

Species Datasheet

Datasheet No. G-003.001.001
(family.genus.species)

1.Taxon:

Species: *Ginkgo biloba* L.

Subspecies:

Variety:

Cultivar:

Hybrid:

Image file

2. Synonyms:*Ginkgo biloba* f. *aurea* (J.Nelson) Beissn., *G. biloba* var. *aurea* (J.Nelson) A.Henry,*G. biloba* var. *epiphylla* Makino, *G. biloba* var. *fastigiata* A.Henry, *G. biloba* f. *fastigiata* (A.Henry) Rehder, *G. biloba* var. *laciniata* (Carriere) Carriere, *G. biloba* f. *laciniata* (Carriere) Beissn., *G. biloba* f. *microsperma* Sugim., *G. biloba* f. *parvifolia* Sugim., *G. biloba* f. *pendula* (Van Geert) Beissn., *G. biloba* var. *pendula* (Van Geert) Carriere, *G. biloba* var. *variegata* (Carriere) Carriere, *G. biloba* f. *variegata* (Carriere) Beissn., *G. macrophylla* K.Koch, *Pterophyllus salisburyensis* J.Nelson,*Salisburia adiantifolia* Sm., *S. adiantifolia* var. *laciniata* Carriere, *S. adiantifolia* var. *pendula* Van Geert, *S. adiantifolia* var. *variegata* Carriere, *S. biloba* (L.) Hoffmanns.,*S. ginkgo* Rich., *S. macrophylla* Reyn.

3.Systematic Position:

Christenhusz et al. (2011)

- Class: Equisetopsida C. Agardh
- Subclass: Ginkgoideae Engl.
- Order: Ginkgoales Gorozh.
- Family: Ginkgoaceae Engl.
- Genus: *Ginkgo* L.
- Species: *G. biloba* L.

Bentham and Hooker (1880)

Kingdom: Plantae
Division: Phanerogamia
Class: Gymnospermeae
Ordo: Coniferae
Genus: *Ginkgo* L.
Species: *G. biloba* L.

4.Distribution:

Global: Native to South-Eastern China, common in the gardens of North America and Europe, India, Japan

India: West Bengal

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

6.ThreatStatus:

IUCN:Endangered

BSI:

7.Habit and Habitat:Large evergreen tree, {20-35 m tall};Scattered in broadleaved forests up to 1,100 m. This is the only species in the genus. It is long-living and has an ancient geological record, appearing in the Jurassic.

8.LifeForm:Phanerophytes

9.EconomicImportance:Wood is used for making Chess-boards and chess-men in China and Japan. Roasted seeds are eaten during feasts and said to help in digestion and diminish the effects of wine. A medicine viz. 'Bilovas' prepared from this plant is taken orally for diabetic memory- loss.

10. Probable Progenitor of:

11.DNA

C-value

Methodology

2C (19.86 pg)¹⁸

Feulgenmicrodensitometry¹⁸

2C (19.80 pg)³⁰

Feulgenmicrodensitometry³⁰

2C (19.50 pg)³¹

Flow cytometry³¹

2C (21.60 pg)³²

Flow cytometry³²

2C (23.50 pg)³³

Flow cytometry³³

12.Basic chromosome number(s): $x=12$ ^{1,2, 3, 4, 5, 6,7, 8, 10, 11, 12, 13, 16, 17, 19, 20, 22, 23, 25, 26, 28}

13. Zygotic chromosome number(s): $2n=24$ ^{1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13, 16, 17, 19, 20, 22, 23, 25, 26, 28, 39},
48 (sporadic)²¹

14. Gametic chromosome number(s): $n=12$ ^{10, 15, 24, 26, 28}

15. Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene

chromosomes/Neocentric chromosomes):Sex chromosomes^{4, 5, 13, 16, 19, 29}

Image file

16. Ploidy level:Diploid^{1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13, 16, 17, 19, 20, 22, 23, 25, 26, 28, 39}, Tetraploid (sporadic)²¹

Image file

17. Agametoploidy:

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

19. Genomic formula:

20. Aberrant chromosome number(s) (aneuploidy, aneusomy, polysomy):

21. Somatic chromosomes:^{1, 2, 4, 5, 7, 8, 10, 11, 13, 16, 17, 19, 20, 22, 23, 29}

Karyotype Majority metacentric/subtelocentric chromosomes^{1, 2, 3, 4, 5, 7, 10, 11, 13, 16, 17, 19, 20, 22, 23, 29}

Chromosome size Large^{1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 16, 17, 19, 20, 22, 23, 29}

NOR chromosome(s) 3 (male), 4 (female) ¹⁶

Degree of asymmetry Asymmetrical, bimodal^{1, 2, 3, 4, 5, 7, 8, 10, 11, 13, 16, 17, 19, 20, 22, 23, 29}

Image file

22. Banding pattern(s):C-banding ^{1, 5, 10, 22}

Silver staining^{5, 10, 16}

G-banding ^{2, 3}

Heterochromatic CMA bands^{10, 16}

Image file

23. Physical mapping of , chromosomes:

In situ hybridization 5S rRNA, 35S rRNA Southern blot ⁹

Image file

Fluorescent in situ hybridization 26S-5.8S-18S rRNA and 5S rRNA genes ^{16, 34} , 5S rRNA, 1.8 kb IGS

rDNA⁸ , Sex chromosomes²⁹ , 18S-5.8S-26S rRNA genes ¹⁰ , telomeric sequence repeats Arabidopsis type

39

Image file

24. Genomic in situ hybridization:

Image file

25. Linkage map: ⁴⁰

Image file

26. Chromosome associations:

Female meiosis

Male meiosis: 12 II¹⁰

Image file

27. Chromosome distribution at anaphase I:

28. Genetic diversity:

Chromosomal level

Image file

DNA level^{14,15,27}

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