

Species Datasheet

Datasheet No. A-076.005.001
(family.genus.species)

DBT- Network Programme

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1. Taxon:

Species: *Borassus flabellifer* L.

Subspecies

Variety

Cultivar

Hybrid

Commonly known as 'palmyrah palm'.

Image file

2. **Synonyms:** *Borassus flabelliformis* L., *B. flabelliformis* Roxb., *B. sondaicus* Becc., *B. tunicatus* Lour., *Pholidocarpus tunicatus* (Lour.) H.Wendl., *Thrinax tunicata* (Lour.) Rollisson

3. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperm
- Clade: Monocots
- Clade: Commelinids
- Order: Arecales Bromhead
- Family: Arecaceae Bercht. & J. Presl
- Subfamily: Coryphoideae Burnett
- Genus: *Borassus* L.
- Species: *B. flabellifer* L.

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Phanerogamia
Class: Monocotyledones
Series: Calycinae
Ordo: Palmae Juss.
Genus: *Borassus* L.
Species: *B. flabellifer* L.

4. Distribution:

Global: Bangladesh, Burma, Cambodia, India, Indonesia, Laos, Malaysia, Nepal, Pakistan, Philippines, Socotra, Sri Lanka Thailand, Vietnam, and parts of China, India

India: Andhra Pradesh, Bihar, Karnataka, Maharashtra, Orissa, Tamil Nadu, West Bengal

5. **Indigenous/Exotic/ Endemic; Cultivated/Wild:** Exotic; cultivated

6. Threat Status:

IUCN:

BSI:

7. **Habit and Habitat:** Tree, 25- 40 meters tall; grows in tropical moist forest

8. **Life Form:** Phanerophyte

9. **Economic Importance:** Sap, fruit and gelatinous seeds edible; leaves are used as a support for writing, thatching, mats, baskets, fans, hats; timber is highly valued for construction.

10. Probable Progenitor of:

11. DNA

C- value

4C (34.39 pg)¹

Methodology

Feulgen microdensitometry¹

12. Basic chromosome number(s):

13. **Zygotic chromosome number(s):** 2n= 36², 3, 4, 5, 6, 7, 8, 9, 10

14. Gametic chromosome number(s): $n=18^6$

15. Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene chromosomes/Neocentric chromosomes): Presences of one pair heteromorphic sex chromosomes in somatic cells of male plant and one pair of heteromorphic bivalent during meiosis⁷

Image file

16. Ploidy level: Ployploid⁷

Image file

17. Agametoploidy

18. Nature of polyploidy (auto, segmental, allo, autoallo): Allopolyploid⁷

19. Genomic formula:

20. Aberrant chromosome number(s) (aneuploidy, aneusomy, polysomy): Somatic cells with abnormal chromosomes number $2n= 8^6$, $2n=16^6$, $2n=20^6$, $2n= 21^6$, $2n= 34^6$; Endosperm showing 72, 108, 126 chromosomes in addition to $3n= 54^{10}$

21. Somatic chromosomes:

Karyotype Majority submetacentric to subtelocentric chromosomes²; Majority metacentric to submetacentric chromosomes⁶

Chromosome size Very small²; Small to medium⁶

NOR chromosome(s) 8 NOR³

Degree of asymmetry:

Image file

22. Banding pattern(s):

Image file

23. Physical mapping of chromosomes:

In situ hybridization

Image file

Fluorescent in situ hybridization

Image file

24. Genomic in situ hybridization:

Image file

25. Linkage map:

Image file

26. Chromosome associations:

Female meiosis

Male meiosis 18II⁶; One pair of bivalent heteromorphic⁶

Image file

27. Chromosome distribution at anaphase I: Regular separation of heteromorphic chromosomes along with others⁷; Early separation of one chromosome^{6, 13}

28. Genetic diversity:

Chromosomal level

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DNA level^{11, 12}

29. Any other information (Apoixis; Inversion; Male sterility; Pollen grain mitosis; Pollen stainability; Translocations etc):

Ungerminated pollens = 26%¹³