

Genus Datasheet

Datasheet No. A-076.002

DBT- Network

Programme

1. Genus: *Areca* L.
(Family: *Areca*)

2. Systematic Position:

APG IV (2016)

- Kingdom: Plantae
- Clade: Angiosperm
- Clade: Monocot
- Clade: Commelinids
- Order: Arecales Bromhead
- Family: Arecaceae Bercht. & J. Presl
- Subfamily: Arecoideae Burnett
- Genus: *Areca* L.

Bentham and Hooker (1862)

Kingdom: Plantae
Division: Spermatophyta
Class: Monocotyledon
Series: Calycinae
Ordo: Palmae Juss.
Genus: *Areca* L.

3. Species:

Global: 45

India: 2

4. Taxonomic riddles:

5. Distribution:

Global: From India to South China through Malesia to New Guinea and Solomon Islands, Sri Lanka

India: Andaman and Nicobar Islands, Assam, Northeastern India, West coast of India.

6. Habit and Habitat: Stems solitary or cluster forming, erect monoecious palms; temperate mixed forests

7. Economic Importance: *Areca catechu* is economically important and widely cultivated sometimes on a plantation scale, The endosperm is chewed with leaves or inflorescences of *Piper betle* L., lime and other ingredients; it contains the alkaloid arecaine, which acts as a mild narcotic. Several species are cultivated as ornamentals.

8. DNA content range:

4C (24.04 pg)¹⁹

4C (24.35 pg)¹⁹

Methodology:

Feulgen micro-densitometry¹⁹

Feulgen micro-densitometry¹⁹

9. Basic chromosome number(s): $x=7^5$

$x=16^{15}$

10. Zygotic chromosome number (s): $2n=32^{1, 2, 3, 4, 5, 6, 7, 8, 15, 16, 17, 19}$

11. Gametic chromosome number (s): $n=16^{3, 5, 9, 10, 16}$

12. Specialized chromosomes (B chromosomes/Sex chromosomes/Polytene chromosomes/ N chromosomes):

13. Ploidy level:

14. Nature of polyploidy (auto, segmental, allo, autoallo): Secondary allotetraploid⁵; Autopol

15. Aberrant chromosome number(s) (aneuploidy, aneusomaty, polysomaty): Somatic cells chromosomes number $2n=12^3$, $2n=16^3$, $2n=24^3$

16. Karyograms:^{2, 3, 6}

Meiosis:

17. Banding pattern(s):

18. Physical mapping of chromosomes:

GISH:

19. Phylogenetic relationship at Chromosomal; DNA level: DNA level²⁰

20. Cytogenetic mechanism (s) underlying evolution: Secondary allotetraploid origin for *Arec* been suggested on basis of behavior of chromosomes at meiosis⁵. The chromosome associations probability of autopolyploid origin of *Areca catechu* and *A. triandra* with restricted multivalent]

21. Linkage map:

22. Any other information: