Species Datasheet

Datasheet No. G-006.001.002
(family.genus.species)

1.Taxon:

Species: *Ephedra foliate* Boiss. exC.A.Mey.
Subspecies
Variety
Cultivar
Hybrid

Image file

2. Synonyms:*Ephedra aitchisonii* (Stapf) V.A.Nikitin, *E. alte* Brandis, *E. asparagoides* Griff.,*E. ciliata* Fisch. &C.A.Mey.,*E. ciliata*Aitch.,*E. ciliata* var. *polylepis* (Boiss. &Hausskn.) Riedl, *E. foliata* var. *aitchisonii* Stapf, *E. foliata* var. *ciliata* (Fisch. &C.A.Mey.) Stapf,*E. foliata* var. *polylepis* (Boiss. &Hausskn.)Stapf,*E. kokanica* Regel, *E. peduncularis* Boiss.,*E. polylepis* Boiss. &Hausskn.,*E. rollandii* Maire

3. Systematic Position:

Christenhusz*et al.* (2011)

- Class: Equisetopsida C. Agardh
- Subclass: GnetidaePax
- Order: EphedralesDumort.
- Family:EphedraceaeDumort.
- Genus: *Ephedra* L.
- Species: *E. foliata*Boiss. ex C.A. Mey.

Bentham and Hooker (1862)
Kingdom: Plantae
Division: Phanerogamia
Class: Gymnospermeae
Ordo: Gnetaceae Blume
Genus: *Ephedra* L.
Species: *E. foliata*Boiss. ex C.A. Mey.

4.Distribution:

Global: Afghanistan, Egypt, Iran,Native to North Africa, Southeast Asia from Morocco, Mauritania, Turkmenistan, Pakistan to Northwest India

India: Punjab,Rajasthan

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

6.Threat Status:

IUCN: Least concern

BSI

7.Habit and Habitat: Shrub, climbing or scrambling on rocks and bushes, on sandy to gravelly plains.

8.Life Form: Phanerophytes

9.Economic Importance: Fruits eaten as desserts, medicinal

10. Probable Progenitor of:

11.DNA
C-valueMethodology

12.Basic chromosome number(s):x=7[1,7,12,14]

13. Zygotic chromosome number(s):2n=14[1,12,14]

14. Gametic chromosome number(s):n=7[14]

15.Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene chromosomes/Neocentric chromosomes):3rd metacentric pair with a satellite on each armin female plants, heteromorphicin male plants one of the homologues has two satellites (one on each arm) and the other only on one arm[14]

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16.Ploidy level: Diploid[1,12,14]

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17.Agametoploidy:

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

19.Genomic formula:

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

21.Somatic chromosomes:

Karyotype

Female gametophyte (n=7): Karyotype formula: 1M+3m+1sm+2st, 3rd chromosome has two satellites one on each arm, 4th chromosome with one satellite on shorter arm.

Pollen grains (n=7): Karyotype formula: 1M+3m+1sm+2st, half of the pollen grains show two satellites, one on each arm, while the other half shows a satellite only on one of the arms in 3rd chromosome, 4th chromosome has one satellite on shorter arm

Root tips (2n=14): Karyotype formula: 2M+6m+2sm+4st, 3rdchromosome homozygous for satellites in some root tips where both the chromosomes have a satellite on each arm, while heteromorphic in others where one of the homologues has one

satellite on each arm and the other bears a satellite on one of the arms, 4th pair has a satellite on shorter arm.

Stem apices (2n=14): In male plants 3rd pair is heteromorphic with one chromosome having a satellite on one arm and the other on both arms, while this pair is homomorphic in female plants with both the arms having a satellite each, the 4th pair in both cases has a satellite on shorter arm [14]

Chromosome size Large

NOR chromosome(s)

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 meiosis7 II, Some exceptional pollen mother cells observed with 14 II because of failure of division at premeiotic stage, resulting in small percentage of diploid pollen grains [14]

Image file

27.Chromosome distribution at anaphase I:

28. Genetic diversity:

Chromosomal level

Image file

DNA level

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