

Species Datasheet

Datasheet No. A-028.009.002
(family.genus.species)

DBT- Network Programme

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1. Taxon:

Species *Colocasia antiquorum* Schott

Subspecies

Variety

Cultivar

Hybrid

Image file

2. Synonyms: *Colocasia antiquorum* var. *fontanesii* (Schott) Schott, *C. esculenta* var. *antiquorum* (Schott) F.T.Hubb. & Rehder, *C. esculenta* var. *fontanesii* (Schott) A.F.Hill, *C. fontanesii* Schott, *C. gaoligongensis* H. Li & C. L.Long, *C. gongii* C. L.Long & H.Li, *C. lihengiae* C. L.Long & K.M.Liu, *C. tonoi* Nakai

3. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperm
- Clade: Monocots
- Order: Alismatales R. Br. ex Bercht. & J. Presl
- Family: Araceae Juss.
- Genus: *Colocasia* Schott
- Species: *C. antiquorum* Schott

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Phanerogamia
Class: Monocotyledones
Series: Nudiflorae
Ordo: Aroideae Arn.
Genus: *Colocasia* Schott
Species: *C. antiquorum* Schott

4. Distribution:

Global: Asia-Temperate, Asia-Tropical

India: Assam

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

6. Threat Status:

IUCN:

BSI:

7. Habit and Habitat: Herb, mediterranean Forest, woodlands and Scrub

8. Life Form: Tuberous geophytes

9. Economic Importance:

10. Probable Progenitor of:

11. DNA

C- value

2C (4.21-11.43pg) ⁴

Methodology

Flow cytometry ⁴

12. Basic chromosome number(s): $x=7$ ^{6,24}

13. Zygotic chromosome number(s): $2n=14$ ^{57,71}

$2n=22$ ⁵⁶

$2n=24$ ⁶²

$2n=26$ ^{24,56}

$2n=28$ ^{3,4,10,24,53,56,58,59,60,61,63,64,65,66,67,68,69}

$2n=30$ ²⁴

$2n=36$ ⁷⁰

$2n=38$ ^{4,24,56,62}

$2n=42$ ^{4,6,10,24,34,56,57,59,60,64,66,67,71,72,73}

$2n=48$ ³³

14. Gametic chromosome number(s): $n=14$ ^{10,56,63,64}

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

Image file

16. Ploidy level: Diploid ^{3,4,10,60,64,69,70,71}

Triploid ^{4,10,60,64,72,73}

Hexaploid ⁶

Image file

17. Agametoploidy

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

19. Genomic formula:

20. Aberrant chromosome number(s) (aneuploidy, aneusomaty, polysomaty): Variant chromosome number in somatic cells showing $2n=18$ ⁵⁶, $2n=20$ ²⁴, $2n=22$ ^{24,56}, $2n=28$ ⁵⁶, $2n=33$ ²⁴

21. Somatic chromosomes:

Karyotype: Majority metacentric chromosomes ^{3,4,33,56,69}, Majority metacentric to submetacentric chromosomes ⁷¹, Majority submetacentric chromosomes ^{10,56,71}, Majority submetacentric to nearly submetacentric chromosomes ²⁴, Majority metacentric to nearly metacentric chromosomes ²⁴, Majority nearly submetacentric chromosomes ²⁴

Chromosome size: Very small ⁵⁶, Very small to small ^{10,24,56,69,71}, Small ^{10,24,56,69}, Small to medium ^{24,33}

NOR chromosome(s): 1 NOR ⁶⁹, 2 NOR ^{24,56}, 4 NOR ^{24,56}, 6 NOR ^{24,56}, 10 NOR ^{33,71}

Degree of asymmetry: Stebbin's 1A class ^{4,69}, Stebbin's 1B, 2B class ⁴

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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 14II ^{10,56,63,64}, Triploid- 9III+5II+5I ⁶⁴, 14 univalents ⁷³, 42 univalents ^{72,73}, trivalents ⁷², bivalents ^{72,73}, univalent ⁷³

Image file

27. Chromosome distribution at anaphase I: Regular ⁶⁴, lagging chromosomes ^{10,64}, Bridges and laggards ⁷³, Tripolar segregation of chromosomes with or without laggards ⁷³

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 90% ¹⁰, 95% ¹⁰

Desynapsis ^{63,72,73}

Pollen mitosis (n= 8, 10, 13, 14, 15, 16, 17, 18) ⁶⁴

Inversion heterozygosity ⁷³