

Species Datasheet

Datasheet No. A-030.004.005
(family.genus.species)

DBT- Ne

1. Taxon:

Species: *Sagittaria sagittifolia* L.

Subspecies

Variety

Cultivar

Hybrid

Image file

2. Synonyms: *Alisma sagittaria* Stokes, *Sagitta aquatica* (Lam.) St.-Lag., *S. major* Scop. *S. palustris* Bubani, *Sagittaria acuminata* Sm.; *S. aquatica* Lam., *S. bulbosa* (Poir.) Donn; *S. gigantea* H. Vilm., *S. heterophylla* Schreb., *S. lancifolia* H. Vilm., *S. minor* Mill.; *S. monoeca* Gilib., *S. sagittifolia* var. *aequiloba* Schur, *S. sagittifolia* var. *angustata* Tinant; *S. sagittifolia* var. *bollei* Asch. & Graebn., *S. sagittifolia* var. *divaricata* Schur; *S. sagittifolia* var. *heterophylla* (Schreb.) Schur, *S. sagittifolia* var. *stratiotes* Bolle; *S. sagittifolia* var. *vallisneriifolia* Coss. & Germ., *S. tenuior* Gand.; *S. vulgaris* Gueldenst.; *Vallisneria bulbosa* Poir.

3. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Monocots
- Order: Alismatales R. Br. ex Bercht. & J. Presl
- Family: Alismataceae Vent.
- Genus: *Sagittaria* L.
- Species: *S. sagittifolia* L.

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Phanerogamia
Class: Monocotyledones
Series: Apocarpae
Ordo: Alismaceae
Genus: *Sagittaria* L.
Species: *S. sagittifolia* L.

4. Distribution:

Global: Altay, Austria, Baltic States, Belarus, Belgium, Bulgaria, Czechoslovakia, Denmark, Eastern Europe, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Krasnoyarsk, Netherlands, North Caucasus, Norway, Poland, Portugal, Romania, Russia, Sardegna, Siberia, Spain, Sweden, Switzerland, Transcaucasus, Turkey, Turkey-in-Europe, Tuva, Ukraine, West Siberia, Yakutskiya, Yugoslavia,

India: Imphal

5. Indigenous/Exotic/ Endemic; Cultivated/Wild: Wild, occasionally cultivated

6. Threat Status:

IUCN: Least Concern

BSI:

7. Habit and Habitat: Aquatic herb; It grows in deep, mesotrophic to eutrophic, slow flowing or standing rivers, canals or ditches.

8. Life Form: Hydrophytes

9. Economic Importance: There is a low level of trade in *S. sagittifolia* for landscape and garden pond planting. Used as food in some countries including Japan

10. Probable Progenitor of:

11.DNA

C-value

1C (21.3pg)³⁴

2C (42.5pg)³⁴

4C (85.0pg)³⁴

Methodology

flow cytometry³⁴

12. Basic chromosome number(s): $x = 11$ ¹

13. Zygotic chromosome number(s): $2n=22$ ^{1,27,35,37,38,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55,56,57,58,59,60,61,62,63}

$$2n=16$$
³⁹

$$2n=18, 36, 54$$
³⁶

$$2n=20$$
⁴⁰⁻⁴²

$$2n=21$$
^{41,42}

14. Gametic chromosome number(s): $n=11$ ^{1,35,56}

15. Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene chromosomes/Neocentric chromosomes):

Image file

16. Ploidy level: Diploid^{1,35}

Image file

17. Agametoploidy:

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

19. Genomic formula:

20. Aberrant chromosome number(s) (aneuploidy, aneusomaty, polysomaty): $2n=20$ ³⁵

21. Somatic chromosomes:

Karyotype: Majority subtelocentric chromosomes^{1,46,52}; majority submetacentric³⁵ chromosomes

Chromosome size: medium to large¹, medium to very large³⁵; very small to large⁴⁶

NOR chromosome(s): 2NOR³⁵

Degree of asymmetry: asymmetric^{35,52}

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: 11 II^{1,35}

Image file

27. Chromosome distribution at anaphase I: lagging and sticky bridge³⁵

28. Genetic diversity:

Chromosomal level

Image file

DNA level

29. Any other information (Apomixis ; Inversion; Male sterility; Pollen grain mitosis; Pollen stainability; Translocations etc): Pollen stainability-97%¹