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MACROEVOLUTION

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Macro-evolution

- Changes at "species level." (Speciation)

What do you mean by "Species" ???



"Biological species concept"

"Dobzhansky and Mayer"

Various Concepts of Species :

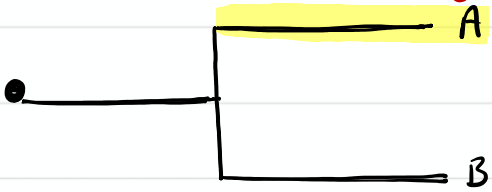
1. Morphological species Concept : Linnaeus
   "Individuals with similar morphology should called same species"

2. Genetic species concept : Lotsey
   "Individuals with identical genetic content"
   or
   "Individuals with similar genetic content"

3. Ecological Species concept : Van Valen.
   "Individualy which share common Ecological space occupy"

4. Evolutionary Species Concept: Wiley

"Individual's of Single lineage"



5. Sibling "Species": Individuals with similar morphology but reproductively isolated.

Macro-evolution

1. Morphological changes

2. Reproductive isolation → "Types"

↓

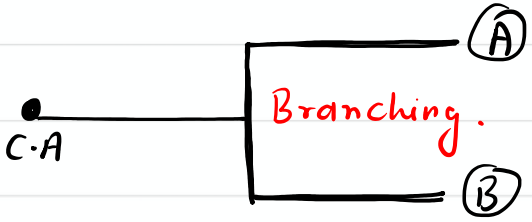
Speciation → Phenomenon's lead's to speciation.

Pattern's of Spaciation :

1. Anagenesis : "Speciation without branching" Sp.A → → → → Sp.B.

2. Stasis : "No speciation"

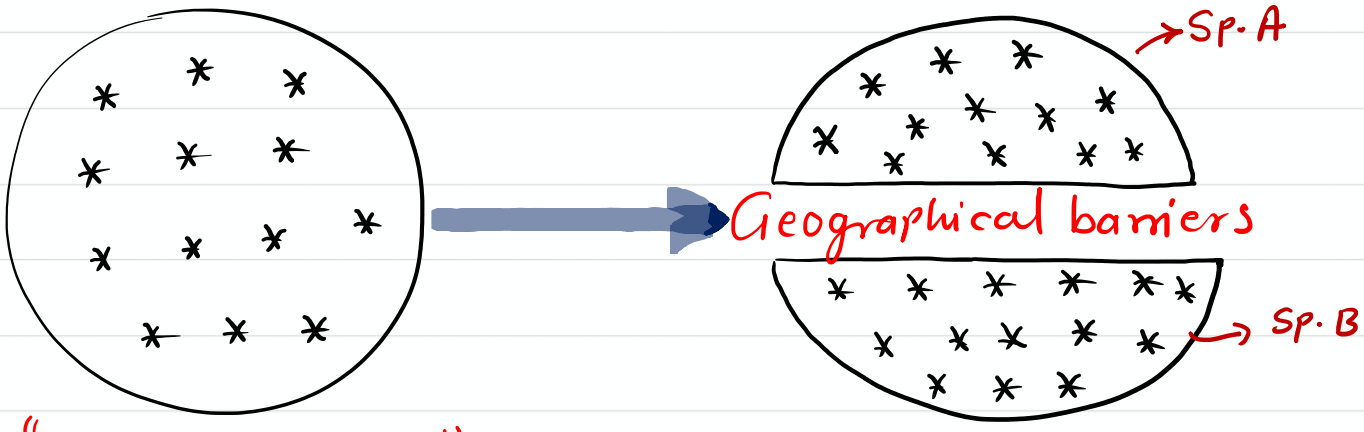
3. Cladogenesis : "Speciation with brancling"



Mode of Speciation :

1. Allopatric Speciation : " Separation population in to two Habitats due to Geographical barrier's "

Diff. Place/space/Habitat

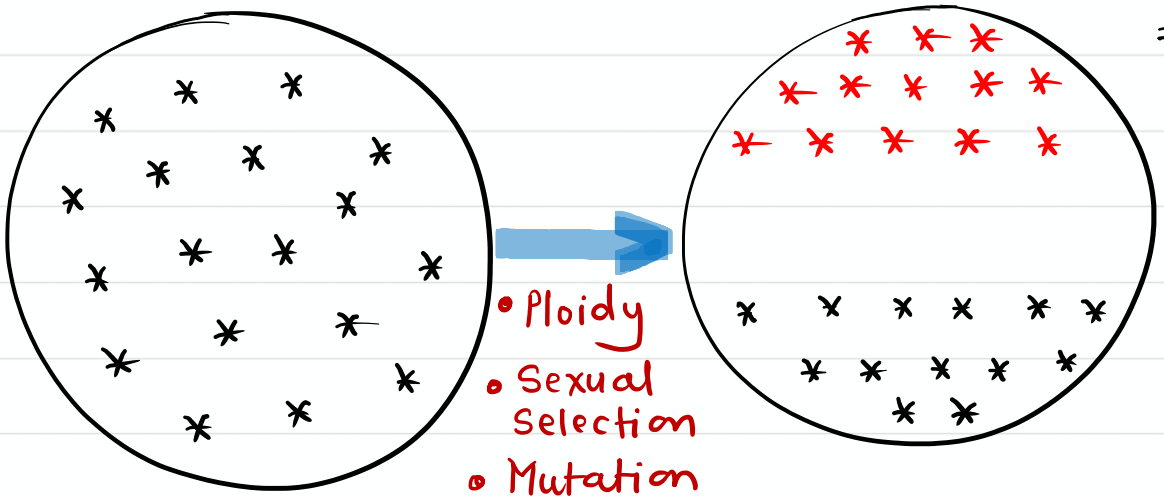


" Most Common "

2. Sympatric speciation: least common possible type of speciation

Same Space

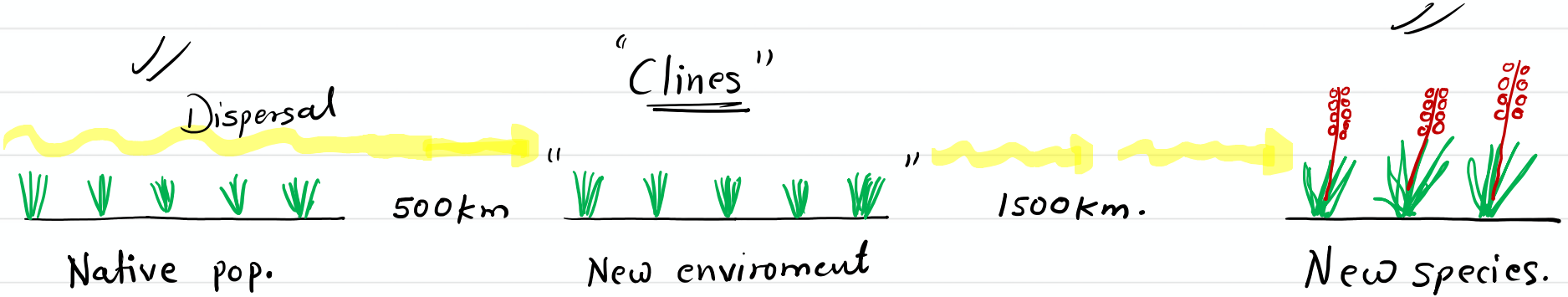
"#No geographical barrier"



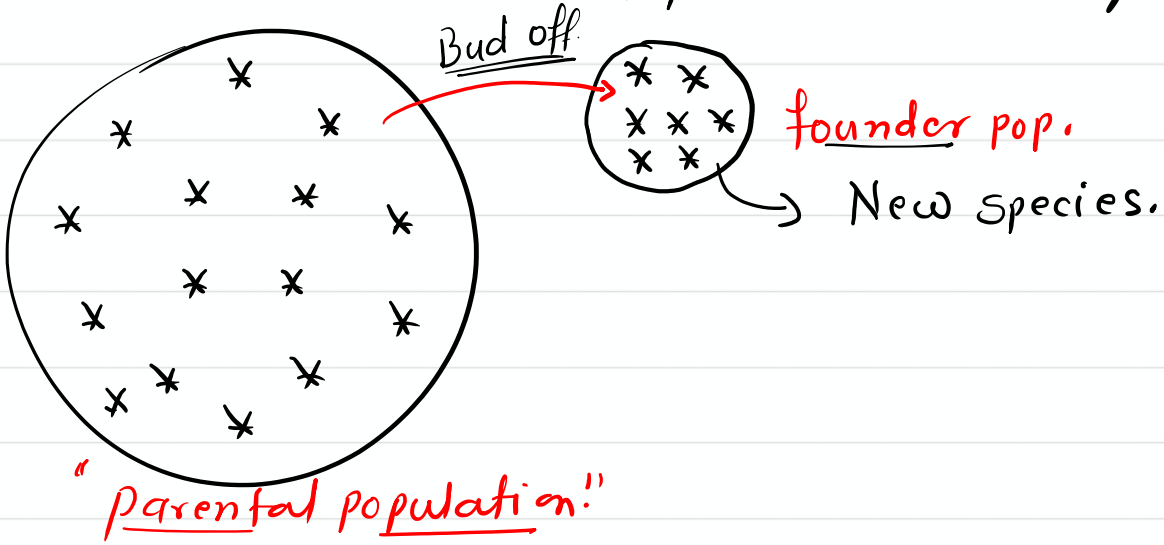
- Ploidy
- Sexual selection
- Mutation
- Niche separation.

3. Parapatric speciation :

away space → Successional / continuous dispersion.



4. Peripatric Speciation : A process of speciation in which Small population break from large population.



Reproductive isolation

I. Pre-zygotic isolation

- No zygote formation
- No mating

I. Ecological / Habitat isolation.
II. Ethological isolation.
III. Temporal isolation
IV. Mechanical isolation
V. Gametic isolation

II. Post-zygotic isolation

- Zygote formation
- but no further development.
- mating is possible.

I. Zygotic inviability
II. Embryo inviability
III. Hybrid inviability
IV. Hybrid sterile. (mule)

HAPPY LEARNING

THANKS

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