

B-CHROMOSOME

Study Material for

B.Sc. Part II

Botany Hons.

Paper IV

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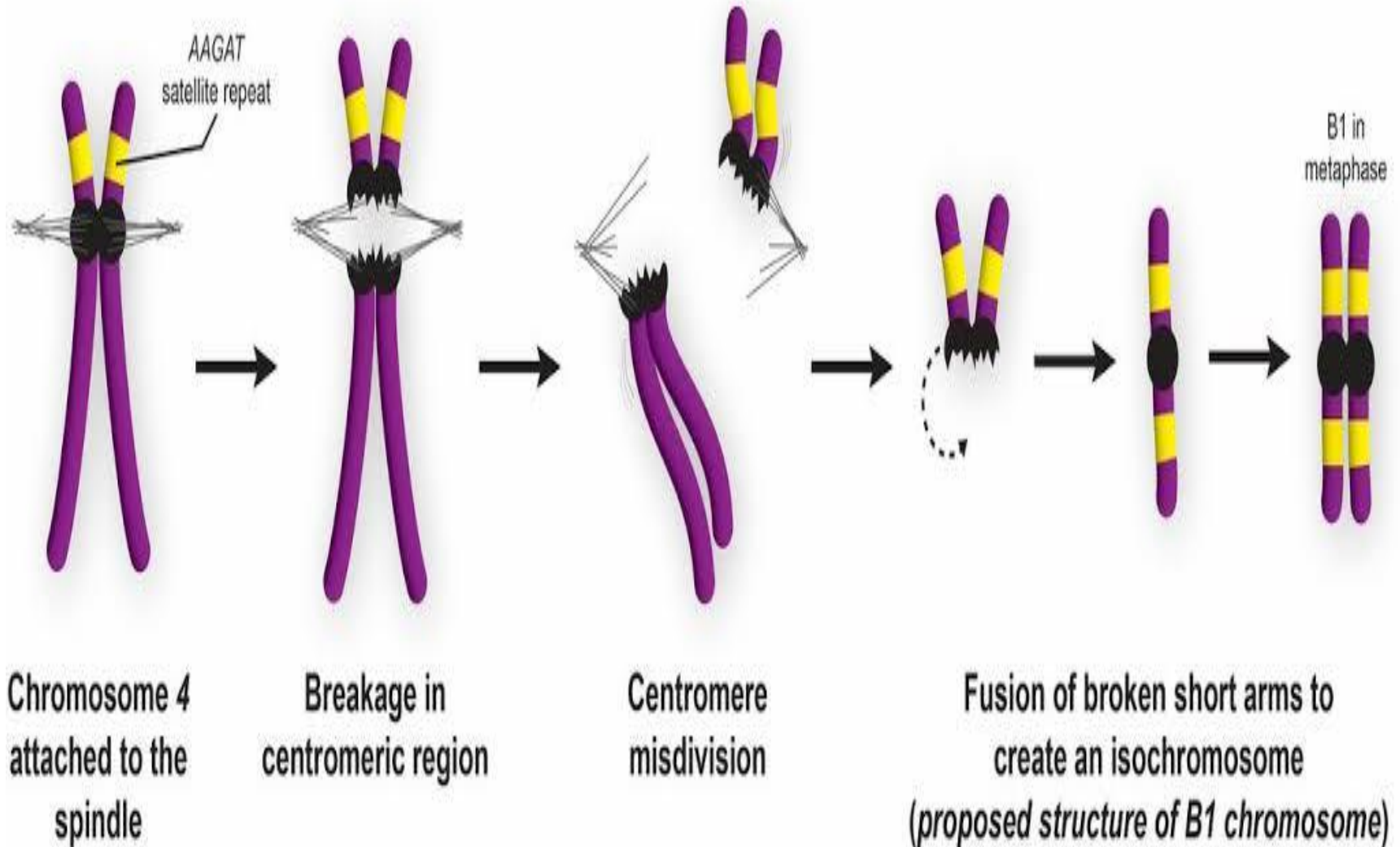
B-CHROMOSOME

- B- Chromosomes are also a special type of chromosome
- These are also known as **SUPERNUMERARY CHROMOSOMES**
- They are also referred as “**marker**” chromosomes
- B- chromosomes are found in the natural populations of many plants and animals
- In plants B-chromosomes have been reported in more than 1000 species distributed over Bryophytes, ferns, gymnosperms and angiosperms
- Mostly traced in out breeding plants
- In more than 200 species of family Poaceae, B-chromosomes have been observed
- B-chromosomes may remain absent due to adaptation in plants or cytogenetic selection
- These chromosomes appear in numerous number due to non-disjunction of pollen mitosis

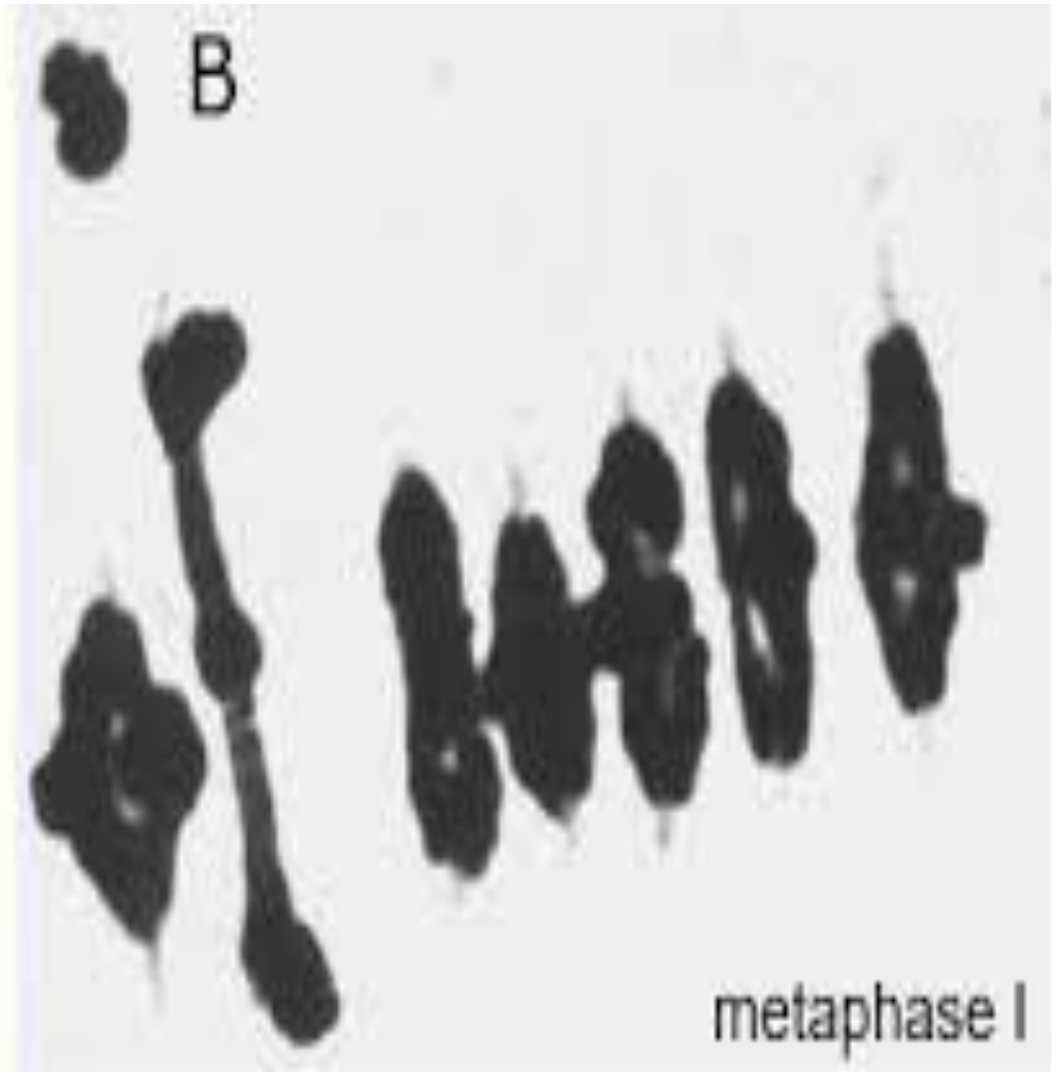
Properties of B- Chromosomes

- They are dispensable
- Non-homologous to any of the basic A chromosomes
- Inheritance is non- Mendelian
- Smaller in dimension than Normal A chromosomes
- They have unique pattern of Heterochromatin distribution
- They are genetically inert
- They act as carrier of functional genetic material
- Organizes nucleoli
- When these chromosomes are present in high number they suppress vigour and fertility
- Their origin and function are yet under research processes

Structure of B-Chromosome



Structure of B-Chromosome



Significance of B- Chromosome

- It affects seed and pollen fertility
- Flowering time is delayed
- Vegetative growth of plant is also get adversely affected due to presence of these chromosomes
- It also affects the pairing of A chromosome resulting in species hybrid
- It suppress or promote meiotic pairing in intergeneric or interspecific hybrids

B-CHROMOSOME

- Students are requested to share their queries on whatsapp group of class: **MMC botany(D2)**

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