

Species Datasheet

Datasheet No. A-140.084.003
(family.genus.species)

DBT- Network Programme

1. Taxon:

Species: *Cicerarietinum* L.

Subspecies

Variety

Cultivar

Hybrid

Image file

2. Synonyms: *Ononiscrotalarioides* Coss., *Ononiscrotalarioides* M.E. Jones, *Cicer album* hort., *Cicernigrum* hort., *Cicergrossum* Salisb., *Cicersativum* Schkuhr, *Cicer physodes* Rchb., *Cicerrotundum* Jord. Ex Alef., *Cicersintensisii* Bomm

3. Systematic Position: APG IV; Bentham and Hooker:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Eudicots
- Clade: Rosids
- Order: Fabales Bromhead
- Family: Fabaceae Lindl.
- Subfamily: Faboideae Rudd
- Genus: *Cicer* L.
- Species: *Cicerarietinum* L.

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Phanerogamia
Class: Dicotyledons
Subclass: Polypetalae
Series: Calyciflorae
Cohors: Rosales Bercht. & J. Presl
Ordo: Leguminosae Juss.
Subordo: Papilionaceae Giseke
Genus: *Cicer* L.
Species: *Cicerarietinum* L.

4. Distribution:

Global Asia, Europe, Africa, Americas, Australia

India Cultivated

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

6. Threat Status:

IUCN

BSI

7. Habit and Habitat: Herbaceous, Erect, Branched, Height ~ 100 cm. Cultivated in Tropical, Subtropical and Warm temperate zones

8. Life Form: Annual

9. Economic Importance: Source of dietary protein. Vitamins. Minerals. Carotenoids. Nutraceutical. Forage crop

10. Probable Progenitor of:

11. DNA

C-value	Methodology
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2C (3.30-3.57 pg) ¹	Microdensitometer
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2C(1.90 pg) ²	Microdensitometer
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2C(1.74 - 1.80 pg) ³	Flow cytometry
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4C(6.57 pg) ⁴	Cytophotometry
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12. Basic chromosome number(s): $x=8^{5,6}$

13. Zygotic chromosome number(s): $2n=14^{8,9,10}$, $2n=16^{1,4,6,8,11-38}$, $2n=24^{39}$

14. Gametic chromosome number(s): $n=8^{6,11,12,13,15,18,21,22,32,36,37,40,41}$

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

Image file

16. Ploidy level: Diploid^{1,4,6,7,8,9,10-38}, Triploid³⁹

Image file

17. A gametoploidy:

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

19. Genomic formula:

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

21. Somatic chromosomes: ^{1,4,6,11-19, 25,26,28,29,30,32,33,34,36,37,39}

Karyotype Majority metacentric / submetacentric chromosomes

Chromosome size Small

NOR chromosome(s) 2 - 6

Degree of asymmetry Symmetrical

Image file

22. Banding pattern(s): C-banding, silver staining, Chromomycin A3, Hoechst 33258,

DAPI ^{4,28,37,42}; Orcein, CMA and DAPI ¹⁴

Image file

23. Physical mapping of chromosomes:

In situ hybridization: 18S - 5.8S - 26S and 5S ribosomal gene families ⁴; Repetitive DNA sequences ²⁹

Image file

Fluorescent in situ hybridization: 18S - 5.8S - 26S and 5S ribosomal gene

families ^{5,16,20,27,43}; Telomeric and SSR motifs ³⁵;

Retrotransposable sequences ³⁸

Image file

24. Genomic in situ hybridization:

Image file

25. Linkage map: ^{93, 111 - 131}

Image file

26. Chromosome associations:

Female meiosis

Male meiosis ^{8,11,12,15,18,21,22,32,40,41}

Image file

27. Chromosome distribution at anaphase I: ^{8,11,12,15,21,22,32}

28. Genetic diversity:

Chromosomal level ^{1,12-15,17,19,30,33}

Image file

DNA level ^{44-99, 101-110}

29. Any other information (Apomixis; Inversion; Male sterility; Pollen grain mitosis; Pollen stainability; Translocation etc.): Hind III bacterial artificial chromosome library¹³²