

Generally they are aerobic in nature \leftarrow Fungi \rightarrow These are Member of eukaryotic organisms

It include microorg. such as yeast, Mold, Mushroom, etc.

— They were 1st Identified by 'Agostino Bassi' (Bacteriologist) in 1835.

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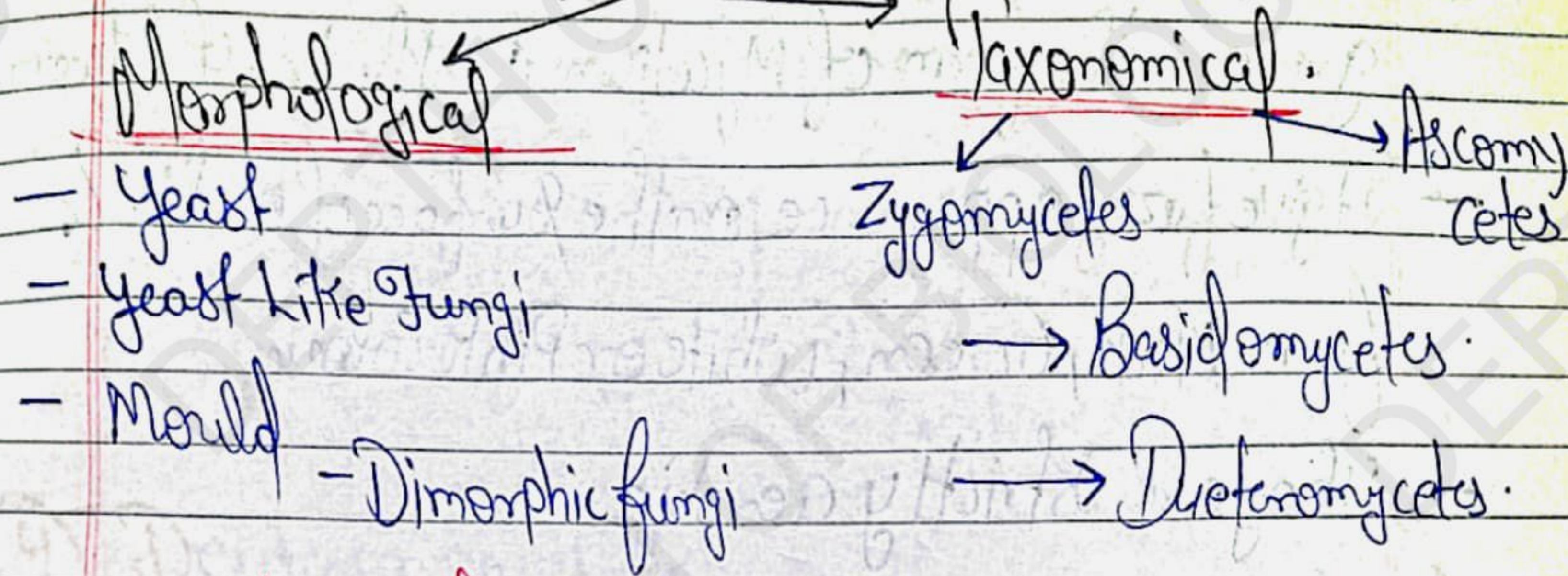
— Study of Fungi = Mycology.

Comparison of Fungi & Bacteria \Rightarrow

<u>Characteristic</u>	<u>Fungi</u>	<u>Bacteria</u>
① Cell type	Eukaryotic	Prokaryotic
② optimum pH	4-6	6.5-7.5
③ Cell Membr.	sterol cont	— except Mycoplasma
④ Oxygen requirement	Aerobic	Aerobic & Anaerobic
⑤ Cell wall Component	Chitin, Polysachride	Peptidoglycan & polysachride

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Classification of Fungi ⇒



* Morphological Classification ⇒

① Yeast → They are Round, Oval, Unicellular fungi

generally → It contain only single cell • [DEPTH OF BIOLOGY]

they are aerobic

eg → *Sachromyces*; *Cryptococcus Neoformans*

② Yeast like Fungi ⇒

- *Candida Albicans* is the good example of Yeast like.

- In this the Bud remain attach to Mother Cell & elongated followed by repeated budding & form a chain of

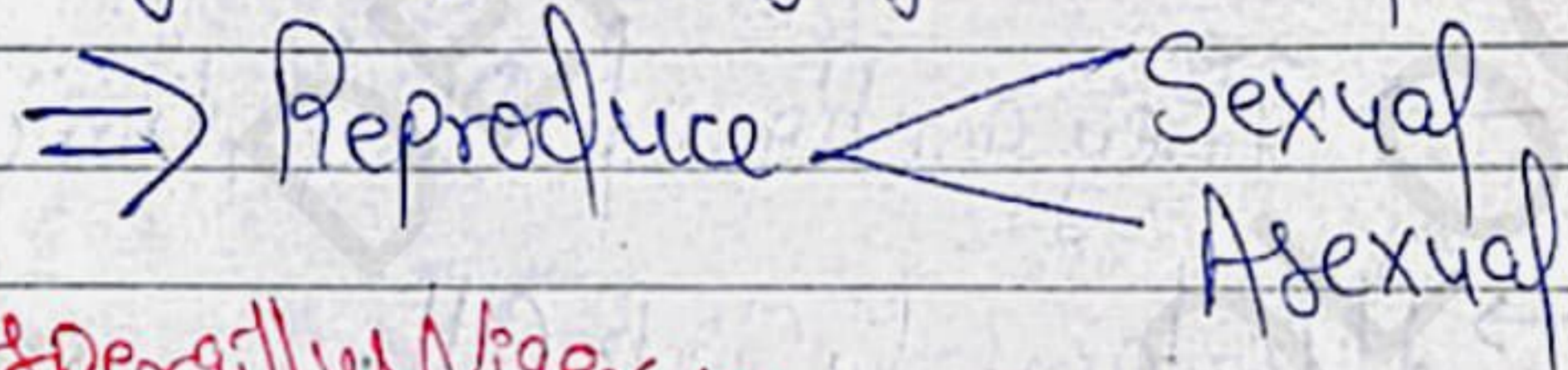
elongated cell of fungi → Pseudohyphae

③ Molds \Rightarrow It contains Multiple Identical Nuclei & grows in the form of Mycelium or Hyphae of filaments.

- It give fuzzy appearance on the surface of Media & form Black, Green, white or Pink colour.
- They are strictly aerobic.

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- They are generally grow under $22-28^{\circ}\text{C}$

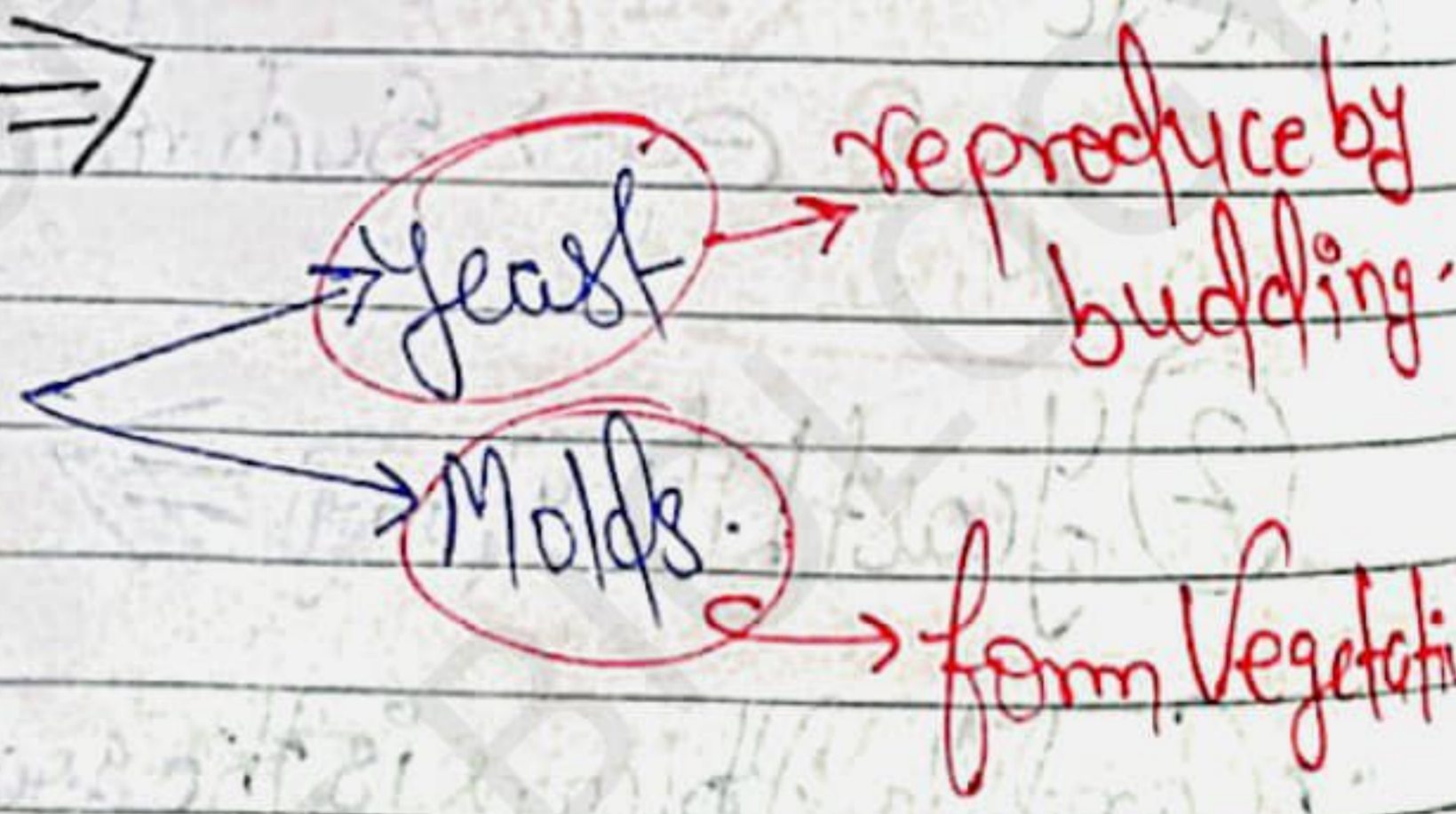


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eg \Rightarrow *Aspergillus Niger*, *Aspergillus Fumigatus*.

④ Dimorphic Fungi \Rightarrow

Exist in 2 forms



eg \Rightarrow *Mucor rouxii*, *Histoplasma Capsulatum*.

Taxonomical \Rightarrow

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① Zygomycetes \rightarrow form Asexual spore. i.e. sporangio spore

& Sexual spore i.e. oospores, Zygosporangia.

② Zygomycetes \Rightarrow They form Ascospore in a sac called ascus by sexual process.

③ Basidiomycetes \Rightarrow They form Sexual spore called Basidiospore on the tip or surface of Basidium.

④ Deuteromycetes \Rightarrow

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\hookrightarrow They do not produce Sexual spore.

— Most of fungi of Medical Importance belong to this class.

Reproduction In fungi.

Sexual

Asexual

Vegetative spore

Aerial spore

— Blastospores

— Conidiospores

— Arthrospores

— Phialospore

— Chlamydospores.

Sexual reprodⁿ in fungi ⇒ take place b/w:
In Sexual reprodⁿ ~~two diff. cell~~ two diff. cell (Male & female) called Plasmogamy followed by fusion of two Nuclei called Karyogamy as a result. Zygote is formed with formation of Sexual spore.

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Asexual reprodⁿ in fungi ⇒
Fungi which are Medically Importance. Mostly produce by this Method.
- They produce diff. Asexual spores by Mitosis.

Vegetative Spore ⇒

① Blastospores → form by budding process from Parent cell as in the yeast.

② Arthrospores → This is the rectangular or cuboidal thick wall spores which is formed by fragmentation of the end of hyphae.

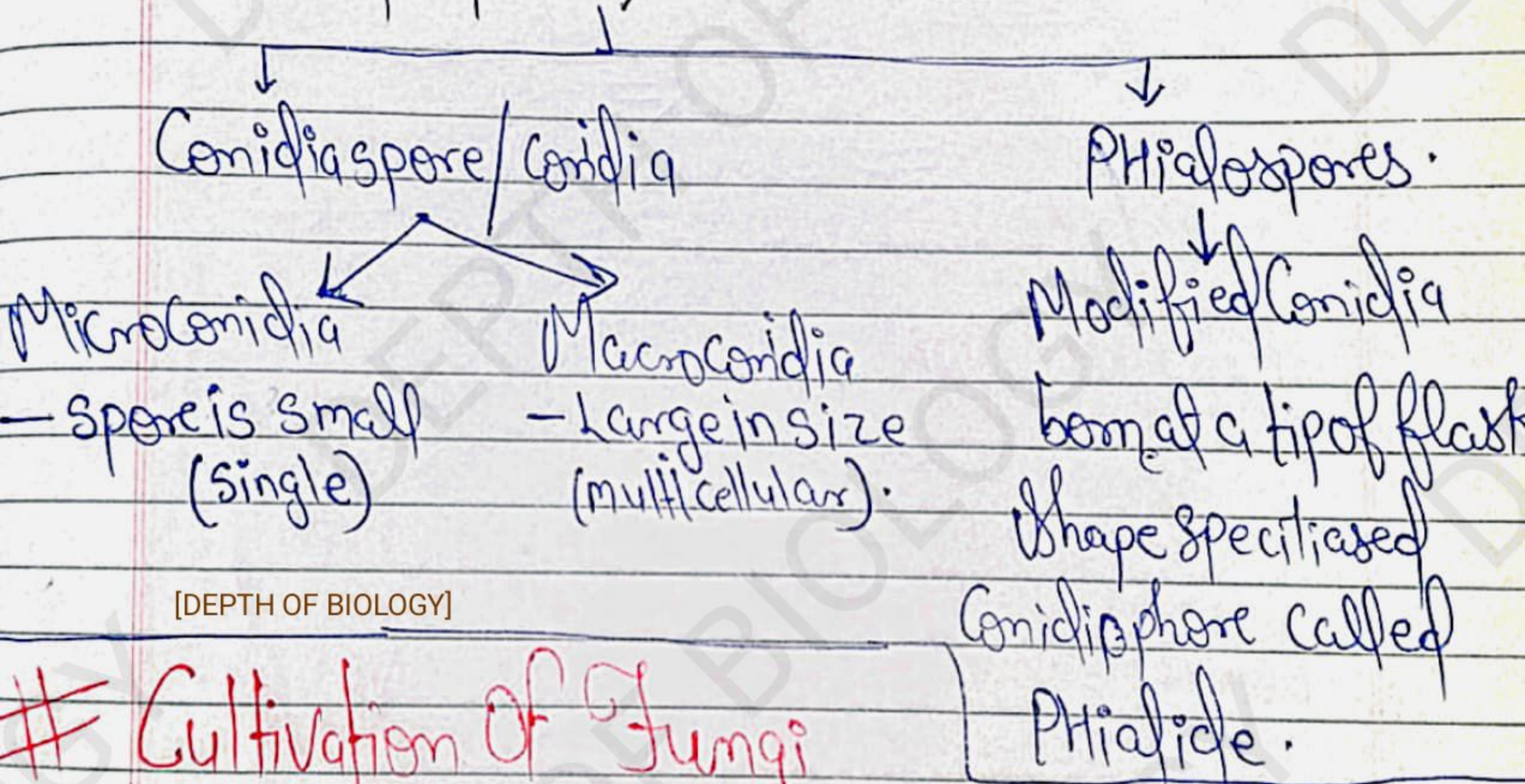
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③ Chlamydo~~spore~~ ⇒

These are thick walled resting spore which develop from hyphae after long dormancy.

Aerial Spore ⇒

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Cultivation of Fungi

Sabouraud Agar is a type of Agar (Growth Media containing Peptone) Used to cultivate fungi.

⇒ It was developed by Raymond Sabouraud in ^{Year} 1892

- The stand Temp. for Incubation of fungi is 30°C at humidified environment for 21 days.

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- After this Incubation for 21 days the colony of fungi form in culture media.