



Additions to India's Faunal and Floral Databases

For Prelims: [Zoological Survey of India](#), [Botanical Survey of India](#), [Bamboo-dwelling bat](#), [Macaque](#), [Western Ghats](#)

For Mains: India's Faunal and Floral Diversity

Why in News?

India witnessed significant advancements in its [biodiversity](#) knowledge in the year 2022 with the **addition of numerous animal and plant species to its faunal and floral databases.**

- The findings were compiled in two publications: "**Animal Discoveries - New Species and New Records 2023**" by the [Zoological Survey of India \(ZSI\)](#) and "**Plant Discoveries 2022**" by the [Botanical Survey of India \(BSI\)](#).

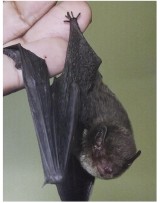
What are the Major Additions in India's Faunal and Floral Database?

- **Faunal Discoveries:**
 - In 2022, India added a total of **664 animal species to its faunal database.** This includes **467 new species and 197 new records**, which are species found in India for the first time.
 - The discoveries encompassed various categories: **three new species and one new record of mammals, two new records of birds, 30 new species and two new records of reptiles**, 6 new species and one new record of amphibians, and 28 new species and eight new records of fish.
 - **Invertebrates** accounted for the majority of new faunal discoveries with **583 species**, while vertebrates constituted 81 species.
 - **Insects comprised the largest group among invertebrates**, and fish dominated among vertebrates.

Note:

- **Vertebrates:** Animals **with a backbone/spine**, well-developed internal skeleton, distinct head with a brain, bilateral symmetry, and complex internal organs. **Examples: mammals, birds, reptiles.**
- **Invertebrates:** Animals **without a backbone/spine**, typically have an exoskeleton or soft body varying body plans, and simpler internal organ systems. **Examples: insects, worms, jellyfish.**
- **Kerala recorded the highest number of new discoveries**, contributing 14.6% of the total, followed by **Karnataka (13.2%) and Tamil Nadu (12.6%).**
 - The Andaman and Nicobar Islands, West Bengal, and Arunachal Pradesh also made significant contributions.
- The new mammal species included ***Miniopterus phillipsi*, a long-fingered bat, and**

***Glischropus meghalayanus*, a [bamboo-dwelling bat](#), both found in Meghalaya.** //



Glischropus meghalayanus, a species of bamboo-dwelling bat from Meghalaya. | Photo Credit: Special Arrangement

- Another significant discovery was the **Sela macaque (*Macaca selai*)**, a new [macaque species](#) found in **Arunachal Pradesh**.



Sela macaque, a new species discovered in the western and central Arunachal Pradesh. | Photo Credit: Special Arrangement

- Notable new records include the **sighting of *Macaca leucogenys*, a white-cheeked macaque**, in West Siang, Arunachal Pradesh that was previously found in **southeastern Tibet**.

- The **yellow-rumped flycatcher (*Ficedula zanthopygia*)** was also found in **Narcondam Island of the Andaman archipelago** after being known from various other regions.



The yellow-rumped flycatcher was recorded in Narcondam Island of the Andaman archipelago. | Photo Credit: Special Arrangement

- With the addition of these new discoveries and records, India's faunal diversity increased to **103,922 species**.
- **Floral Discoveries:**
 - India added **339 new plant taxa to its floral database in 2022**, consisting of **186 taxa new to science** and **153 taxa as new distributional records** within the country.
 - The discoveries encompassed various plant groups: **37% seed plants, 29% fungi, 16% lichens, 8% algae, 6% bryophytes, 3% microbes, and 1% pteridophytes.**
 - **Seed plants constituted the largest proportion of new discoveries, with dicotyledons accounting for 73% and monocotyledons for 27%.**

Note:

- **Dicotyledons (Dicots):** Dicotyledons are plants that **have embryos with two cotyledons or seed leaves.**
 - They encompass a wide range of plants such as **trees, shrubs, herbs,** and many familiar flowering plants like **roses.**
 - **Monocotyledons ([Monocots](#)):** Monocotyledons are plants that have **embryos with a single cotyledon or seed leaf.**
 - Monocots include plants such as **grasses, corn, orchids, and onion.**
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- The [Western Himalayas](#) and the [Western Ghats](#) were the regions where a significant number of discoveries were made, **contributing 21% and 16% respectively.**

- **Kerala** stood out as the state with the **highest number of plant discoveries, accounting for 16.8% of the total.**
- Among the notable plant discoveries were the new genera **Nandadevia Pusalkar, found in the Uttarakhand Himalayas,** and **Nilgiriella Pusalkar,** endemic to the southern Western Ghats in Karnataka, Kerala, and Tamil Nadu.
- Additionally, **Calanthe lamellosa, an orchid species** previously recorded in **China and Myanmar,** was found for the first time in India in the **Japfu mountain range in Kohima, Nagaland.**



Botanical Survey of India

- It is the apex research organization under the [Ministry of Environment and Forests \(MoEFCC\)](#) for carrying out **taxonomic and floristic studies on wild plant resources** of the country. It was **established in 1890.**
- It has **nine regional circles** situated at different regions of the country. However the headquarter is in **Kolkata, West Bengal.**

Zoological Survey of India

- **ZSI is also a subordinate organization of the MoEFCC and** was established in **1916** as a **national center for the faunistic survey** and exploration of the resources leading to the advancement of knowledge on the exceptionally rich faunal diversity of the country.
- **ZSI has its headquarters at Kolkata** and **16 regional stations** located in different geographic locations of the country.

UPSC Civil Services Examination, Previous Year Questions (PYQs)

Prelims

Q. Recently, our scientists have discovered a new and distinct species of banana plant which attains a height of about 11 meters and has orange coloured fruit pulp. In which part of India has it been discovered? (2016)

- (a) Andaman Islands
- (b) Anaimalai Forests
- (c) Maikala Hills
- (d) Tropical rain forests of northeast

Ans: (a)

Q. Biodiversity forms the basis for human existence in the following ways: (2011)

1. Soil formation
2. Prevention of soil erosion
3. Recycling of waste
4. Pollination of crops

Select the correct answer using the codes given below:

- (a) 1, 2 and 3 only
- (b) 2, 3 and 4 only
- (c) 1 and 4 only
- (d) 1, 2, 3 and 4

Ans: (d)

Mains

Q. How does biodiversity vary in India? How is the Biological Diversity Act, 2002 helpful in the conservation of flora and fauna? (2018)

[Source: TH](#)