Species Datasheet

Datasheet No. A-074.002.020
(family.genus.species)

DBT- Network Programme

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1. Taxon:

Species *Asparagus racemosus* Willd.
Subspecies
Variety
Cultivar
Hybrid
Image file

2. Synonyms: *Asparagopsis abyssinica* Kunth, *A. acerosa* Kunth, *A. brownei* Kunth, *A. decaisnei* Kunth, *A. floribunda* Kunth [Illegitimate], *A. hohenackeri* Kunth, *A. javanica* Kunth, *A. retrofracta* Schweinf. ex Baker, *A. sarmentosa* Dalzell & A.Gibson [Illegitimate], *A. subquadrangularis* Kunth, *Asparagus acerosus* Roxb. [Illegitimate], *A. dubius* Decne., *A. fasciculatus* R.Br. [Illegitimate], *A. jacquemontii* Baker, *A. penduliflorus* Zipp. ex Span., *A. petitianus* A.Rich., *A. stachyoides* Spreng. ex Baker, *A. tetragonus* Bresler, *A. zeylanicus* (Baker) Hook.f.; *Protasparagus acerosus* (Kunth) Kamble, *P. jacquemontii* (Baker) Kamble, *P. racemosus* (Willd.) Oberm., *P. zeylanicus* (Hook.f.) Kamble.

3. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Monocots
- Order: Asparagales
- Family: Asparagaceae Juss.
- Genus: *Asparagus* L.
- Species: *A. racemosus* Willd.

Bentham and Hooker (1862)
Kingdom: Plantae
Division: Phanerogamia
Class: Monocotyledones
Series: Coronarieae
Ordo: Liliaceae Juss.
Tribus: Asparageae Dumort.
Genus: *Asparagus* L.
Species: *A. racemosus* Willd.

4. Distribution:

Global: Africa, Australia, Asia.

India: Throughout India

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

6. Threat Status:

IUCN:

BSI:

7. Habit and Habitat: Tall climbers or tangled shrub, with shiny soft stems. Grows in Tropical Dry Forest

8. Life Form: Phanerophyte

9. Economic Importance: Used in Ayurveda, Unani and Sidha. The dried roots used as drug, diuretic and galactgogue and in the control of ulcer and AIDS.

10. Probable Progenitor of:

11. DNA

C- value	Methodology
1C (1.08 pg) [8]	Flow cytometry [8]
2C (2.16 pg) [8]	Feulgen cytophotometry [7]
4C (20.82 pg) [7]	
4C (24.82 pg) [7]	

12. Basic chromosome number(s):

13. Zygotic chromosome number(s): 2n= 20 [1, 3, 7, 8, 10, 11, 20, 30, 31, 32, 33]

2n= 22 [34, 35]

2n= 40 [2, 3, 36, 37]

2n= 48 [38]

14. Gametic chromosome number(s): n= 10 [4, 5, 6, 14]

n= 20 [4]

n= 30 [39]

15. Specialized chromosomes (B chromosomes/ Sex chromosomes/ Polytene chromosomes/ Neocentric chromosomes): B chromosomes (1) [2]; (3) [2]

Image file

16. Ploidy level: Diploid [3, 4, 8, 10, 11]

Tetraploid [3, 4, 37]

Image file

17. Agametoploidy

18. Nature of polyploidy (auto, segmental, allo, autoallo): Autotetraploid [37]

19. Genomic formula:

20. Aberrant chromosome number(s) (aneuploidy, aneusomaty, polysomaty):

21. Somatic chromosomes:

Karyotype Majority submetacentric chromosomes [3]; Majority metacentric to submetacentric chromosomes [11]
Chromosome size Very small to small [3, 11, 30]
NOR chromosome(s) 2 NOR [3]; 4 NOR [11, 30]; 6 NOR [11]; 7 NOR [3, 7]; 8 NOR [11]
Degree of asymmetry Low level of asymmetry [3]
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 10 II [4, 11]

Image file

27. Chromosome distribution at anaphase I: Regular [4, 14]; Stickiness [4]; late separation [4]

28. Genetic diversity:

Chromosomal level [3]

Image file

DNA level [7, 23, 40, 41, 42]

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

Pollen stainability: High (90%) [4]