Species Datasheet

Datasheet No. A-076.018.003
(family.genus.species)

DBT- Network Programme

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1. Taxon:

Species *Phoenix dactylifera* L.
Subspecies
Variety
Cultivar
Hybrid

Image file

2. Synonyms: *Palma dactylifera* (L.) Mill., *Phoenix atlantica* var. *maroccana* A.Chev., Phoenix *chevalieri* D.Rivera, S.Ríos & Obón, *Phoenix dactylifera* var. *adunca* D.H.Christ ex Becc., *Phoenix dactylifera* var. *costata* Becc., *Phoenix dactylifera* var. *cylindrocarpa* Mart., *Phoenix dactylifera* var. *gonocarpa* Mart., *Phoenix dactylifera* var. *oocarpa* Mart., *Phoenix dactylifera* var. *oxysperma* Mart., *Phoenix dactylifera* var. *sphaerocarpa* Mart., *Phoenix dactylifera* var. *sphaerosperma* Mart., *Phoenix dactylifera* var. *sylvestris* Mart., *Phoenix iberica* D.Rivera, S.Ríos & Obón

3. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperm
- Clade: Monocots
- Clade: Commelinids
- Order: Arecales Bromhead
- Family: Arecaceae Bercht. & J. Presl
- Genus: *Phoenix* L.
- Species: *P. dactylifera* L.

Bentham and Hooker (1862)
Kingdom: Plantae
Division: Phanerogamia
Class: Monocotyledones
Series: Calycinae
Ordo: Palmae Juss.
Genus: *Phoenix* L.
Species: *P. dactylifera* L.Hook.f.

4. Distribution:

Global: Africa, Afghanistan, India and Pakistan

India: Cultivated

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

6. Threat Status:

IUCN:

BSI:

7. Habit and Habitat: Tree. Tropical and subtropical conditions, reliable indicator species of ground water in crevices and rocky ravines.

8. Life Form: Phanerophytes

9. Economic Importance: Commercially important species, source of edible fruits. Date seeds are used for ornamental purposes, as jewellery and also as cattle fodder.

10. Probable Progenitor of:

11. DNA

C- value	Methodology
2C (1.9±0.08 pg) [1]	Feulgen cytophotometry [1]
2C (1.58±0.01 pg) [2]	Flow cytometry [2]

12. Basic chromosome number(s):

13. Zygotic chromosome number(s): 2n=28 [7,40,41]
2n=32 [42]
2n=34 [41]
2n=36 [2,3,4,5,6,8, 41,42,43,44]
2n=40 [41]

14. Gametic chromosome number(s): n=18 [3]

15. Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene chromosomes/Neocentric chromosomes): Occurrence of sex chromosomes carrying distinctive nucleolar heterochromatin [2], XX-XY sex chromosomes [8]

16. Ploidy level:

17. Agametoploidy

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

19. Genomic formula:

20. Aberrant chromosome number(s) (aneuploidy, aneusomaty, polysomaty): Variation in somatic chromosome number 2n=32 [42], 2n=34 [42], 2n=36 [42], 2n=64 [42]

21. Somatic chromosomes:

Karyotype: Majority metacentric chromosomes [8]

Chromosome size: Small to large [8]

NOR chromosome(s): 2 NOR- sex differentiate chromosomes [2]

Degree of asymmetry: Stebbins 2B and 3B category [2]

22. Banding pattern(s): Chromomycin fluorochrome banding [2] female GC rich homomorphic chromosomes while male is heteromorphic

23. Physical mapping of chromosomes:

In situ hybridization Using r-DNA probe [2]

Image file

Fluorescent in situ hybridization

Image file

24. Genomic in situ hybridization:

25. Linkage map: Genetic map [9]

26. Chromosome associations:

Female meiosis

Male meiosis

27. Chromosome distribution at anaphase I:

28. Genetic diversity:

Chromosomal level

DNA level [10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,39]

29. Any other information (Apomixis; Inversion; Male sterility; Pollen grain mitosis; Pollen stainability; Translocations etc): XY sex determining chromosome system suggested in date palm [2,8]