LONGEST BANANA INFRUCTESCENCE: ENVIRONMENT

NEWS: World's longest banana infructescence found in the forests of Andamans

WHAT'S IN THE NEWS?

A 4.2-metre-long fruit bunch from *Musa indandamanensis*, a critically endangered wild banana species endemic to the Andaman and Nicobar Islands, has set a global record and holds valuable potential for crop improvement.

Context: Scientific Discovery of the World's Longest Banana Infructescence

- In early 2024, a record-breaking 4.2-metre-long infructescence (fruit bunch) was documented in a wild banana species, *Musa indandamanensis*.
- This is the longest infructescence ever recorded among all known banana species globally.
- The finding was published in the peer-reviewed journal Botany Letters, signifying its international botanical importance.

Botanical and Taxonomic Significance

- *Musa indandamanensis* is a wild banana species that is endemic to the Andaman and Nicobar Islands (ANI), meaning it is found nowhere else in the world.
- It was:
 - First reported in 2012 near Krishna Nala Reserve Forest, Little Andaman.
 - Formally described and scientifically documented in 2014.
- Earlier recorded infructescence length was around 3 metres, but the 2024 specimen exceeds 4 metres, setting a global record.

Comparative Characteristics with Other Banana Species

• Most cultivated banana varieties typically exhibit fruit bunches (infructescences) around 1 metre in length.

- Tree height remains consistent at approximately 11 metres, across wild and cultivated varieties.
- Girth variations observed:
 - Campbell Bay (Nicobar) specimen: ~110 cm
 - Little Andaman specimen: less than 100 cm
- Highlights intraspecies morphological variation across the ANI archipelago.

Geographic and Ecological Context

- The record specimen was discovered in Campbell Bay, which is part of the Nicobar group of islands.
- Demonstrates the rich biodiversity and endemism of the tropical island ecosystems of India.
- Signifies variation in physical traits of *Musa indandamanensis* due to regional ecological factors.

Ex-situ Conservation Efforts

- The species is officially classified as Critically Endangered, necessitating urgent conservation.
- Conservation measures include ex-situ propagation (outside natural habitat) through:
 - Acharya Jagadish Chandra Bose Indian Botanic Garden, Howrah
 - Botanical Garden of ANI Regional Centre
 - Central Regional Centre, Prayagraj
- These centres aim to:
 - Preserve germplasm for future research and breeding.
 - Prevent extinction risk in the wild due to habitat loss or climate threats.

Public Display of Specimens

- To increase public awareness and scientific outreach, specimens are now exhibited in museums:
 - Indian Museum, Kolkata (BSI Industrial Section) hosts the 4.2metre infructescence.
 - Andaman and Nicobar Regional Centre Museum also features another large specimen.

Scientific and Agricultural Importance

- Musa indandamanensis holds immense genetic resource potential:
 - Can be studied for traits like fruit size, growth rate, and resilience.
 - May be used in breeding programmes to develop:
 - High-yielding banana varieties
 - Disease-resistant and climate-tolerant cultivars
- Conservation and study of this wild species can contribute to food security and sustainable agriculture.

Conclusion

- The discovery of the world's longest banana infructescence in *Musa indandamanensis* showcases India's biodiversity leadership, especially in island ecosystems.
- It emphasizes the need for continued conservation, scientific documentation, and agricultural research to unlock the value of rare endemic species.

Source: https://www.thehindu.com/sci-tech/energy-andenvironment/worlds-longest-banana-infructescence-discovered-inandamans/article69564675.ece#:~:text=An%20infructescence%20of%20ab out%204.2%20metres%20has%20been%20recorded%20in,Botany%20Letters %20earlier%20this%20year.