Melocanna baccifera

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In news– Recently, a study has shed interesting light on flowering in *Melocanna baccifera.*

Key findings-

- **Researchers detected a correlation between the sugar content in the fruit of Melocanna baccifera and the frenzied feeding** and **population boom in rats during 'Mautam', the cyclical, mass bamboo flowering** that occurs once in 48 years.
- Researchers **observed and listed a surprisingly large variety of animal visitors/predators attracted by the fruit and flowers** of this bamboo.
- They also **reported the highest-ever fruit production** in a bamboo clump (456.67 kg).
- The Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI), Thiruvananthapuram, conducted the study between 2009 and 2022 at its Bambusetum where the species was introduced during 1988-1996.
- **Earlier, it was presumed that 'high protein in fruits/seeds' was attracting the rats**.
- However, **a JNTBGRI study in 2016 that was part of the research found that the fruit actually contains very little protein. The predation is mainly due to the high content of sugars.**
- **The fruit chemistry has a significant role in the predation**, as fruits are consumed by predators based on their taste preferences to fruit sugars at various growth stages.
- **The bamboo fruit and flower entice an astonishing variety of visitors/predators. They include pollen predators (honey bees), fruit predators** (millipedes, slugs and snails, fruit borers, monkeys, rats,

porcupines, wild boars and palm civets), seedling predators (rabbits, deer), and insect/pest predators (ants, mantis).

- The flowering phenology and fruit production dynamics revealed through this study are helpful to foresters and people involved in the conservation of this bamboo.
- **Further, the study on fruit chemistry and its links to predation and 'rat flood' could help identify biomolecules useful in medical research**.
- **The study was funded by the Science and Engineering Research Board (SERB), the Department of Science and Technology, the Government of India,** and the Kerala State Council for Science, Technology and Environment (KSCSTE) under the Kerala government.

What is *Melocanna baccifera?*

- Its a tropical bamboo species that has long fascinated researchers for its association with the occurrence of 'bamboo death,' 'rat floods' and famines in northeast India.
- **Called 'Muli' in northeast India, Melocanna baccifera is the largest fruit-producing bamboo and is native to the northeast India-Myanmar region**.
- During its gregarious flowering, the bamboo produces large fruits which draw animal visitors/predators. Of these, black rats greatly relish the fleshy, berry-like fruit.
- During this period, they also multiply rapidly, a phenomenon dubbed as 'rat flood.'
- Once the fruits are gone, they start devouring standing crops, causing famines that have claimed thousands of human lives.

Bamboo Cultivation in India:

- Bamboo is popularly known as the Green Gold or Poor man's timber.

- Bamboo is a versatile group of plants which is capable of providing ecological, economic and livelihood security to the people.
- India has the highest area (13.96 million ha) under bamboo and is the second richest country, after China, in terms of bamboo diversity with 136 species (125 indigenous and 11 exotic).
- The annual production of bamboo in India is about 14.6 million tonnes and annual yield varies from 1 to 3 tonnes per ha.