
- For disease treatment.

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Protection from multiple variants of concern
The mining of a unique antibody demonstrates India's R&D potential



1. Two premier research agencies — ICMR and DBT — had come together to identify a human monoclonal antibody for SARS-CoV-2
2. Approved monoclonal therapies block the interaction of the virus through its receptor binding domain with the host cell receptor
3. As the virus evolved, it acquired mutations in the RBD
4. The antibody discovered by the Indian team binds to a region of the virus that is outside the main RBD-ACE2 motif
5. The region where the new antibody binds to the virus is currently not a mutational hotspot and is thus conserved across most variants

Evolved: Omicron sub-lineages can evade antibodies generated by vaccines and natural infection.

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Polar region and earth's evolution

- Can the Polar Regions provide clues about early-life evolution on Earth?
- The amazing survival strategies of polar marine creatures might help to explain how the first animals on Earth could have evolved earlier than the oldest fossils suggest, according to new research.
- These first, simple, and now extinct animals might have lived through some of the most extreme, cold, and icy periods the world has ever seen (Global Change Biology).
- The fossil record places the earliest animal life on Earth at 572-602 million years ago, just as the world came out of a huge ice age, whilst molecular studies suggest an earlier origin, up to 850 million years ago.

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Climate justice

- Floods in Pakistan highlight the need for climate justice
- Record rains this summer put one-third of Pakistan underwater, killing around 1,300 people and causing widespread devastation that has affected 33 million people.
- The disaster has highlighted the question of whether rich countries should provide funding to address the loss and damage inflicted by climate change on the people who have contributed least to emissions a key issue at the next United Nations climate conference, COP27, in November.
- Climate justice is a concept that addresses the just division, fair sharing, and equitable distribution of the benefits and burdens of climate change and responsibilities to deal with climate change.
- **THE HINDU**

Collegium

The story so far:

- A meeting of the Supreme Court Collegium, comprising the Chief Justice of India (CJI), and four senior-most judges, which was called for September 30 but did not take place,

was subsequently “closed without there being any further deliberation”.

- What prevented further deliberations was the fact that the Union Law Minister, by a letter dated October 7, requested Chief Justice U.U. Lalit to nominate his successor, as the latter’s tenure ends on November 8, 2022.

What is the work of the Collegium?

- The Collegium system, one in which a group of the senior-most judges makes appointments to the higher judiciary, has been in practice for nearly three decades.
- Its importance lies in the fact that its opinion has primacy in the matter of appointments to the high courts and the Supreme Court, as well as transfers.
- Its legal basis is found in a series of three judgments usually referred to as the ‘Judges Cases’ concerning the higher judiciary. Its manner of functioning has been laid down in the form of a ‘Memorandum of Procedure’.
- The Constitution says a Supreme Court judge is appointed by the President in consultation with the Chief Justice of India. In the ‘First Judges Case, the court held that the

consultation with the CJI should be “full and effective”.

- The Second Judges case introduced the collegium system in 1993. It ruled that the CJI would have to consult a collegium of his two senior-most judges in the apex court on judicial appointments.
- The ‘Third Judges Case’ case in 1998, which was a Presidential reference, expanded the collegium to its present composition of the CJI and four of his senior-most judges

How does it discharge its functions?

- The Collegium’s functioning has been criticised for being opaque.
- Its resolutions and recommendations are hosted on the Supreme Court’s website, giving relevant information about its decisions.
- However, the nature of the deliberations and whether there are any internal differences of opinion on the suitability of a particular candidate are unknown.
- It functions mainly through the system of adopting resolutions and sending them to the Union Law Ministry for further action.
- If a proposal for appointment of a judge is returned for

reconsideration, the Collegium may either drop it or reiterate it.

- When the Collegium reiterates its decision after reconsideration, it is binding on the government.

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