



MICROBIOLOGIA

Ascomycota

Basidiomycota

Classificação dos “Fungos”

1. Reino Cromista (Stramenopila)

Oomicetos (Oomycota)

2. Reino dos Fungos (Fungi)

Zigomicetos (Zygomycota)

Ascomicetos (Ascomycota)

Basidiomicetos (Basidiomycota)

“Fungos anamórficos”

3. Reino Protozoa

Myxogastrea

Phytomyxea

Classificação dos “Fungos”

- **Cromista (Stramenopila)**

Hifas não septadas, zoósporos, celulose na parede celular

Oomicetos

- **Fungos** – (esporos imóveis, β -glucana e quitina na parede)

1. Hifas não septadas, reprodução assexuada por aplanósporos

1'. Hifas septadas – 2

Zigomicetos

2. Reprodução sexuada presente – 3

2'. Reprodução sexuada ausente

Fungos anamórficos

3. Produção de esporos sexuais endógenos

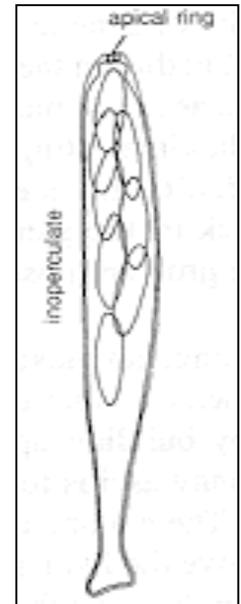
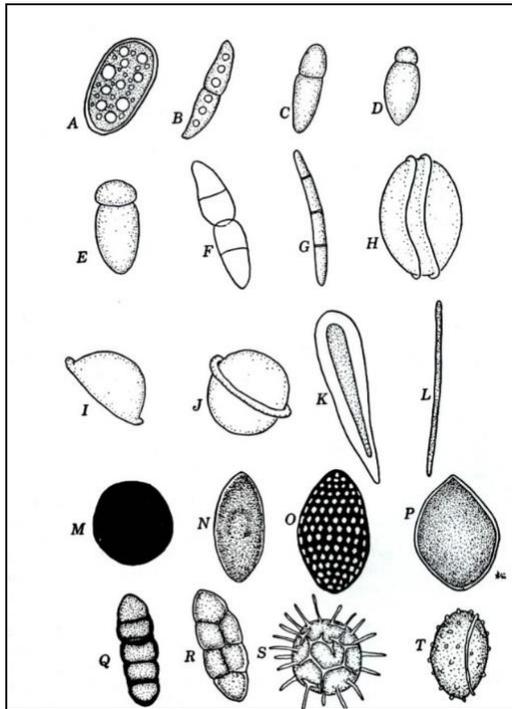
Ascomicetos

3'. Produção de esporos sexuais exógenos

Basidiomicetos

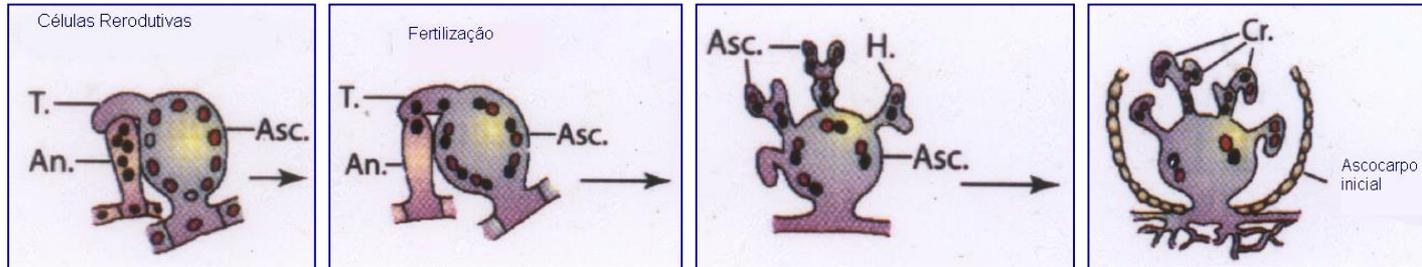
Ascomicetos

Ascosporas (ascas) células hifálicas que originam e contêm os ascósporos (“asco” = saco)

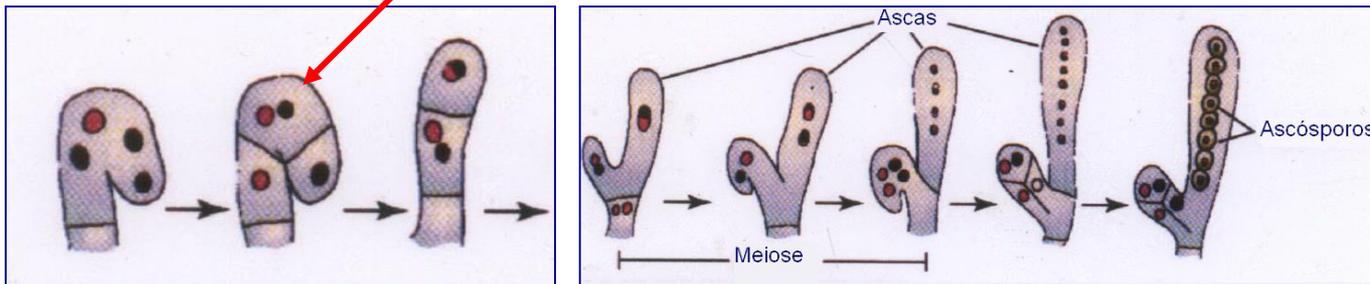


Ascósporas: esporos sexuais (haplóides) formados no interior de um asco

como são formados os ascósporos?



**célula mãe
do asco**



An. = anterídio

Asc. = ascogônio

T. = tricógino

Cr. “crozier” = célula mãe do asco

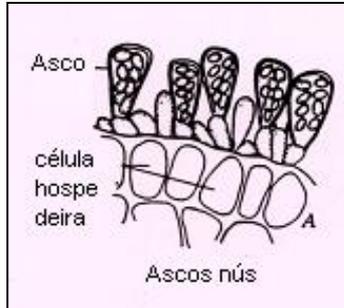


Corpos de frutificação

(ascocarpos = ascomas)

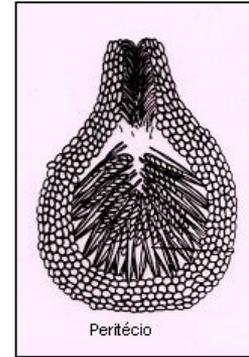
Ausentes

(ascos nus)



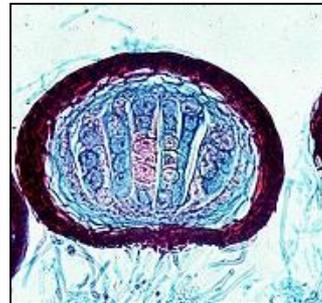
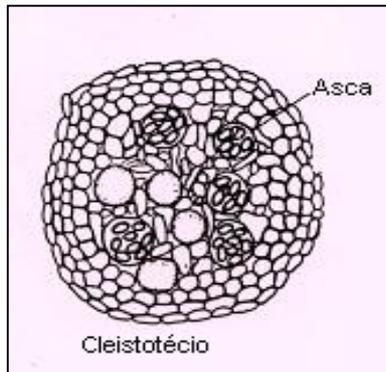
Peritécio

(ostíolo)



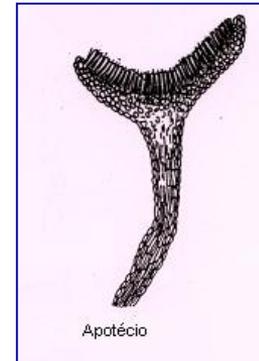
Cleistotécio

(fechado)



Apotécio

(aberto)

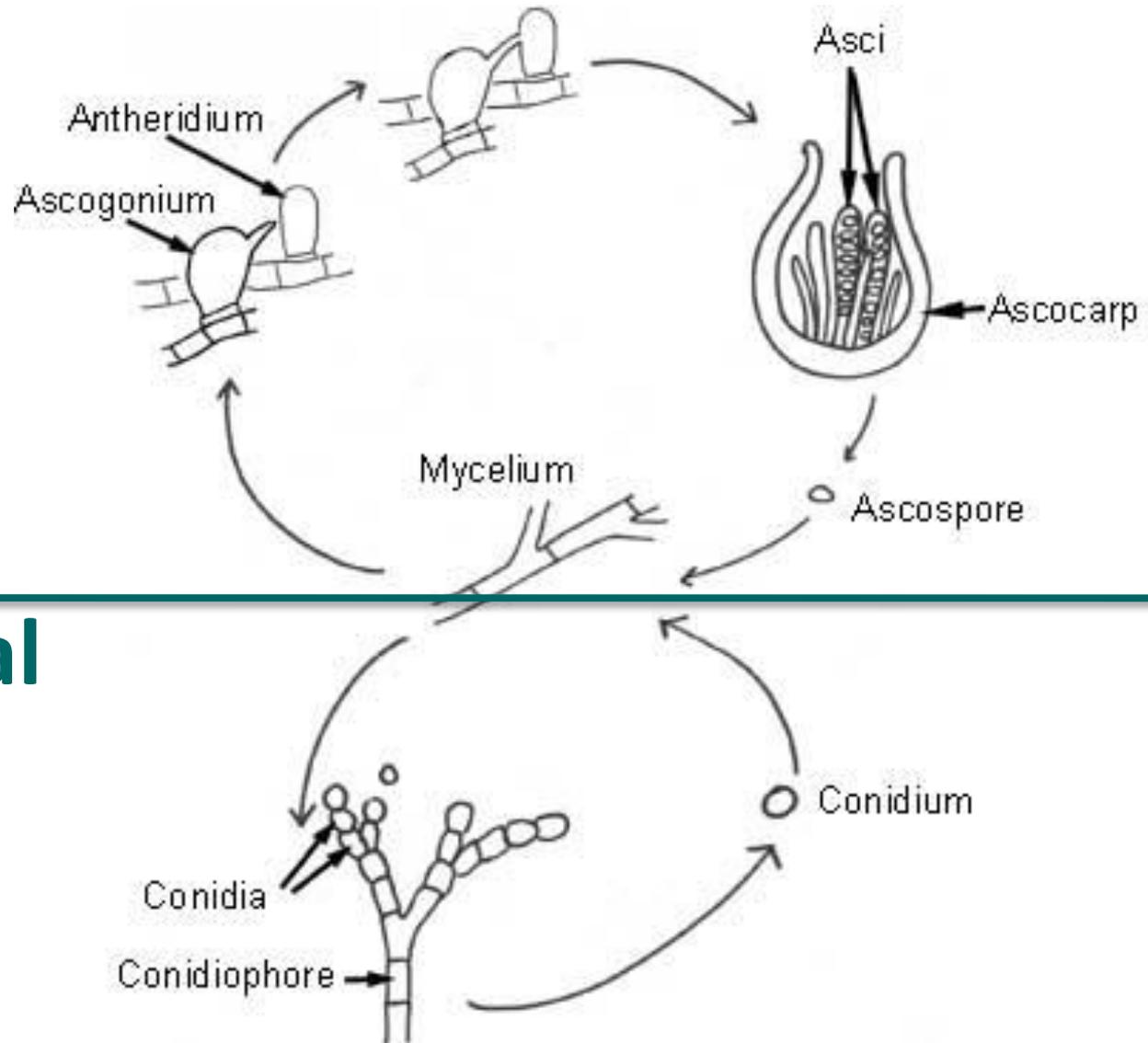


**esporos
sexuais
endógenos**

Ascostroma
(lóculos em estroma)



Ciclo de vida de um Ascomiceto

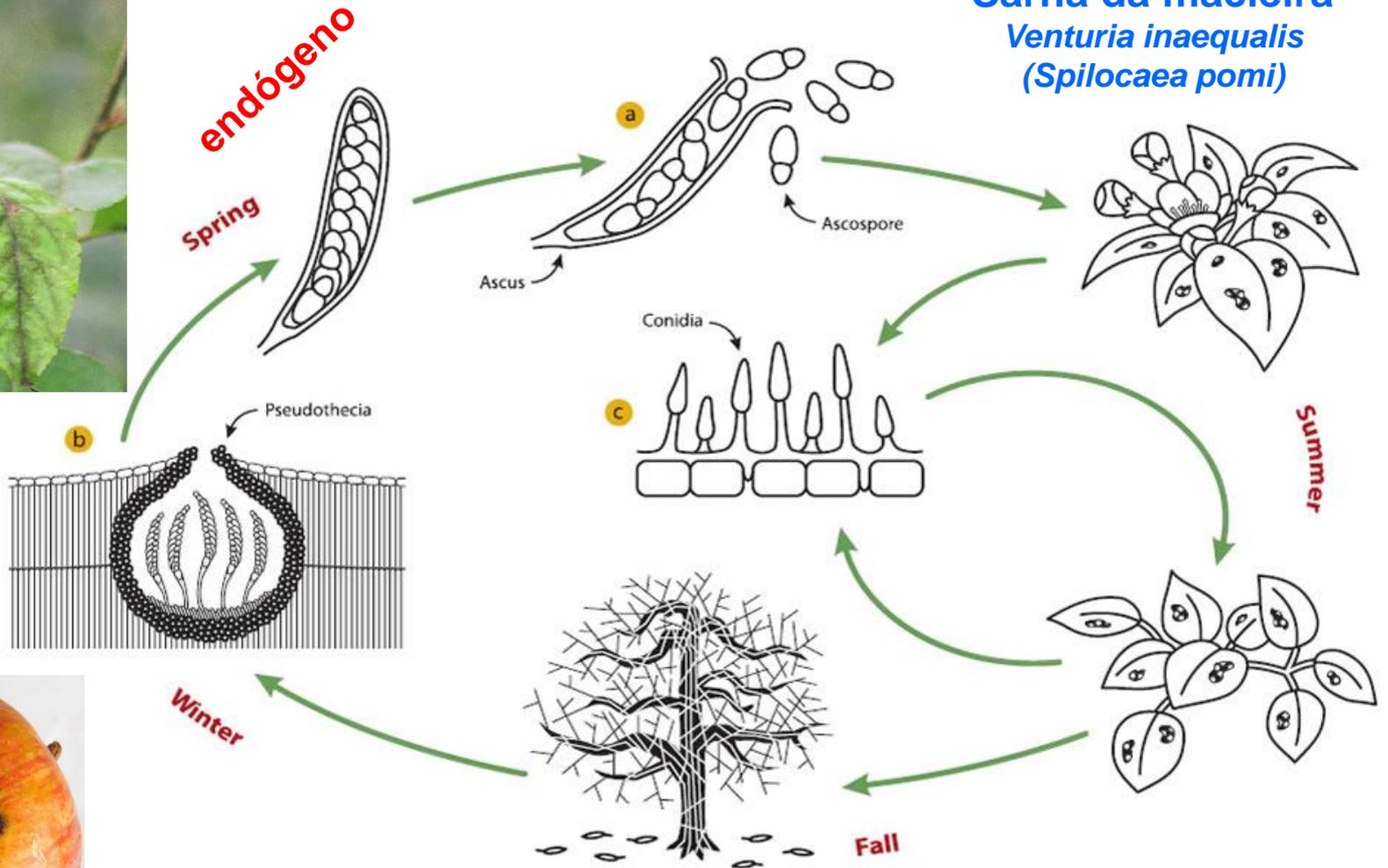


sexual

asexual

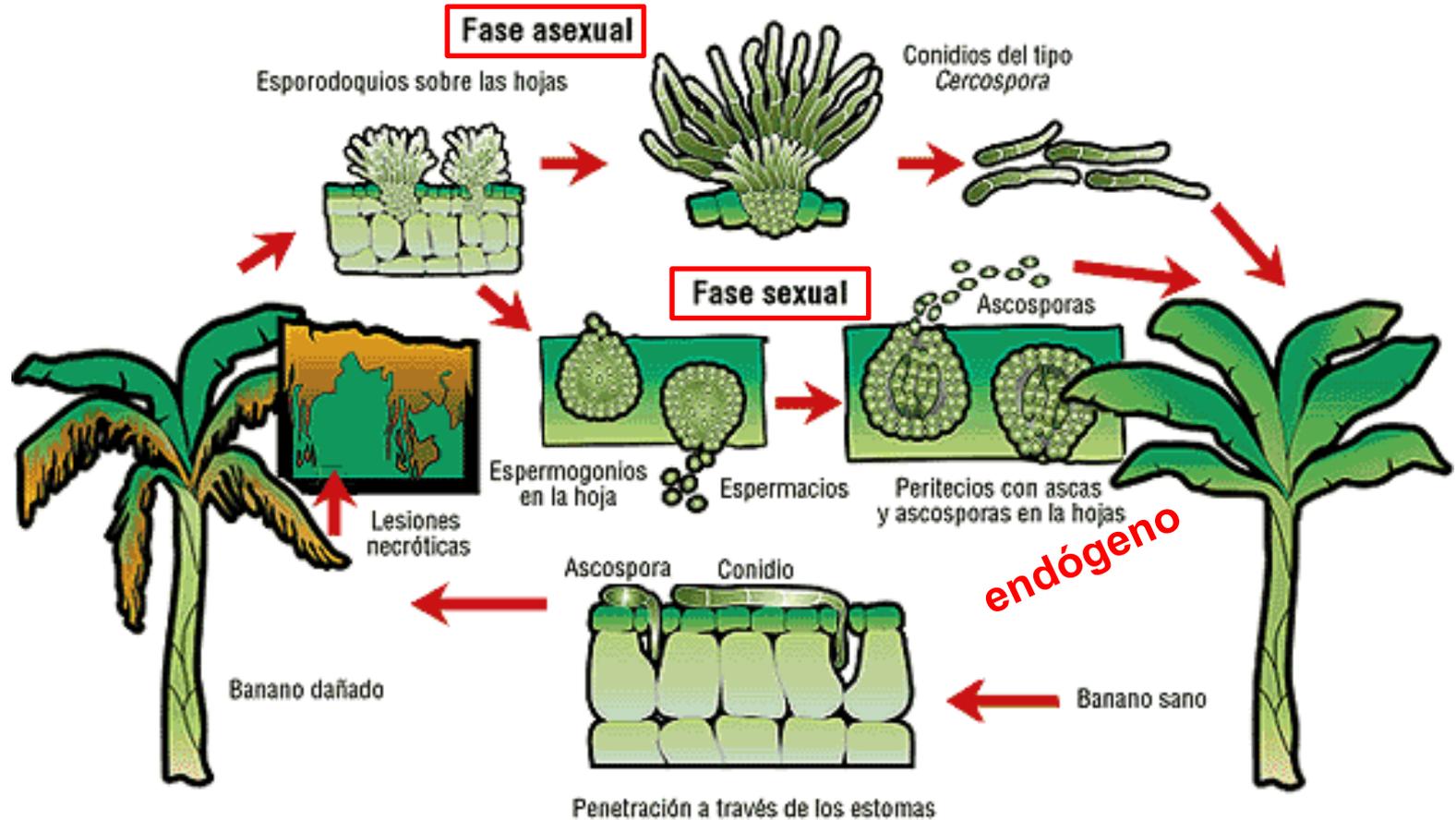
Ciclo de vida de um Ascomiceto

Sarna da macieira
Venturia inaequalis
(*Spilocaea pomi*)



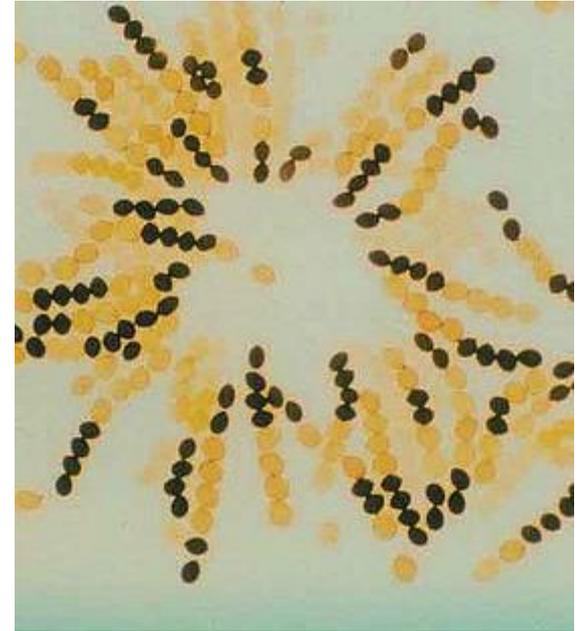
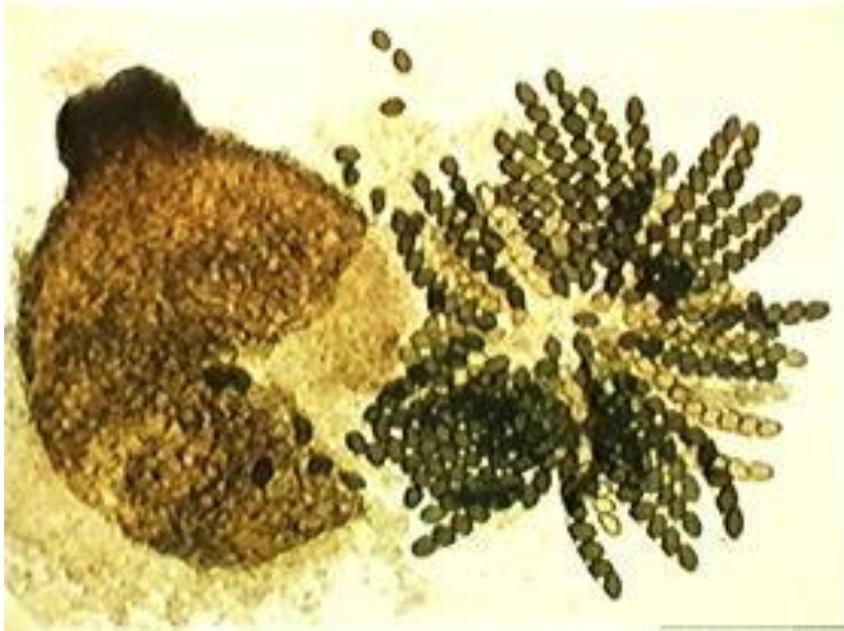
Ciclo de vida de um Ascomiceto

Sigatoka amarela da bananeira
Mycosphaerella musicola
(*Pseudocercospora musae*)

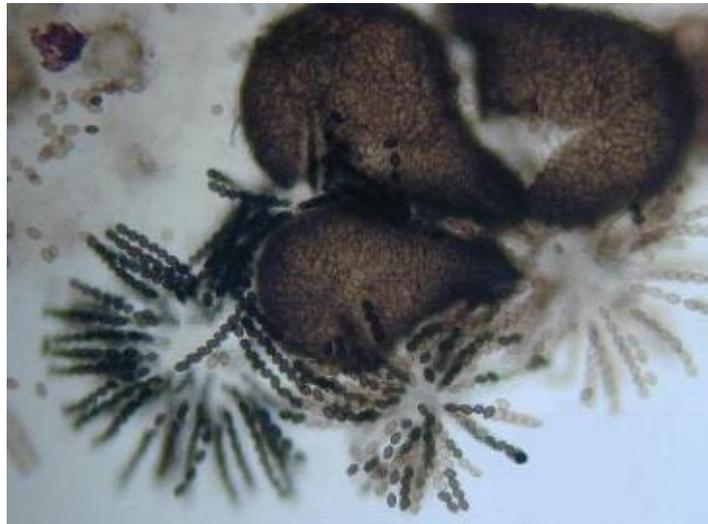


EXERCÍCIO 1

Sordaria sp.



peritécios
ascos
ascósporos



Basidiomicetos

- hifas septadas
- esporos sexuais de origem exógena



Boletus sp.

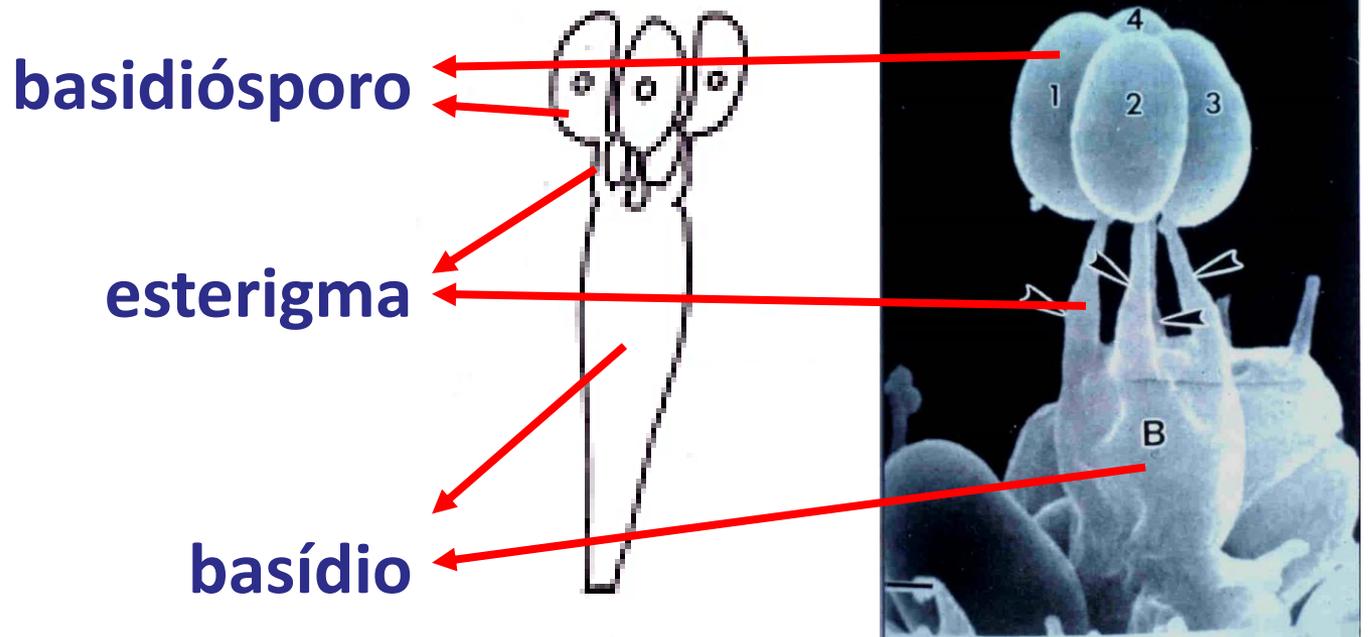


Carvões

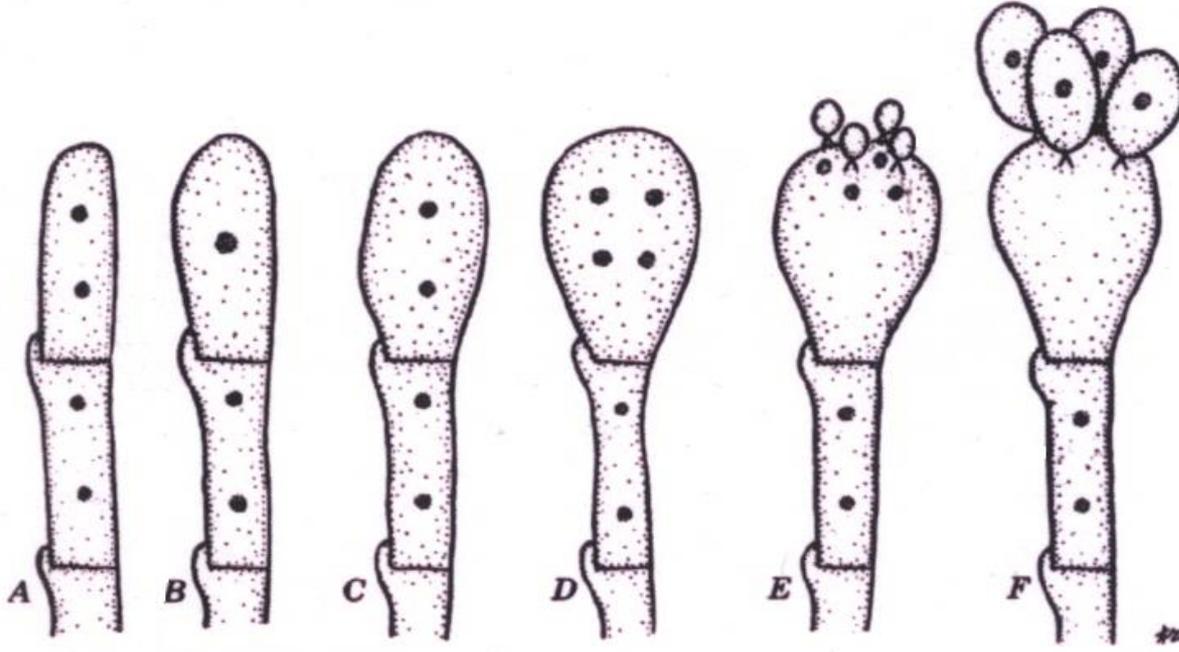
Basidiomicetos

Basídio: células de origem dos basidiósporos
("basidio" = pedestal)

Basidiósporos: esporos sexuais (haplóides)
formados externamente ao basídio



como são formados os basidiósporos?



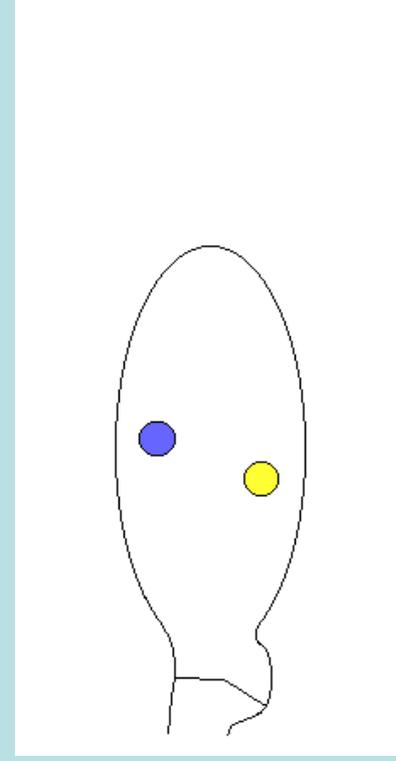
hifa binucleada

cariogamia

meiose

**basidiósporos jovens
(no esterigma)
núcleo pronto para
migrar para os esporos**

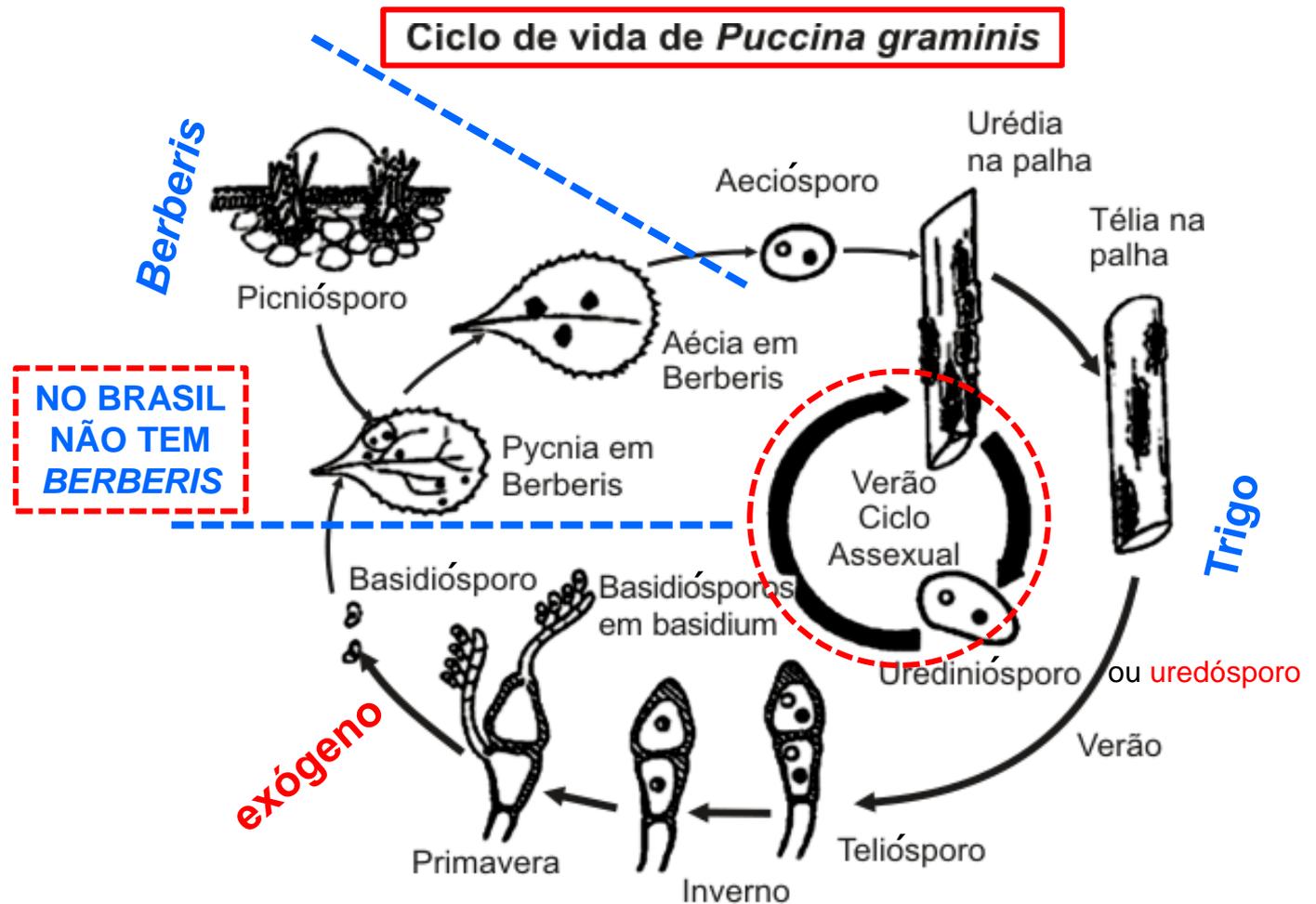
basídio maduro



Ciclo de vida de um Basidiomiceto

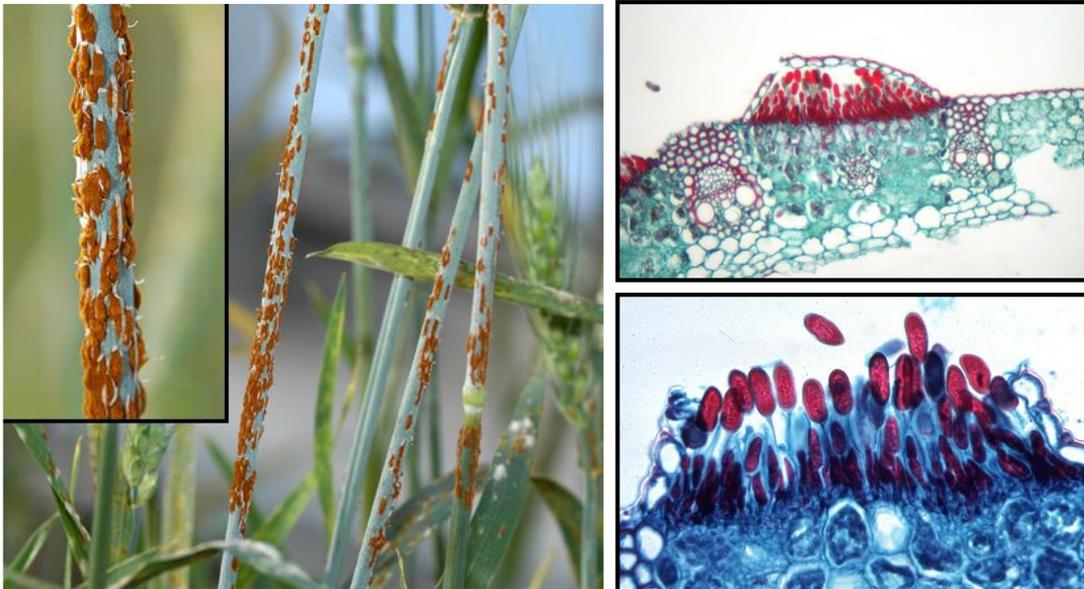
(sexual e assexual)

Ferrugem do colmo do trigo



Basidiomicetos

- hifas septadas
- esporos sexuais de **origem exógena**



**Ferrugem
do colmo
do trigo**

*Puccinia
graminis
f. sp.
tritici*

**urédias e uredósporos
(esporos assexuais)**

Basidiomicetos

- hifas septadas
- esporos sexuais de origem **exógena**

Ferrugem asiática da soja
Phakopsora pachyrhizi

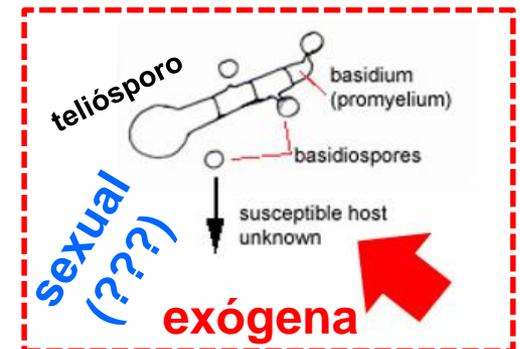


urédias e uredósporos
(esporos assexuais)

Ciclo de vida de um Basidiomiceto

Phakopsora pachyrhizi

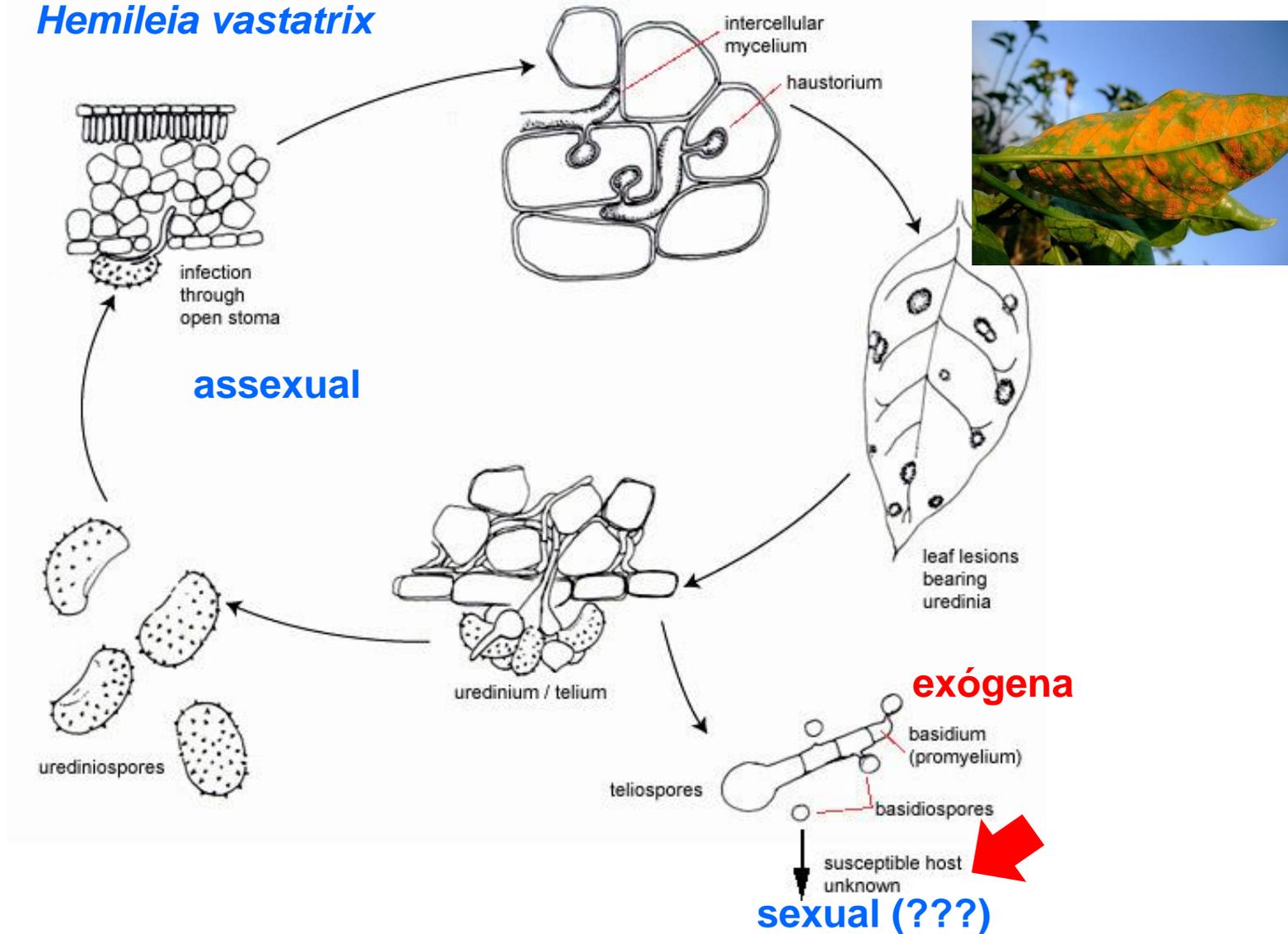
Ciclo da Ferrugem Asiática



Ciclo de vida de um Basidiomiceto

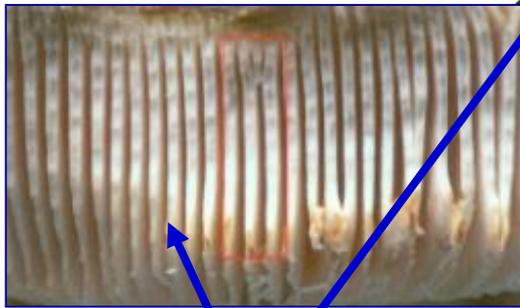
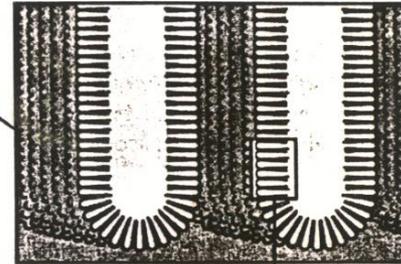
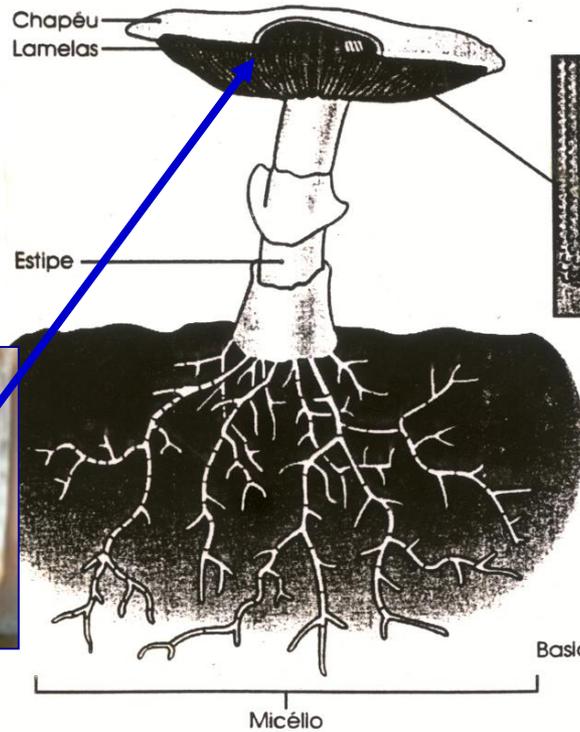
Ferrugem do cafeeiro

Hemileia vastatrix



Basidiomicetos

Cogumelo = basidiocarpo



esterigma

lamelas

basidiósporos

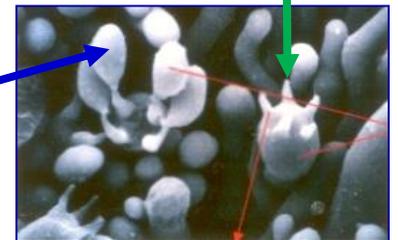
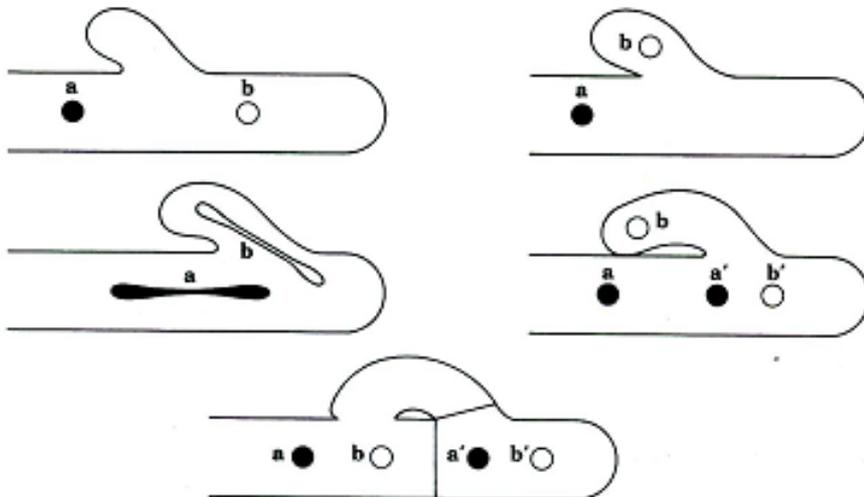
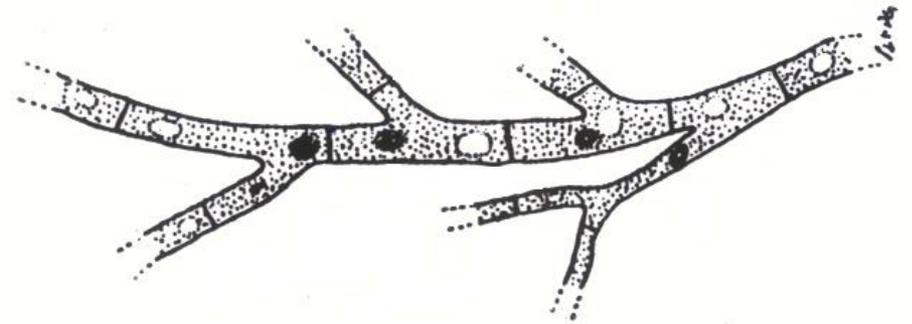


Ilustração de *Agaricus campestris*

Basidiomicetos

características gerais

- micélio dicariótico



- grampos de conexão: estruturas de hifas formadas para garantir o estado dicariótico do micélio

Grampos de conexão

microscopia eletrônica

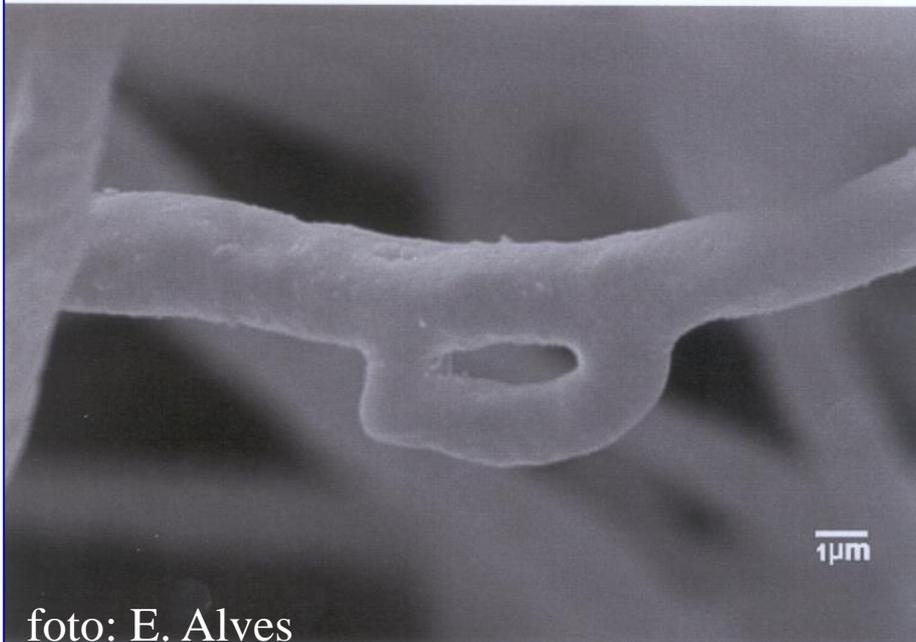
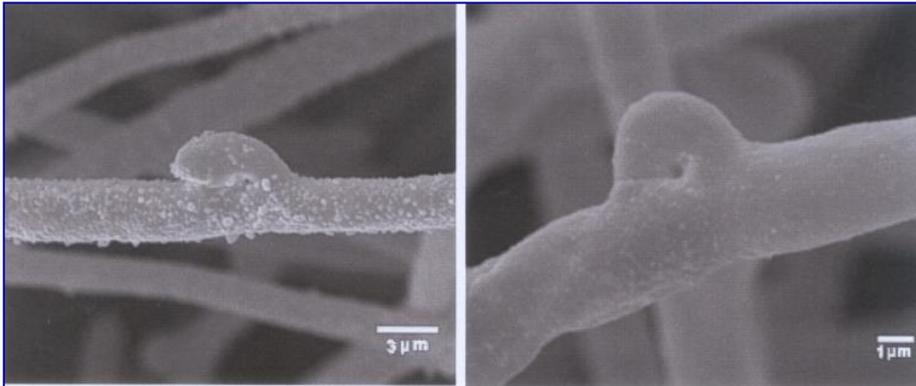


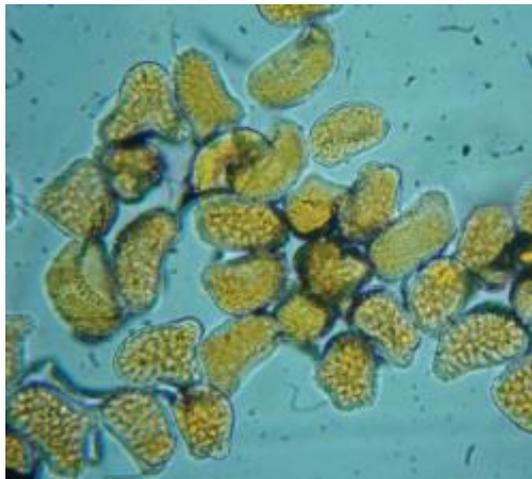
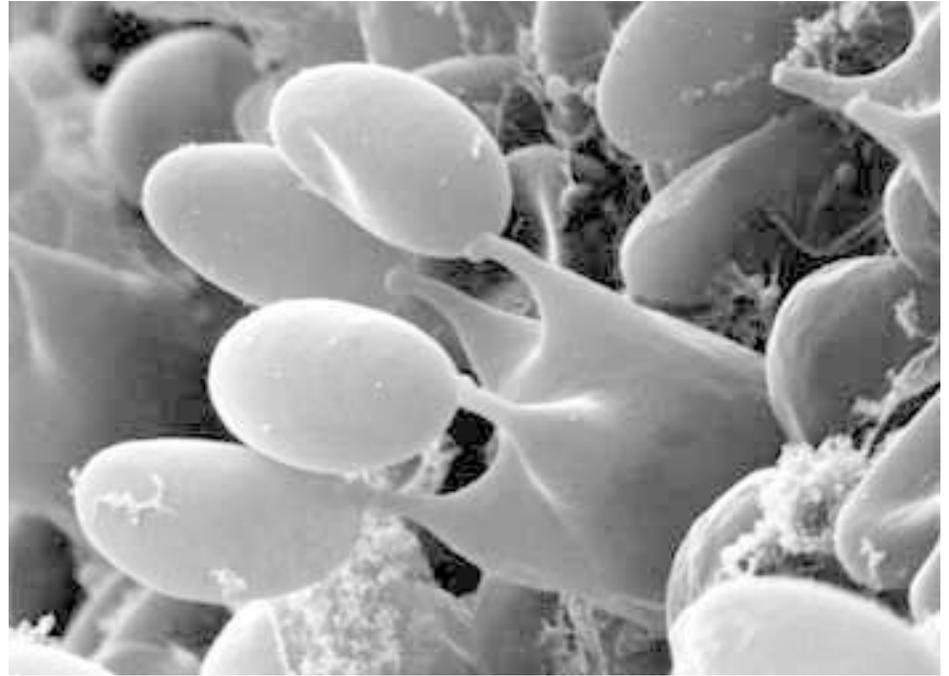
foto: E. Alves

Pisolithus sp.

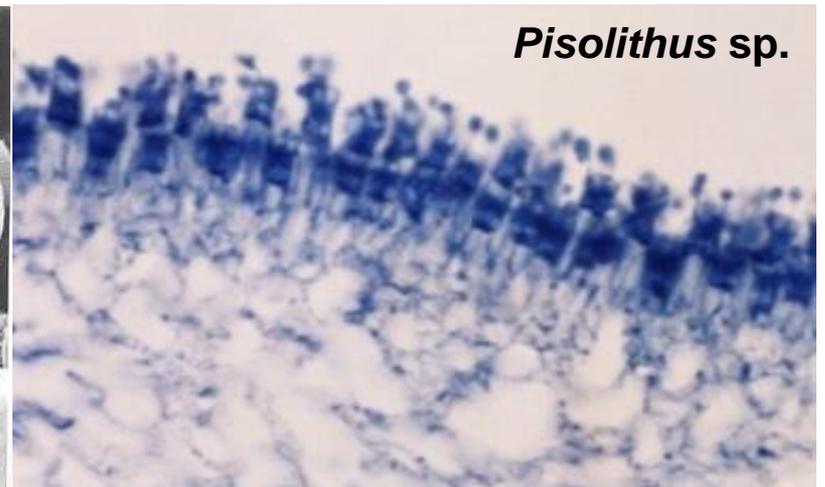
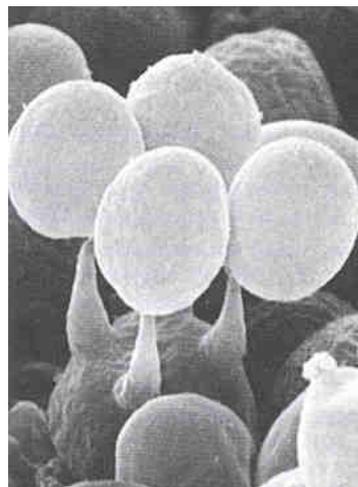
EXERCÍCIO 2



Teliósporos de
Puccinia sp



Uredósporos



Basídia, basidiósporos
esterigma