

Species Datasheet

Datasheet No. A-140.002.020
(family.genus.species)

DBT- Network Programme

1. Taxon:

Species: *Vignaradiata*(L.) R. Wilczek

Subspecies:

Variety:

Cultivar:

Hybrid:

Image file:

2. Synonyms: *Azukiaradiata* (L.) Ohwi, *Phaseolusabyssinicus*Savi, *P. aureus*Roxb., *P. aureus* Zuccagni, *P. aureus*Wall., *P. chanetii* (H.Lev.) H.Lev., *P. hirtus* Retz., *P. radiatus* var. *typicus*Prain, *Puerariachanetii*H.Lev., *Ruduaaurea* (Roxb.) F.Maek., *Ruduaaurea* (Roxb.) Maekawa, *Vignaradiata* var. *dublobata* (Roxb.)Verdc., *V. radiata* var. *radiata*

3. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperms
- Clade: Eudicots
- Clade: Rosids
- Order: FabalesBromhead
- Family: FabaceaeLindl.
- Subfamily: Faboideae Rudd
- Genus: *Vigna*Savi
- Species: *V. radiata*(L.) R. Wilczek

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Phanerogamia
Class: Dicotyledons
Subclass: Polypetalae
Series: Calyciflorae
Cohors: RosalesBercht. & J. Presl
Ordo: LeguminosaeJuss.
Subordo: PapilionaceaeGiseke
Genus: *Vigna*Savi
Species: *V. radiata*(L.) R. Wilczek

4. Distribution:

Global: China, India, Sri Lanka, Myanmar, Thailand, Indonesia, and New Guinea.

India: Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Kerala, Maharashtra, Odisha, Tamil Nadu, Uttar Pradesh

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

6. Threat Status:

IUCN:

BSI:

7. Habit and Habitat: An erect or semi-erect branched herb; Naturalized in open wastelands, roadsides, thicket margins, at elevations up to 500 metres

8. Life Form: Therophytes

9. Economic Importance: Pulse crop, mature seed - cooked or sprouted, the dried seeds are boiled and used in a wide range of ways, young seedpods and leaves - cooked

10. Probable Progenitor of: *V. glabrescens*^{148,149}

11. DNA

C-value **Methodology**

2C(2.63 -2.70 pg)Microdensitometer¹⁴

12. Basic chromosome number(s): $x=11$ ^{1,2}

13. Zygotic chromosome number(s): $2n=22$ ^{1,2,4, 5,6,11,14,15,36,37,77,79,93,94}

14. Gametic chromosome number(s): $n=11$ ^{4,79}

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

Image file

16. Ploidy level: Diploid^{1,2,4, 5,6,11,14,15,36,37,77,79,93,94}

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:^{1,2,6,11,15,34,37,77,94}

Karyotype Metacentric/ Submetacentric chromosomes

Chromosome size Small

NOR chromosome(s) 2-4

Degree of asymmetry Symmetrical

Image file

22. Banding pattern(s): CMA/DAPI banding^{5,37,93}; C-banding³⁶

Image file

23. Physical mapping of chromosomes:

In situ hybridization

Image file

Fluorescent in situ hybridization: 18S - 5.8S - 26S and 5S ribosomal gene families^{6,37,94}

Image file

24. Genomic in situ hybridization:⁶

Image file

25. Linkage map:⁹⁵⁻⁹⁷

Image file

26. Chromosome associations:

Female meiosis

Male meiosis: 1111^{4,79}

Image file

27. Chromosome distribution at anaphase I: 11:11⁴

28. Genetic diversity:

Chromosomal level^{34,93}

DNA level^{8,9,10,21,22,50,59,60,61,63,68,90,98- 124}

29. Any other information (Apoixis; Inversion; Male sterility; Pollen grain mitosis;

Pollen stainability; Translocations etc.): Pollen stainability: 82-99%⁴