

ASCOMYCOTA CLASSIFICATION

SUBKINGDOM – EUMYCOTERA/DIKARYOMYCOTA

PHYLUM - ASCOMYCOTA

SUBPHYLUM - HEMIASCOMYCOTINA/SACCHAROMYCOTINA*

CLASS - HEMIASCOMYCETES/SACCHAROMYCETES

ORDER - SACCHAROMYCETALES

SUBPHYLUM - ARCHIASCOMYCOTINA/TAPHRENOMYCOTINA**

CLASS – ARCHIASCOMYCETES/TAPHRENOMYCETES

ORDER - SCHIZOSACCHAROMYCETALES

ORDER - PNEUMOCYSTIDALES

ORDER- TAPHRINALES

SUBPHYLUM - EUASCOMYCOTINA/PEZIZOMYCOTINA*** = ASCOCARP

TYPE****

CLASS - PLECTOMYCETES/EUROTOMYCETES

CLEISTOTHECIUM

CLASS - PYRENOMYCETES/SORDARIOMYCETES

PERITHECIUM

CLASS - DISCOMYCETES/PEZIZOMYCETES

APOTHECIUM

CLASS - LOCULOASCOMYCETES/ DOTHIDIOMYCETES*****

LOCULOASCOSTROMA

& CHAETOTHYRIOMYCETES*****

CLASS - LICHENOMYCETES

*Hemiascomycotina = nonascocarpic ascomycetes I

**Archiascomycotina = nonascocarpic ascomycetes II

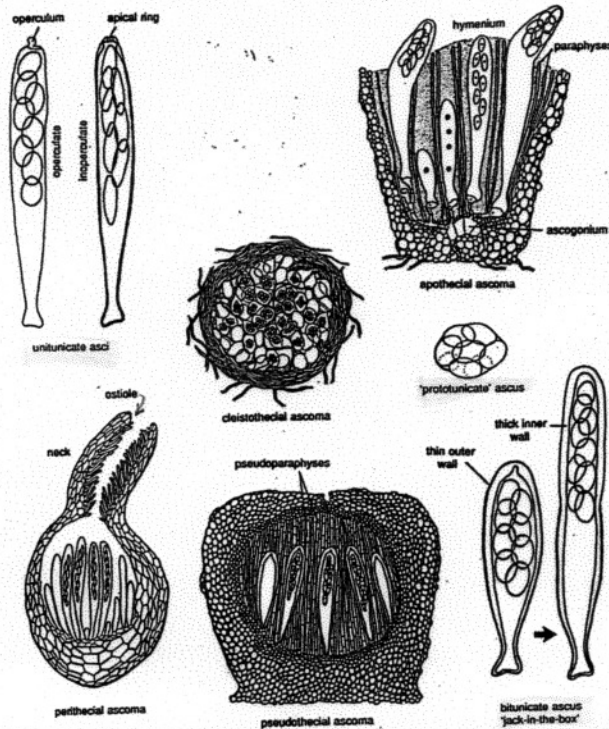
***Euascomycotina = ascocarpic ascomycetes

****ascocarp/ascoma = multihyphal aggregate in/on which asci form.

***** Loculoascomycetes I

***** Loculoascomycetes II

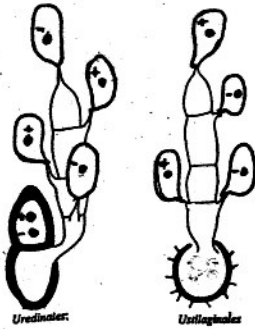
*Euascomycotina = ascocarps (ascoma)



BASIDIOMYCOTA CLASSIFICATION

- Phylum - Basidiomycota
- Subphylum - Heterobasidiomycotina*, **
- Class - Urediniomycetes/Teliomycetes (rusts)
- Order - Uredinales
- Class - Ustomycetes (smuts)/Ustilaginomycetes
- Order - Ustilaginales

*basidia from teliospores (dikaryotic spores) ***
 **no "mushroom-like" basidiocarps

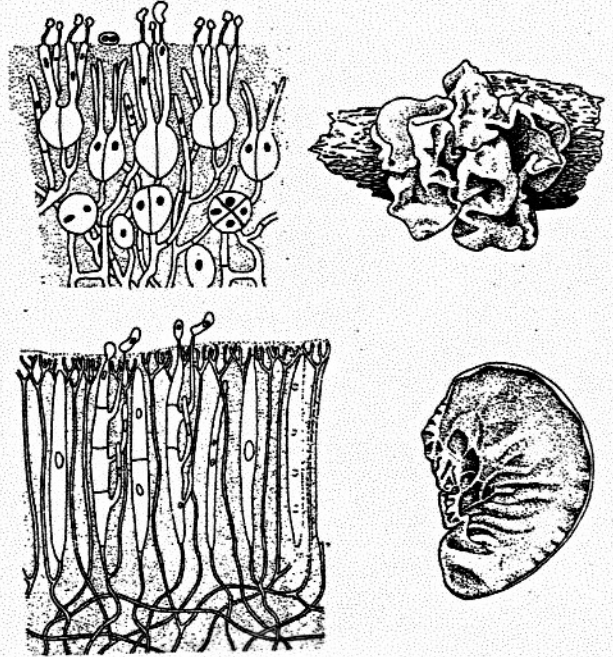


*** dikaryotic spore (N+N) → karyogamy (2N)
 germination + meiosis (1N)

see notes pg 11
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BASIDIOMYCOTA CLASSIFICATION - (continued)

- Subphylum - Holobasidiomycotina
- Class - Phragmobasidiomycetes (jelly fungi; septate basidial fungi)
- Order - Tremellales (some have "cruciate septate" basidia)
- Order - Auriculariales (have transversely septate basidia)



see notes pg 11
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BASIDIOMYCOTA CLASSIFICATION
 (continued)

- Class - Holobasidiomycetes***, ****,
 (about 20 to 25 orders that include many poisonous "mushrooms/toadstools")
- Order - Dacrymycetales (have "tuning fork-type" basidia)
- Order - Tulasnellales (have holobasidia with swollen sterigmata)
- Order - Schizophyllariales
- Order - Agaricales (gill fungi)
- Order - Lycoperdales (puffballs)
- Order - Porales (woody pore fungi)
- etc.

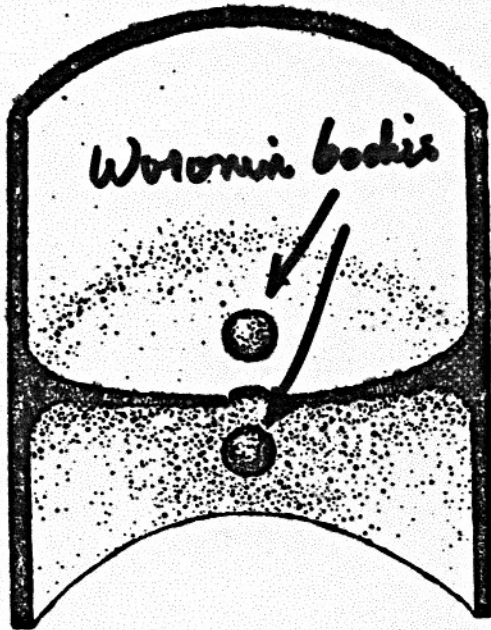
***most have different kinds of woody or nonwoody mushroom-like basidiocarp

****most have typical holobasidium

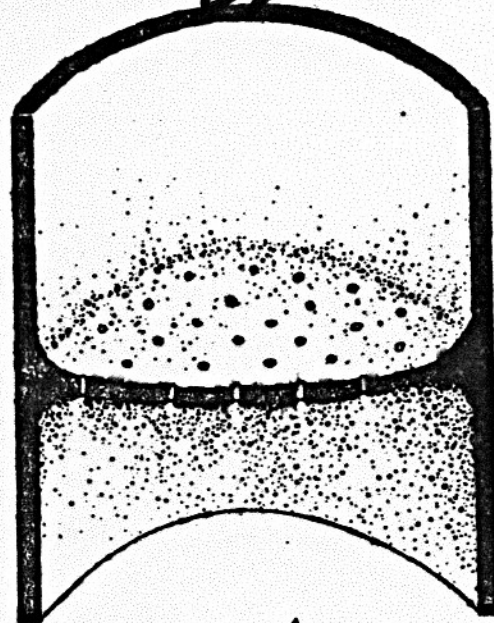


see notes pg 11
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Some Hyphal Septal Types



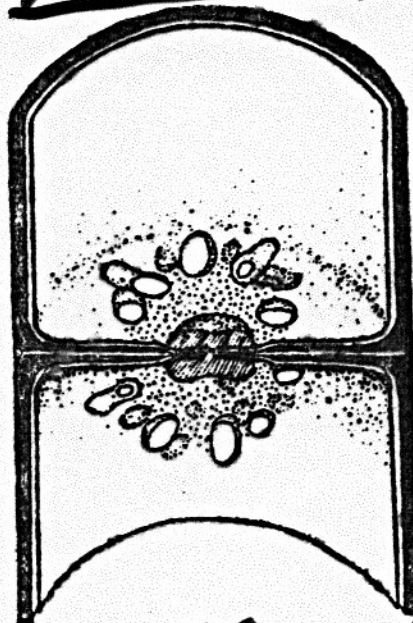
Simple septum
(Ascomycota)



Multiple
Septum
Geotrichum



dolipore



pulley wheel
Basidiomycota

Fig. 5.1 Types of fungal septa. A: ascomycete - with simple pore and Woronin bodies; B: saccharomycete - with micropores; C: holobasidiomycete - with dolipore and parenthosome; D: teliomycete - with pulleywheel occlusion.

See K-C+B pg 17.

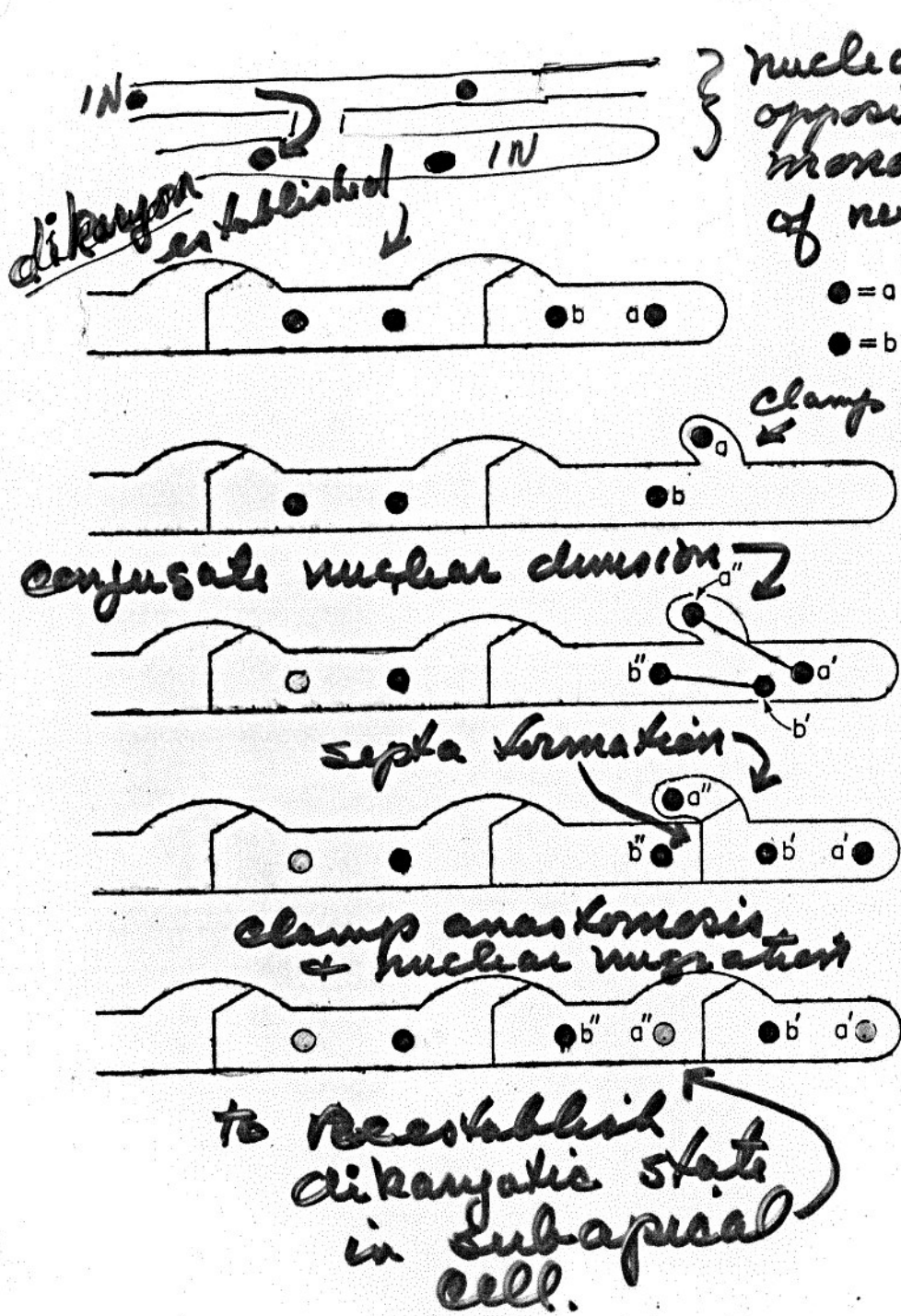


Fig. 5-2. (left) Steps in the formation of a clamp connection. See text for the explanation.

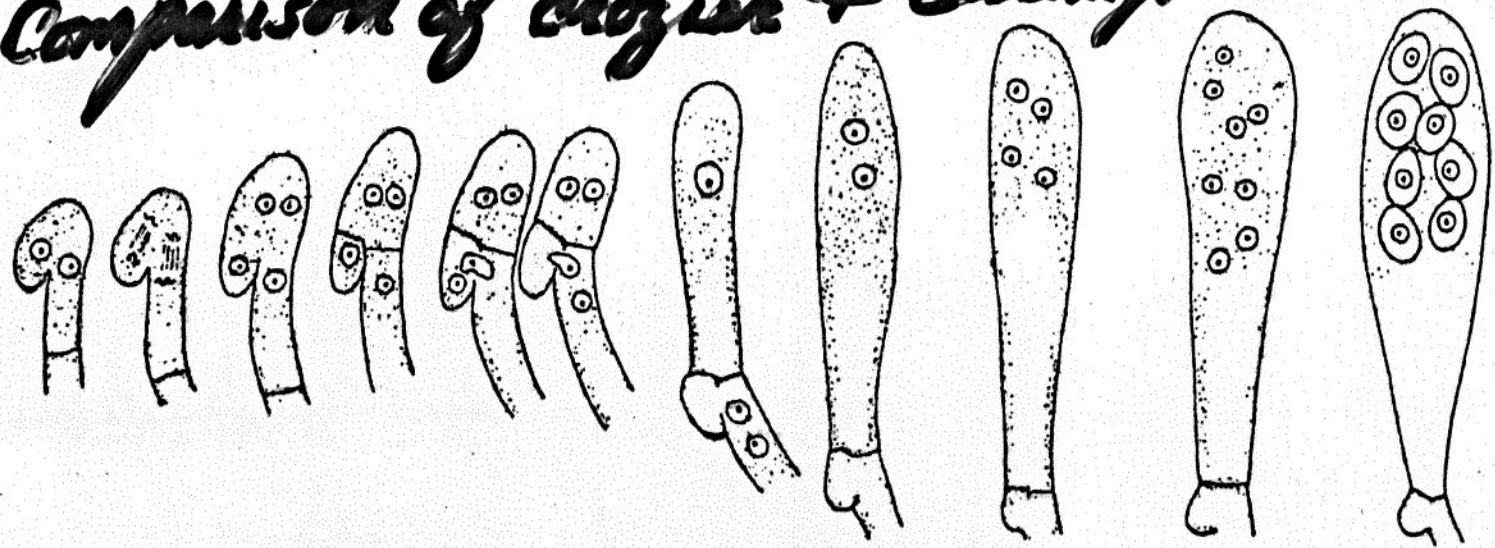
Clamp
perpetuation
of dikaryotic
condition
Basidiomycota

see M-L
pp 160-163
see K-O & B also
pg 17!

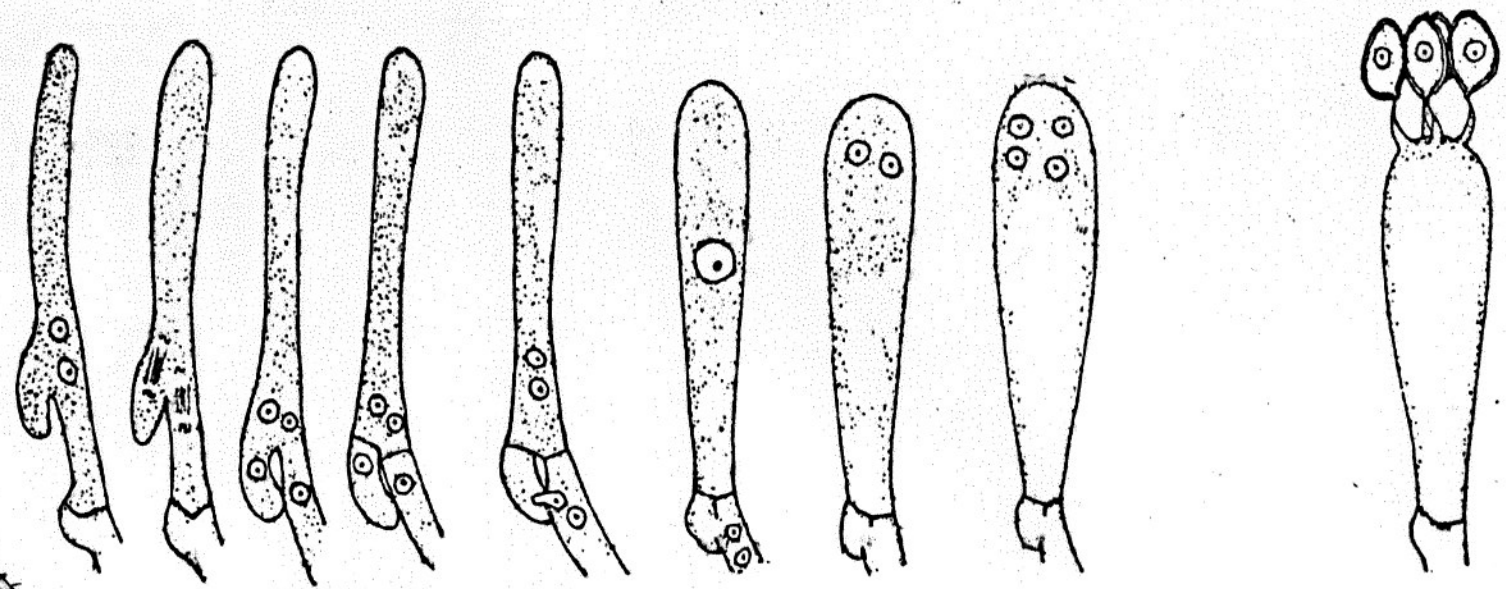
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Dikaryomycota?

Comparison of crozier & clamp formation



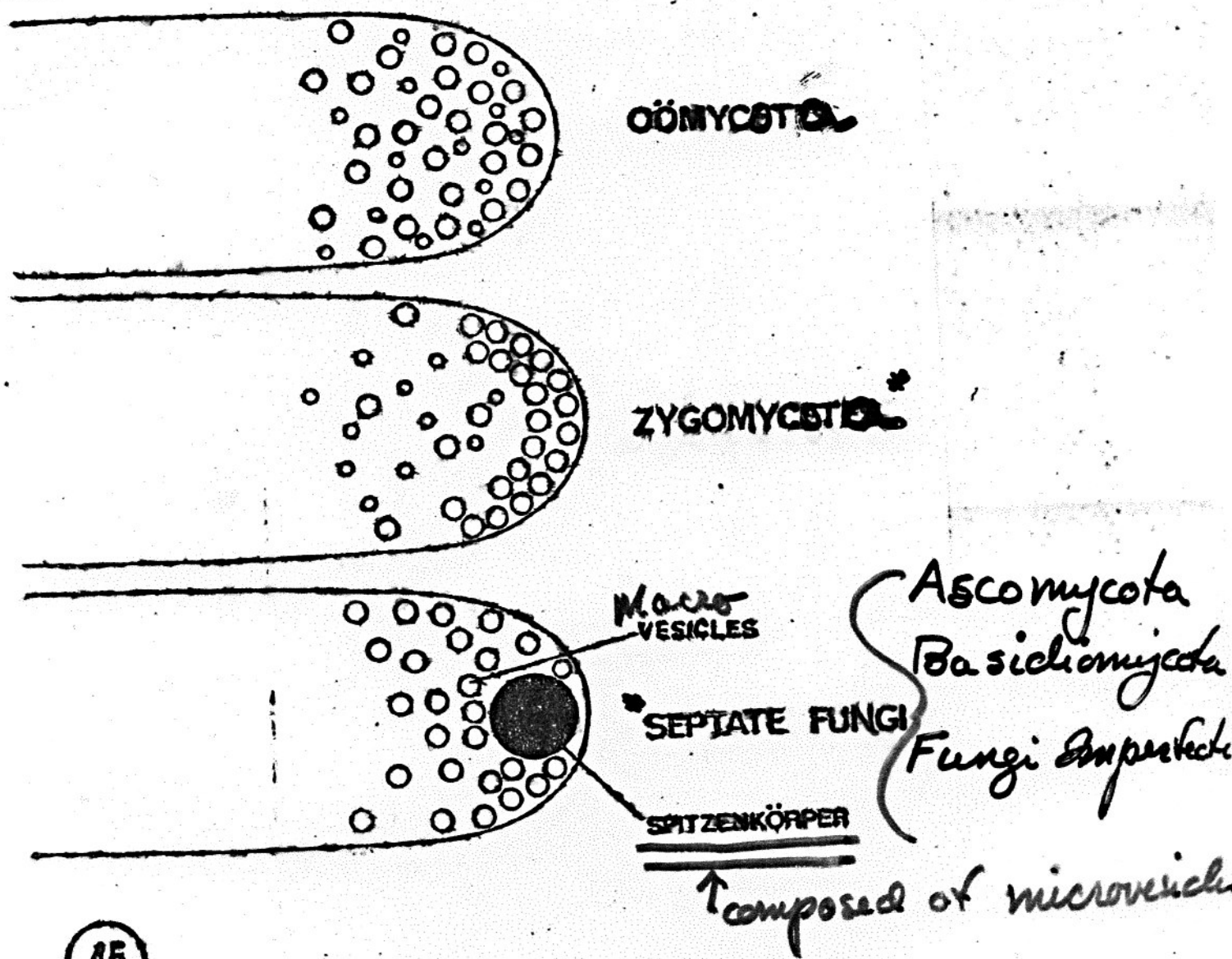
Euscomycotina



Ablobasidionmycotina

From K&C + B
Pg 15





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FIG. 45. Diagrammatic comparisons of the principal forms of apical organization in hyphae, based on representatives from major taxonomic groups.

*Hyphal tip ultrastructure
& its relationship to "fungal"
taxonomy*