

**ISOSPORES**

**EUSPORANGIUM**

***LYCOPODIUM***

**L.S.**

H

\$

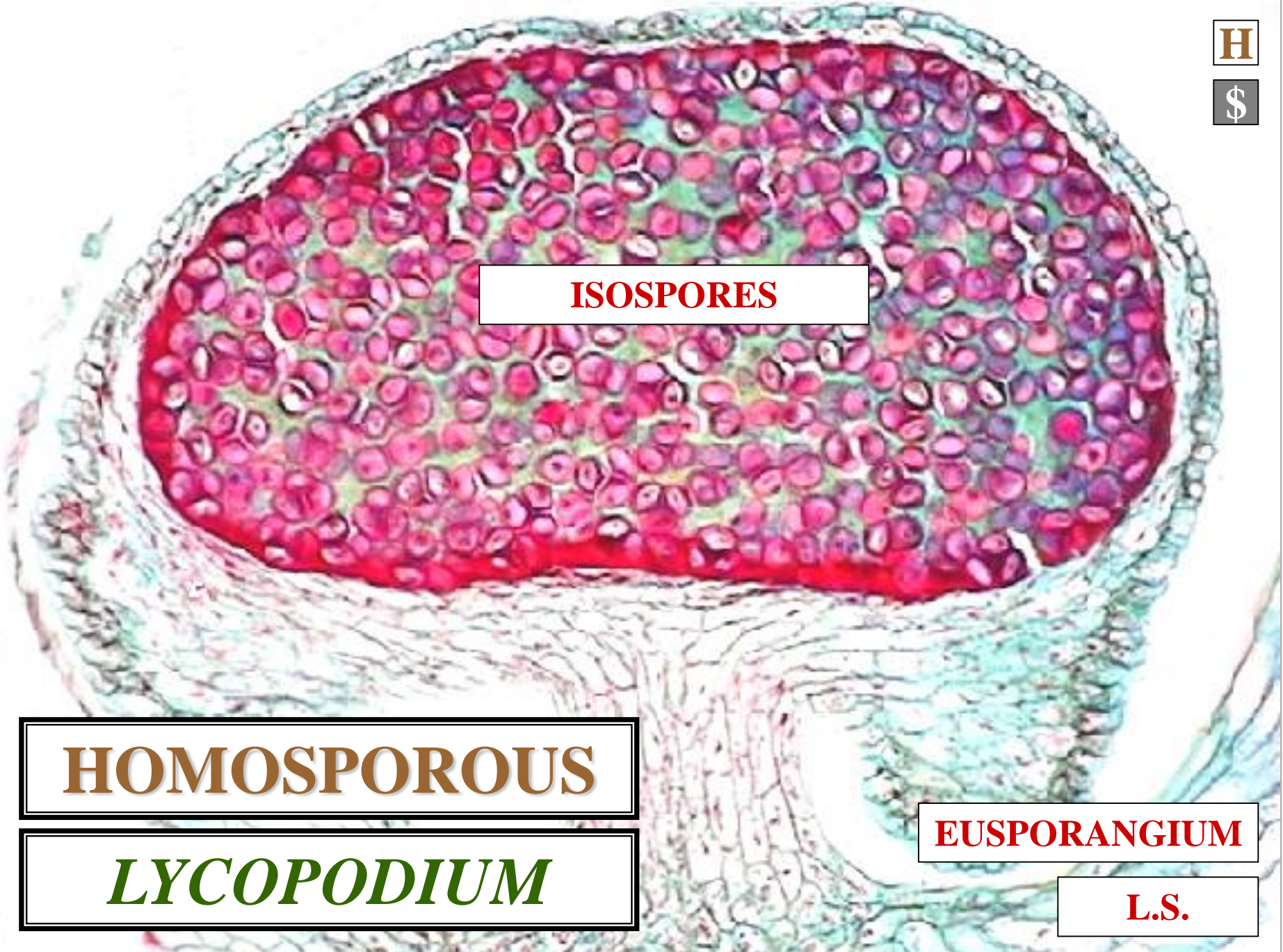
**ISOSPORES**

**HOMOSPOROUS**

***LYCOPODIUM***

**EUSPORANGIUM**

**L.S.**



A close-up photograph of a moss plant, likely a species of moss, showing several upright, yellow, cone-shaped strobili (male reproductive structures) emerging from a cluster of green, needle-like leaves. The background is blurred, showing other green plants and a reddish-brown ground surface.

^

?

**HOMOSPOROUS**

***LYCOPODIUM***

S

?



ST

***SELAGINELLA***

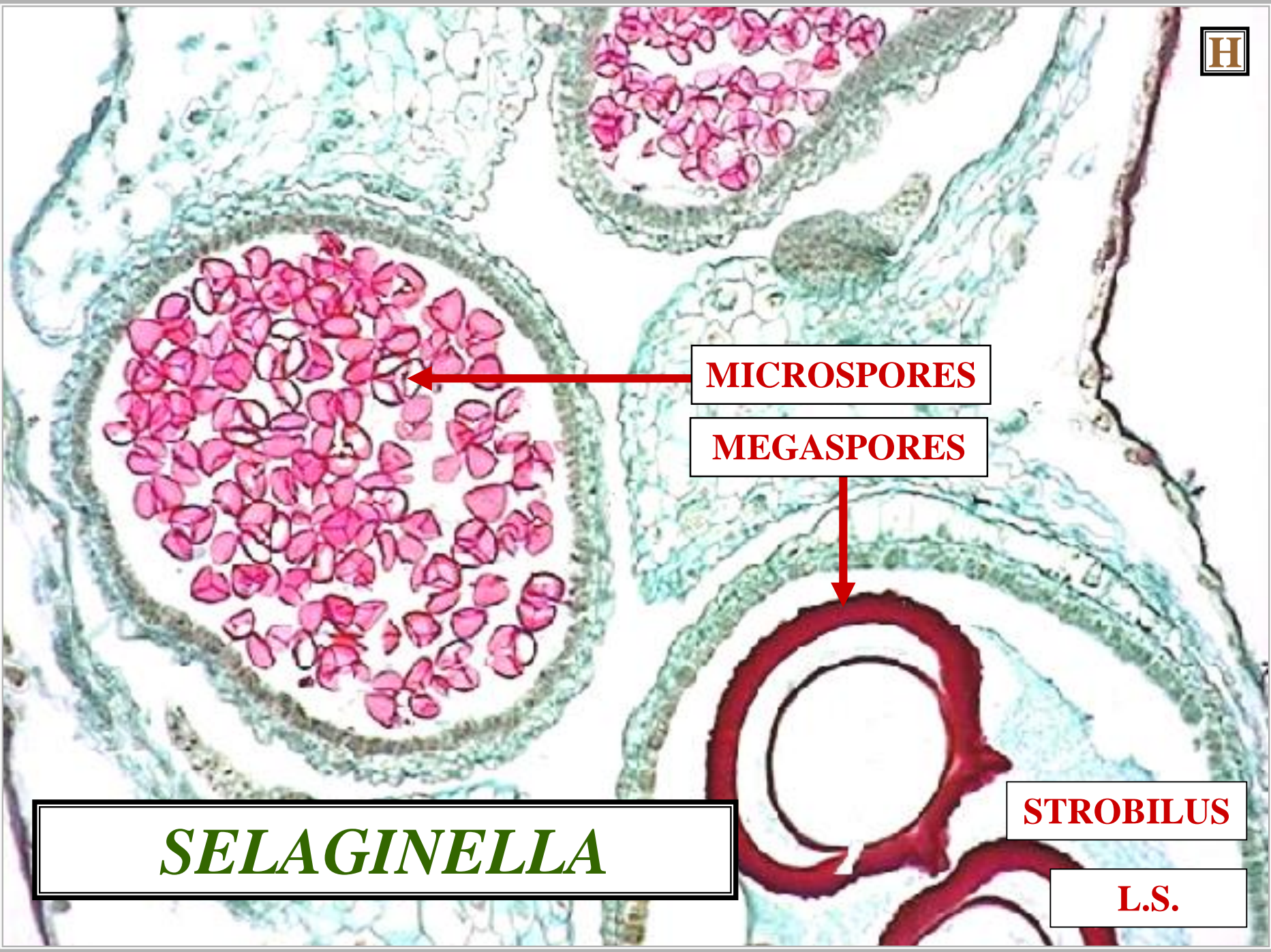




**STROBILUS**

***SELAGINELLA***





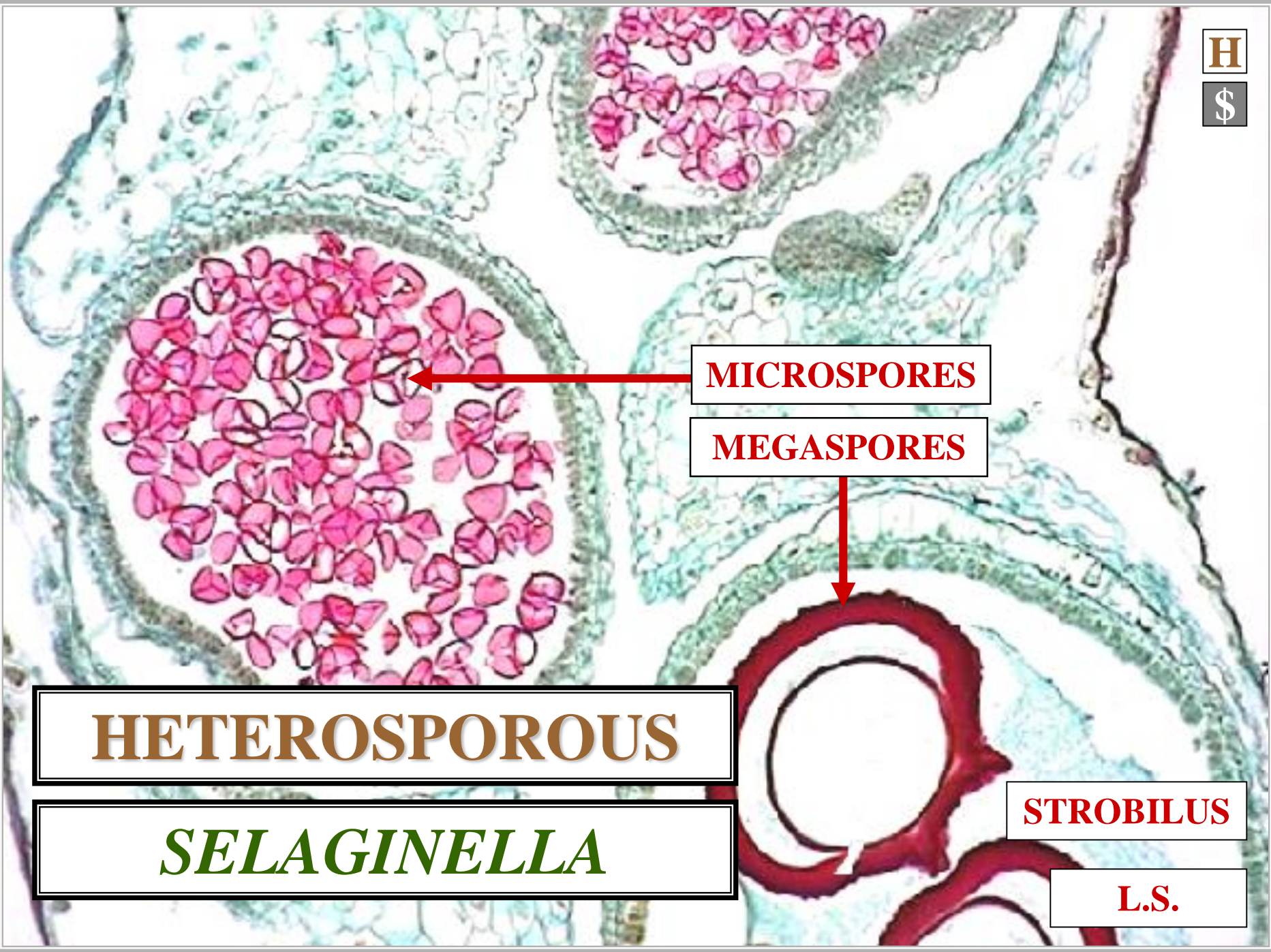
**MICROSPORES**

**MEGASPORES**

**STROBILUS**

**L.S.**

***SELAGINELLA***



**MICROSPORES**

**MEGASPORES**

**HETEROSPOROUS**

***SELAGINELLA***

**STROBILUS**

**L.S.**

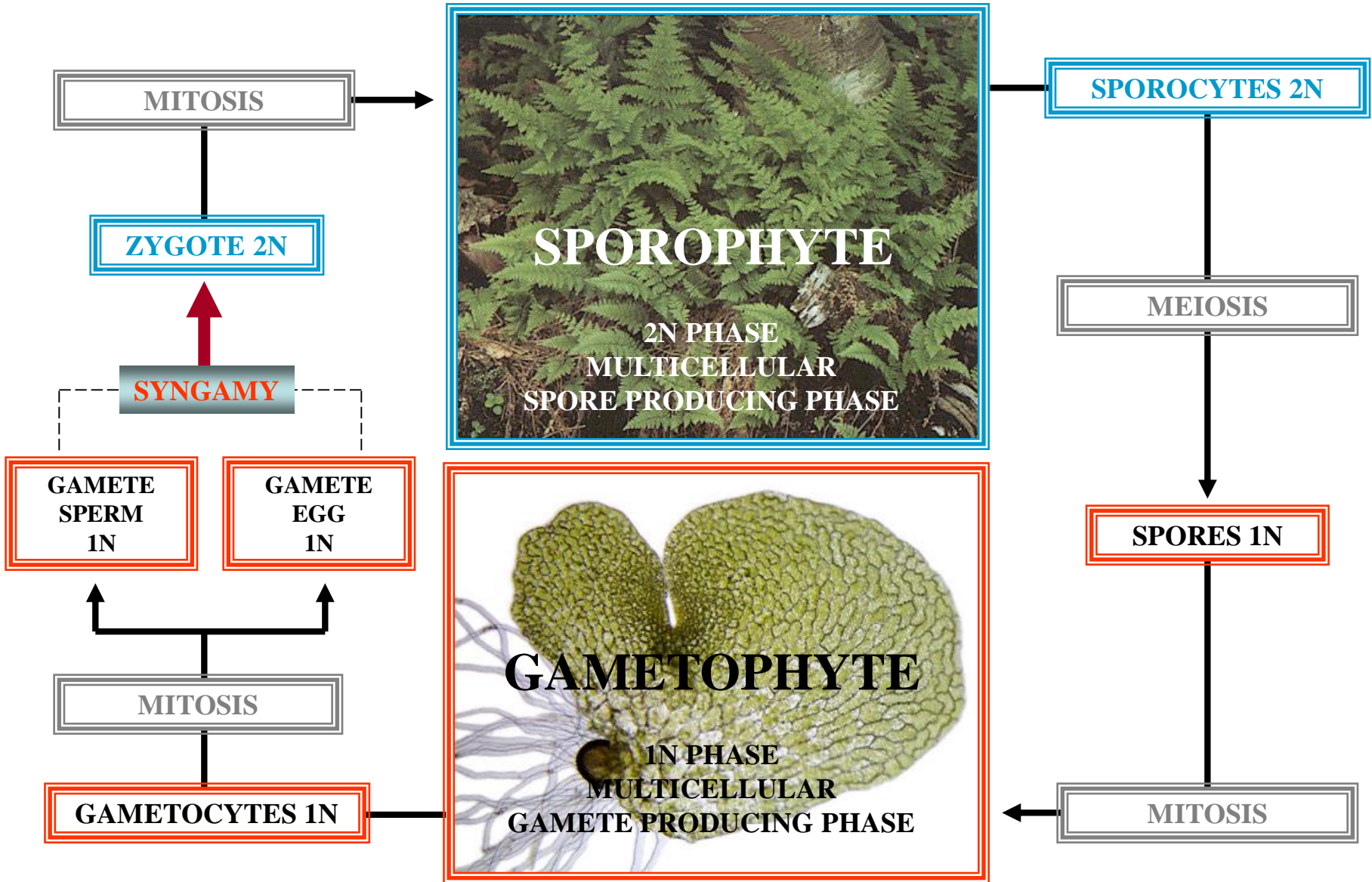




**HETEROSPOROUS**

***SELAGINELLA***

# PTERIDOPHYTE LIFE CYCLE

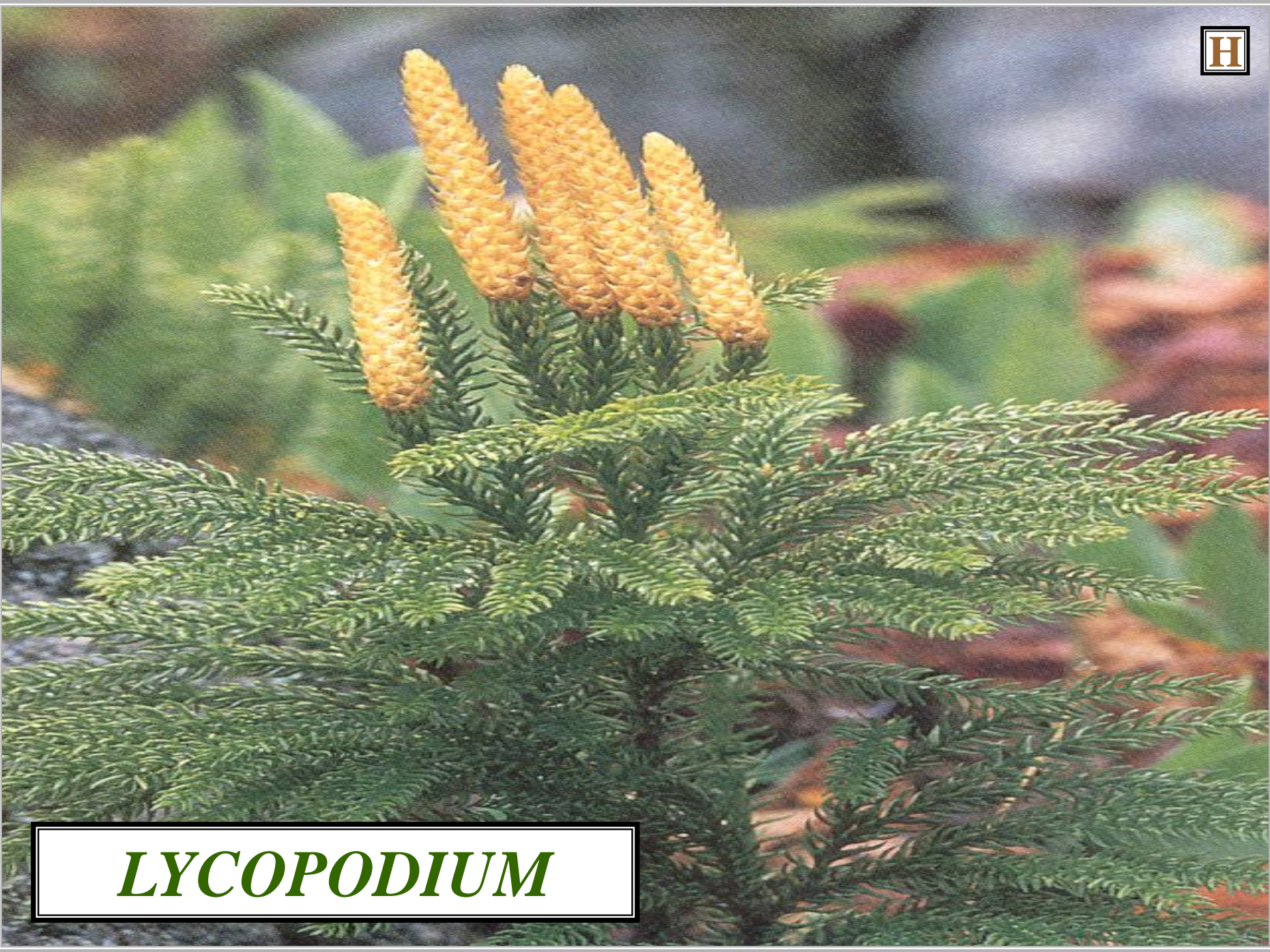




# GAMETOPHYTE CHARACTERS



# GROWTH HABIT



***LYCOPODIUM***

ST

**HOMOSPOROUS**

***LYCOPODIUM***



**STROBILUS**



**HOMOSPOROUS**

***LYCOPODIUM***

I

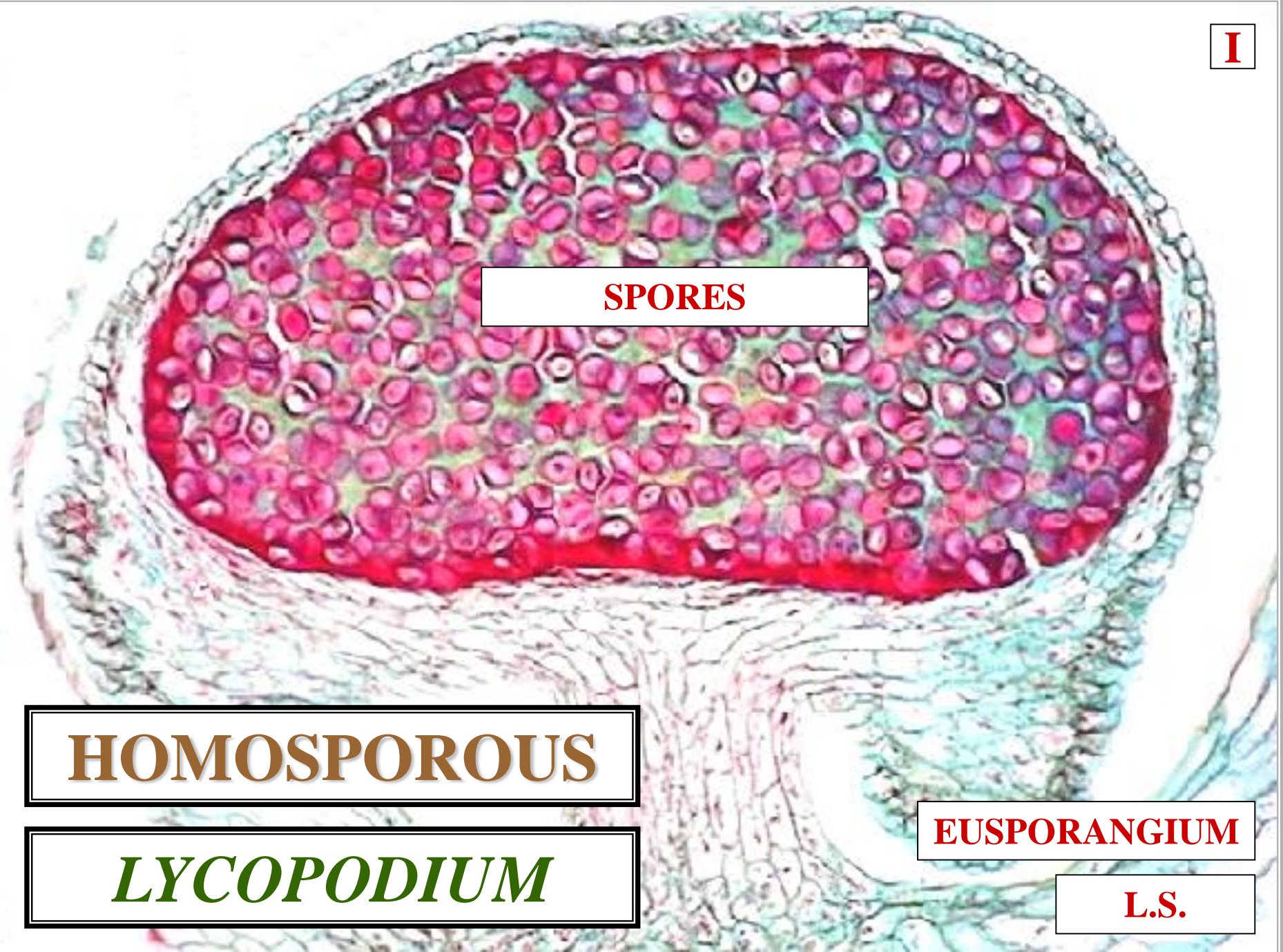
**SPORES**

**HOMOSPOROUS**

***LYCOPODIUM***

**EUSPORANGIUM**

**L.S.**







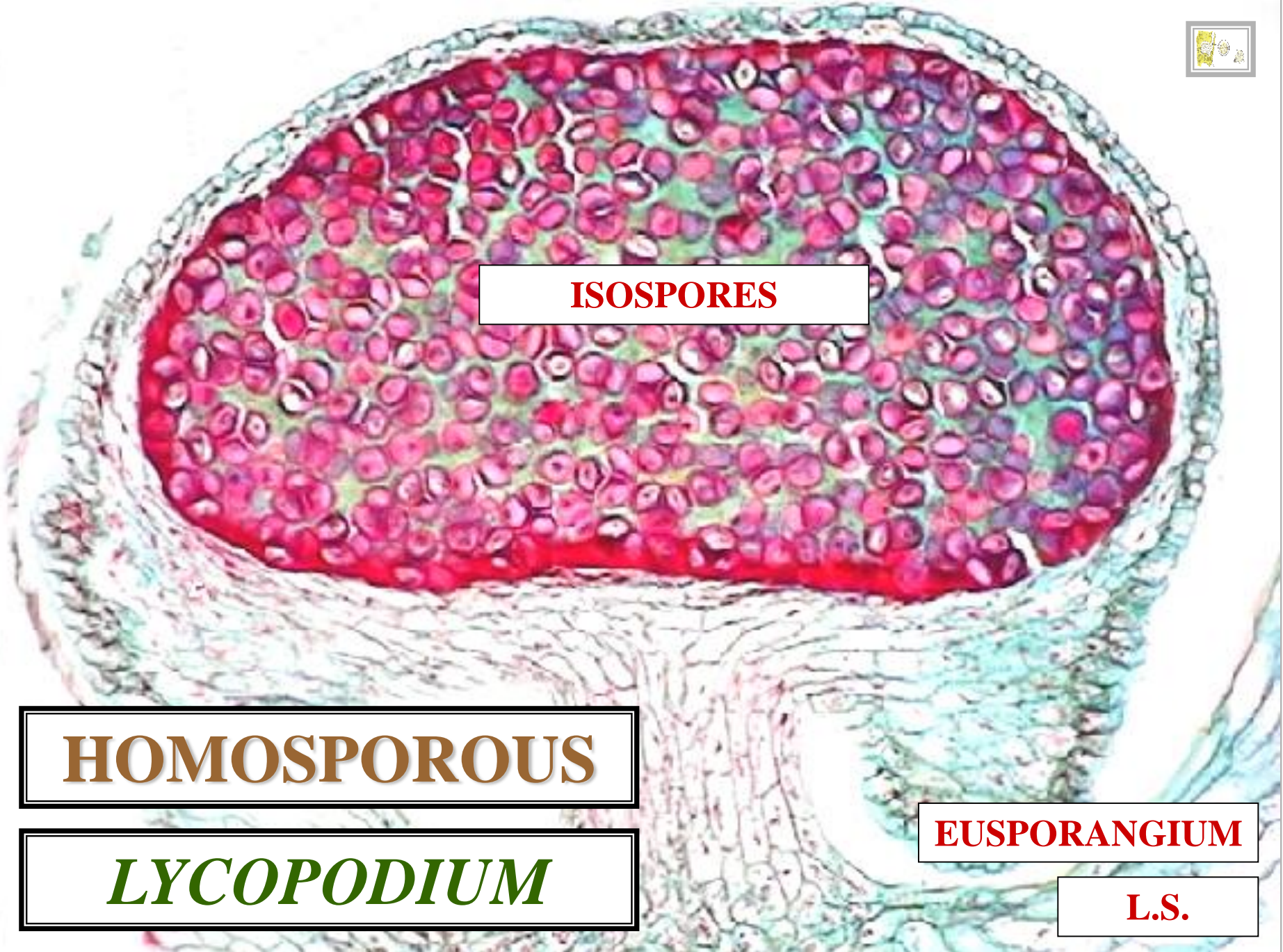
**ISOSPORES**

**HOMOSPOROUS**

***LYCOPODIUM***

**EUSPORANGIUM**

**L.S.**



**SPOROPHYTE  
STROBILUS**

# *LYCOPODIUM*

M

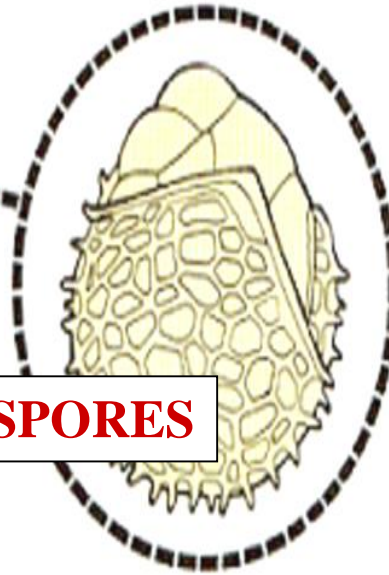
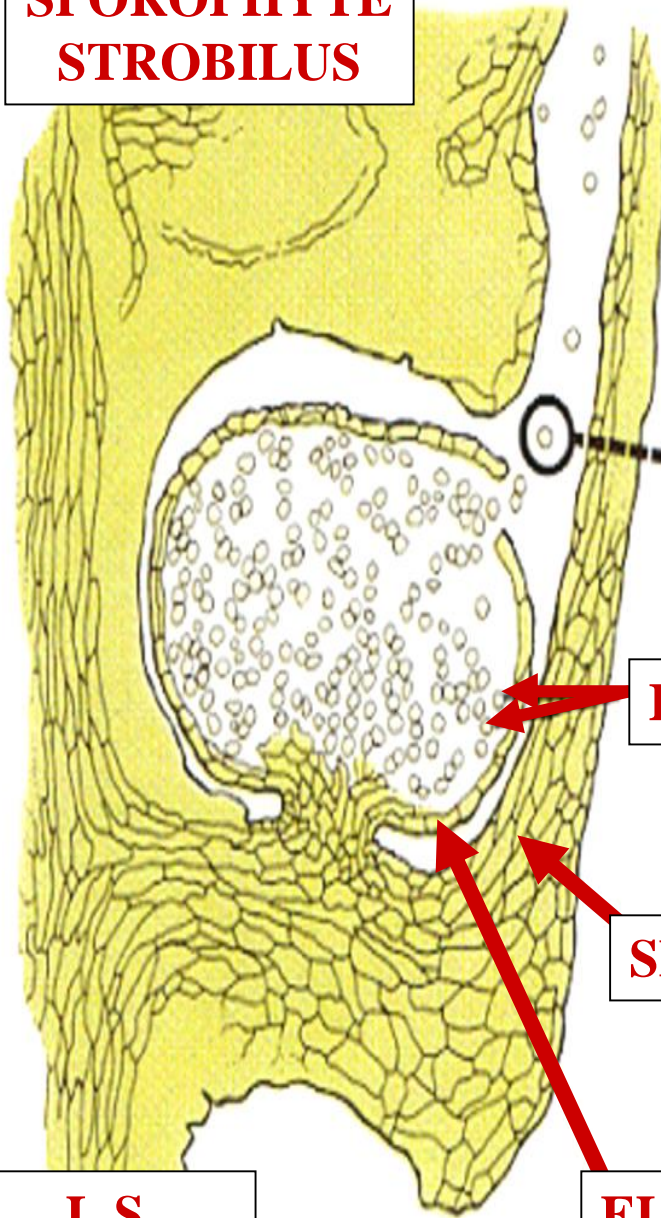
**ISOSPORE**

**ISOSPORES**

**SPOROPHYLL**

**L.S.**

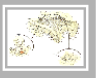
**EUSPORANGIUM**



**SPOROPHYTE  
STROBILUS**

# *LYCOPODIUM*

MITOSIS



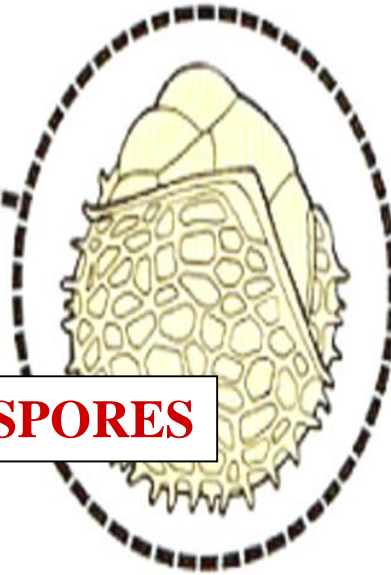
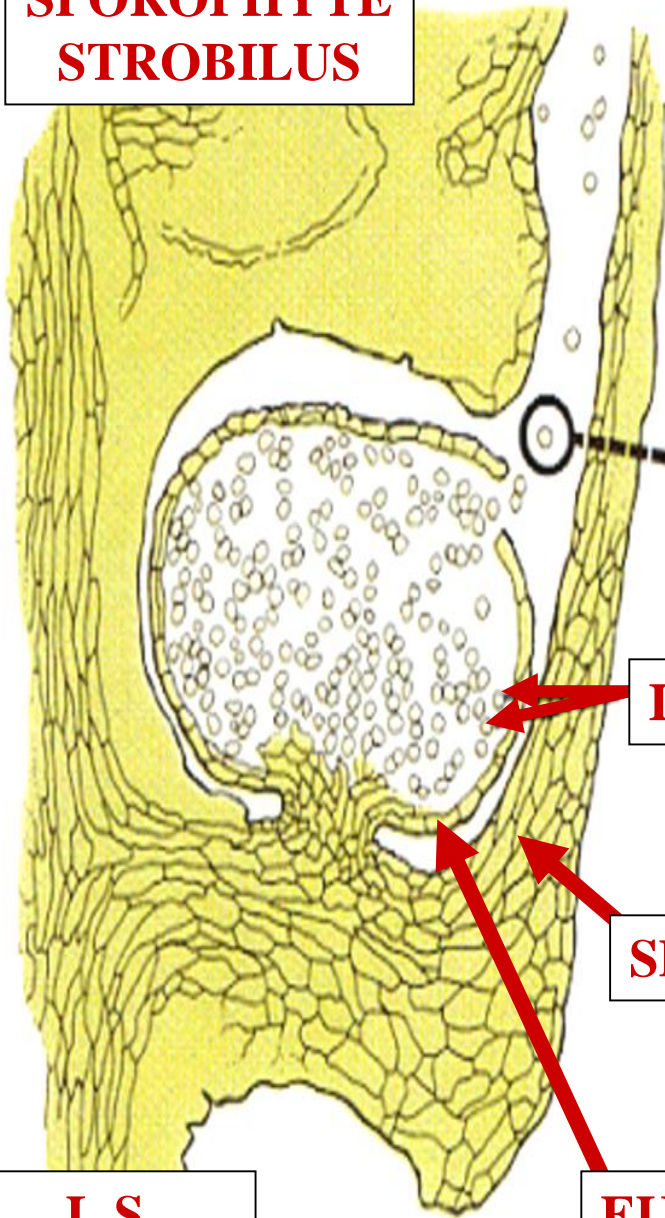
**G**

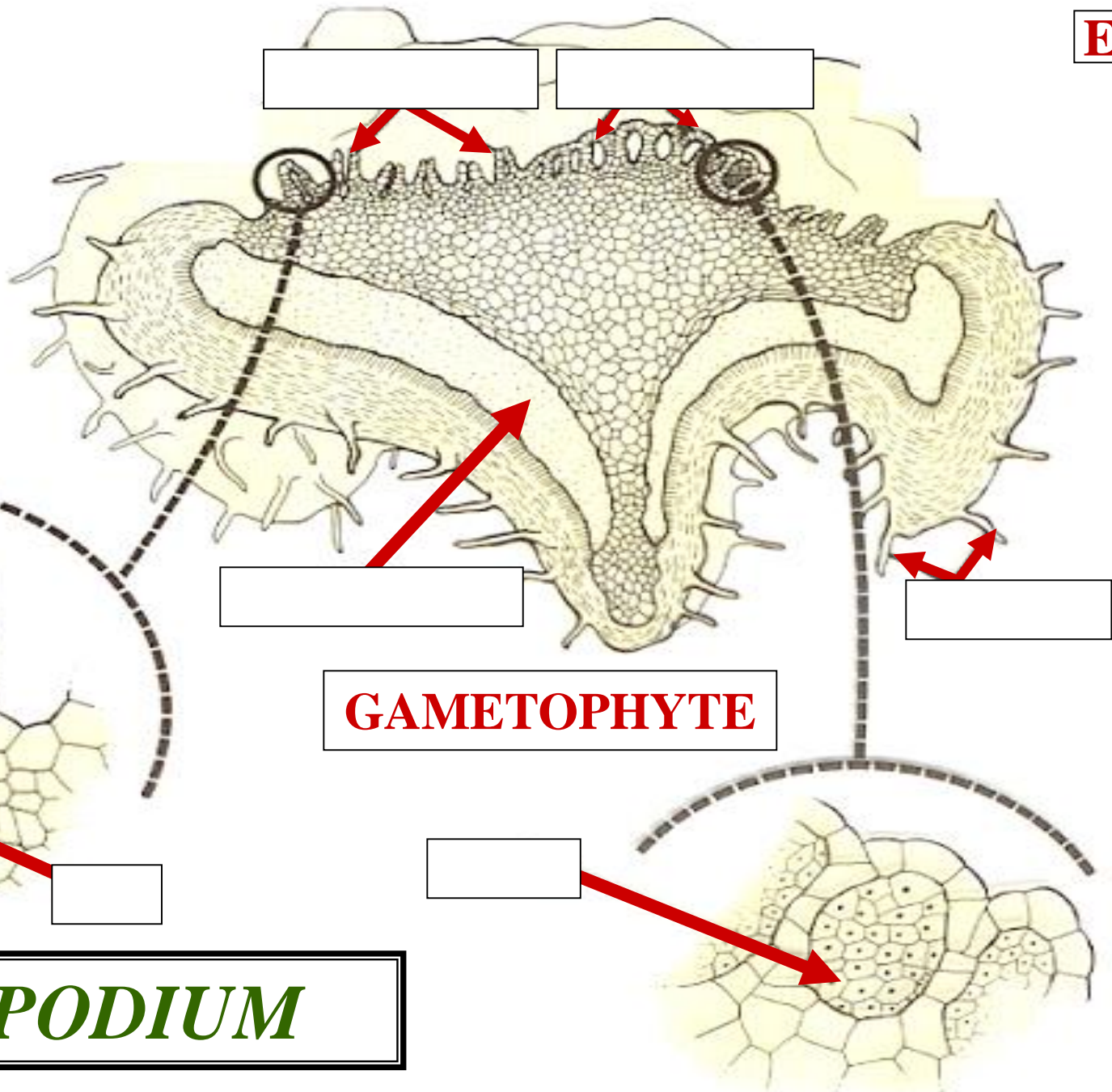
**ISOSPORES**

**SPOROPHYLL**

**L.S.**

**EUSPORANGIUM**

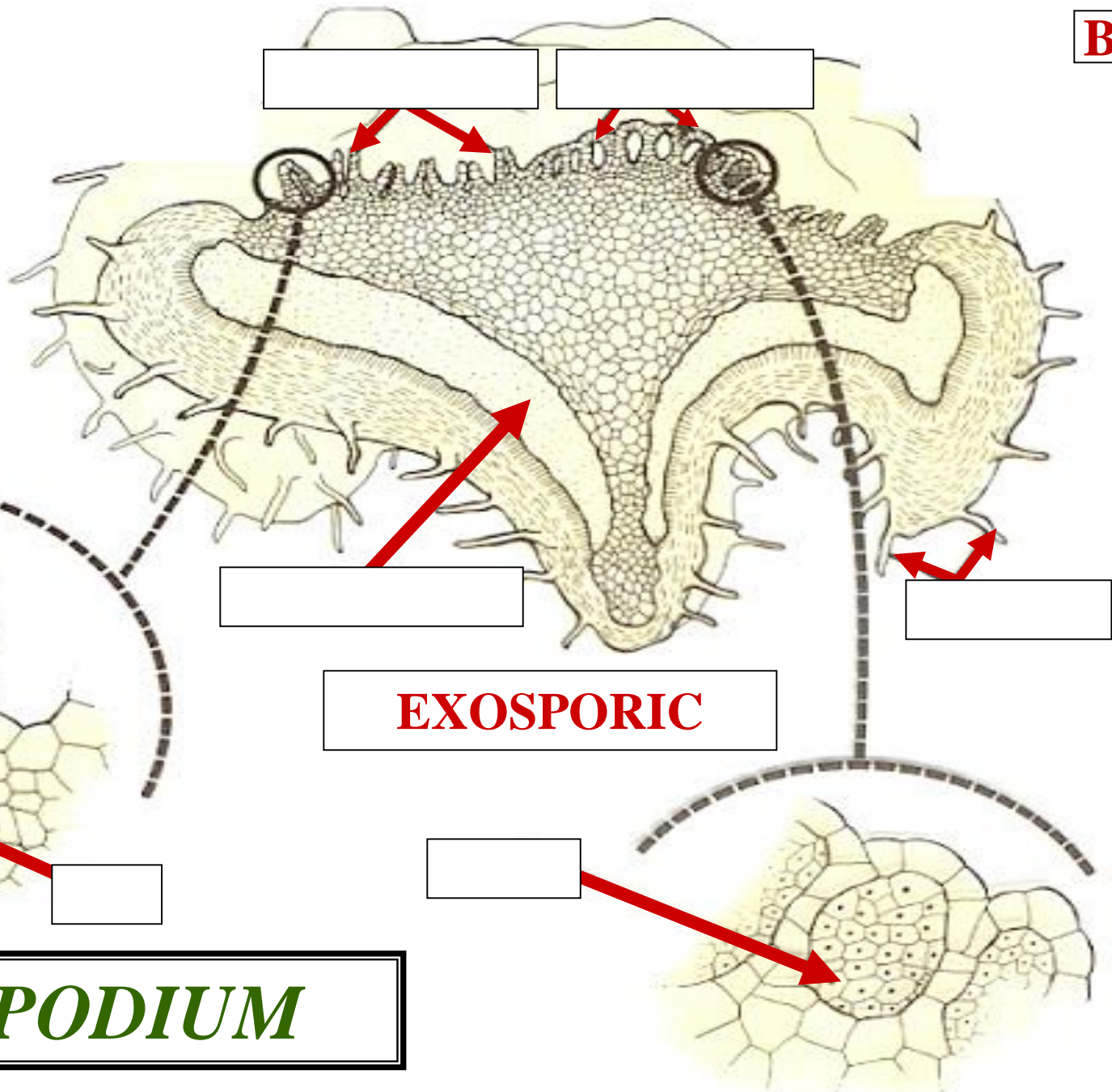




**GAMETOPHYTE**

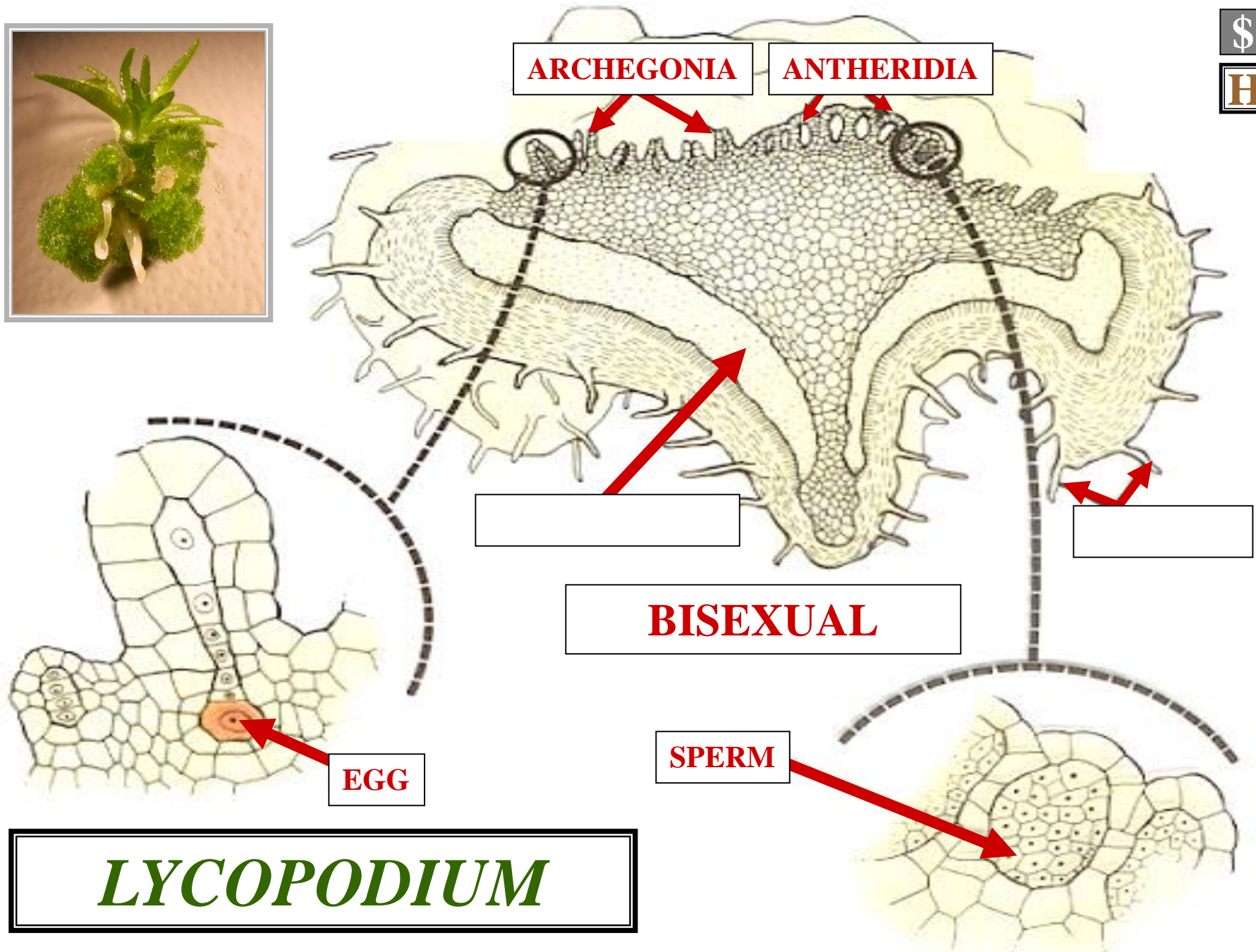
***LYCOPODIUM***

**B**



**EXOSPORIC**

***LYCOPODIUM***





# **TRACHEOPHYTE HOMOSPOROUS LIFE CYCLE SUMMARY**



*LYCOPODIUM*



**HOMOSPOROUS**

***LYCOPODIUM***

**EX**

**ISOSPORES**

***LYCOPODIUM***

**EXOSPORIC GAMETOPHYTE**

*LYCOPODIUM*

**BISEXUAL GAMETOPHYTE**

***LYCOPODIUM***



# GAMETOPHYTE CHARACTERS



# GROWTH HABIT



***SELAGINELLA***



**HETEROSPOROUS**

***SELAGINELLA***



?



**STROBILUS**

**HETEROSPOROUS**

***SELAGINELLA***

?



**HETEROSPOROUS**

***SELAGINELLA***



**L.S.**

MEGASPORANGIUM →

**HETEROSPOROUS**

***SELAGINELLA***



L.S.

?

**MEGASPORES**

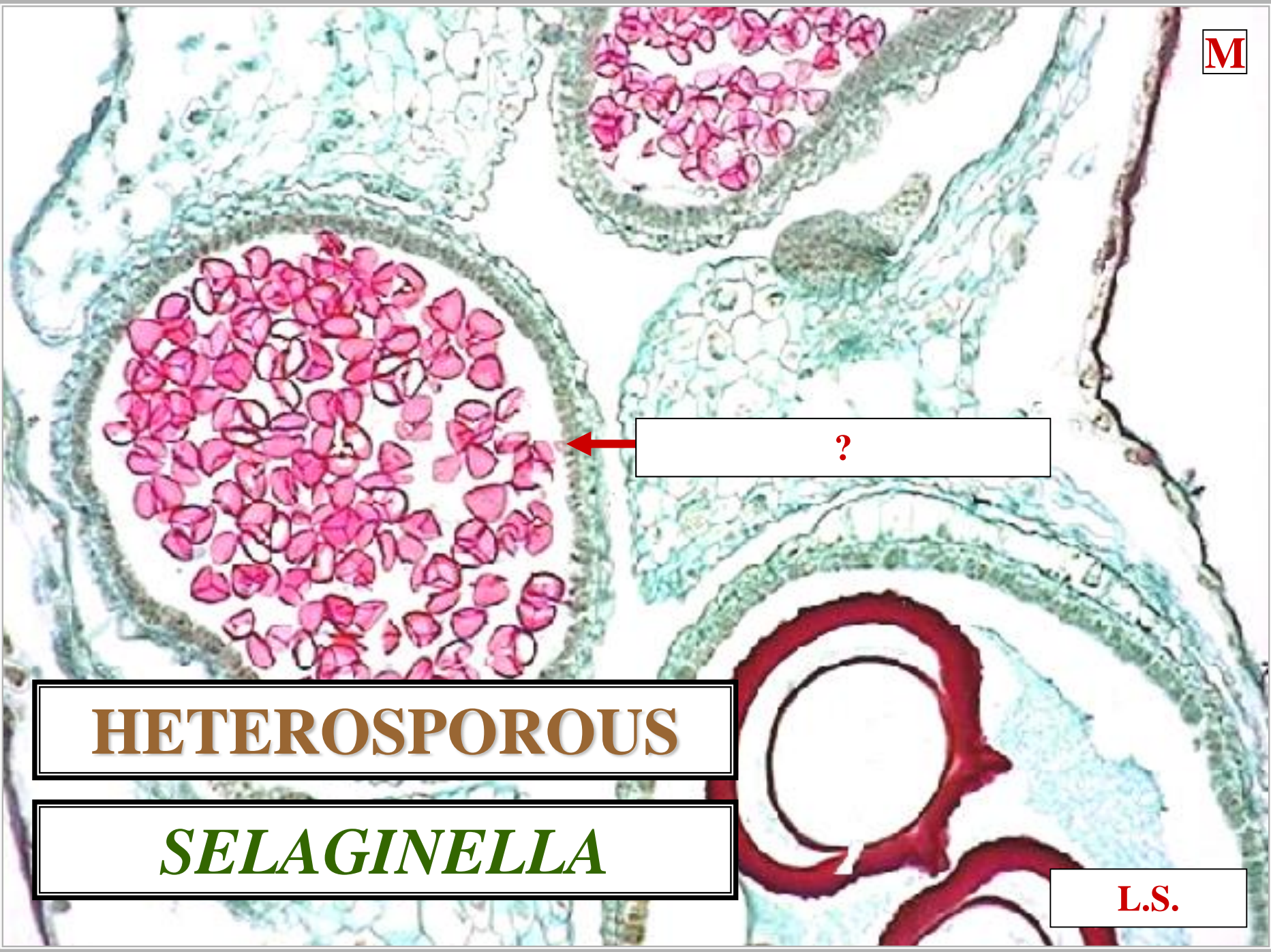
**MEGASPORANGIUM**

**HETEROSPOROUS**

***SELAGINELLA***



**L.S.**

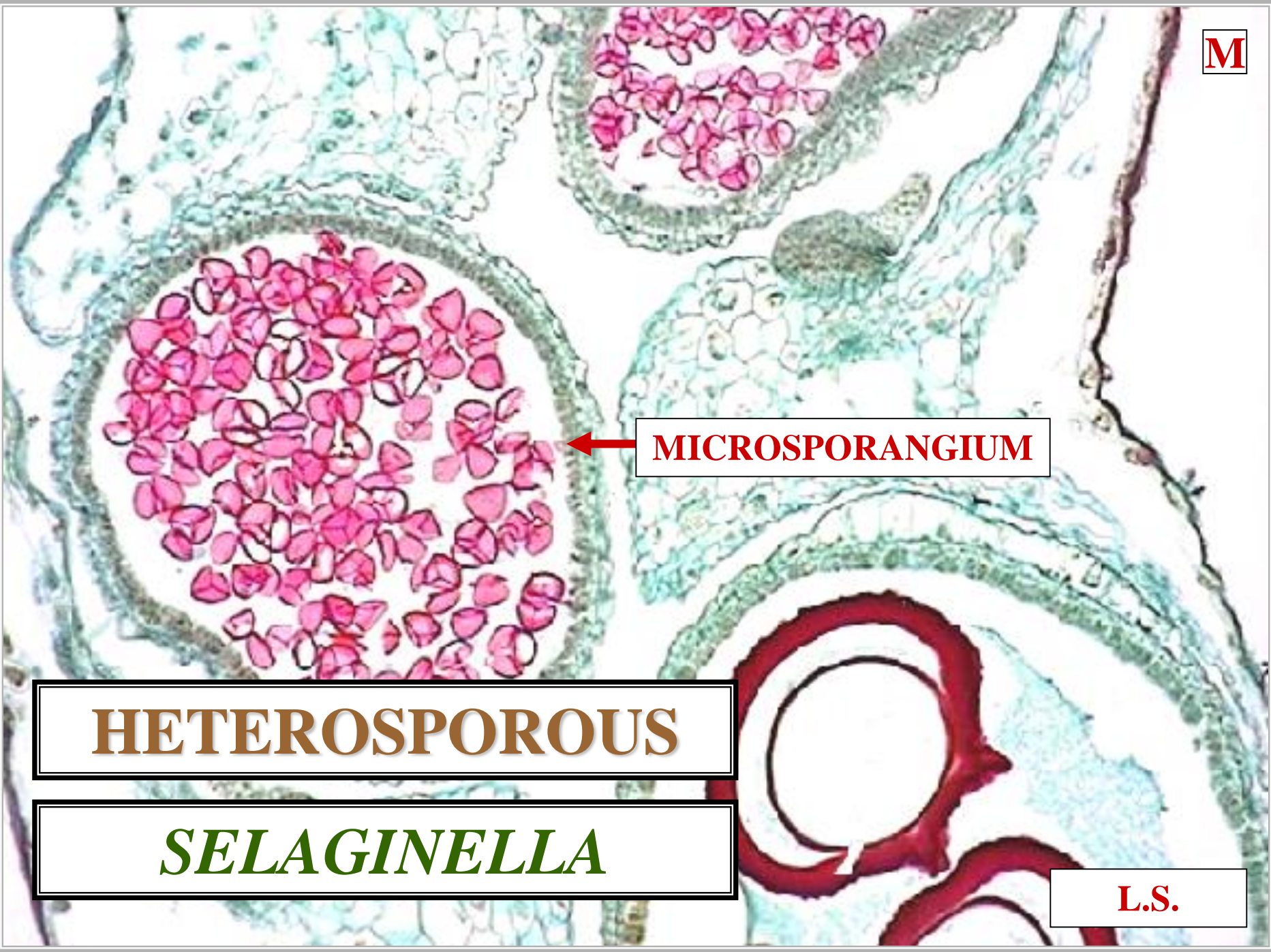


?

**HETEROSPOROUS**

***SELAGINELLA***

**L.S.**

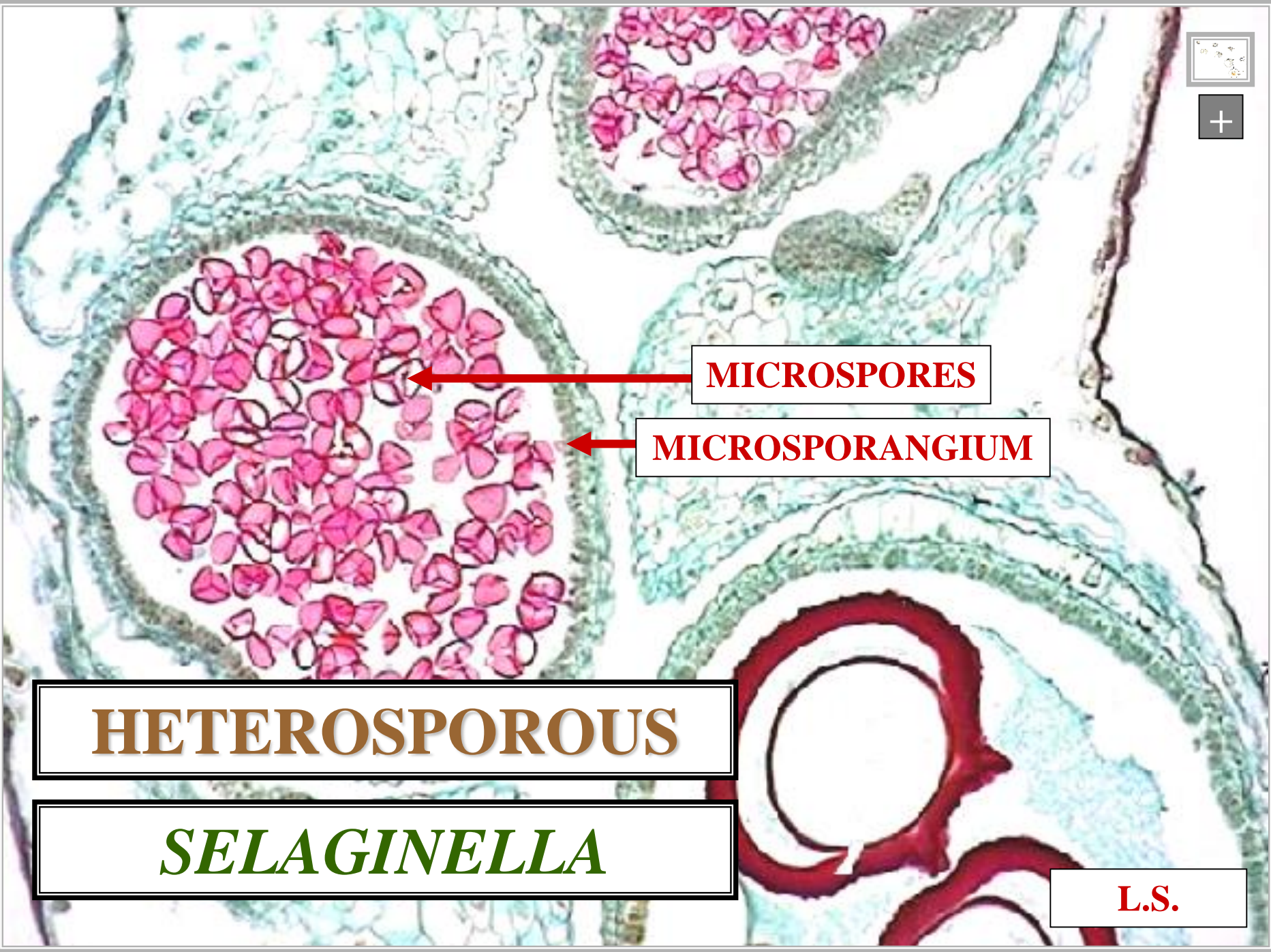


MICROSPORANGIUM

**HETEROSPOROUS**

***SELAGINELLA***

L.S.



**MICROSPORES**

**MICROSPORANGIUM**

**HETEROSPOROUS**

***SELAGINELLA***

**L.S.**



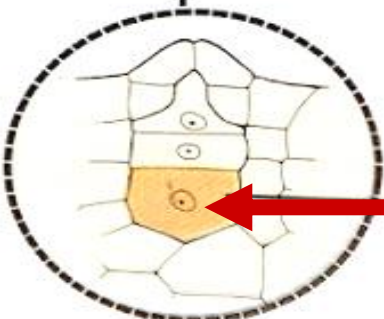
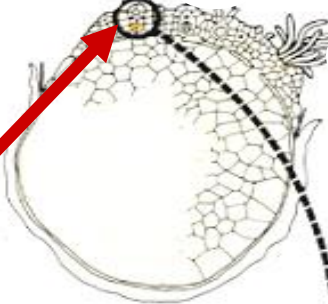
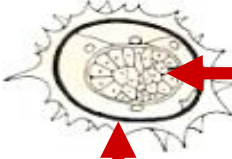
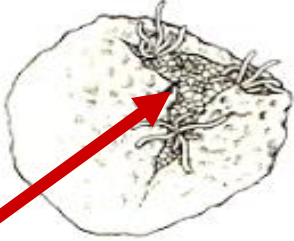
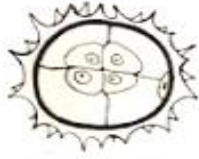


# SELAGINELLA

G

MITOSIS

MITOSIS



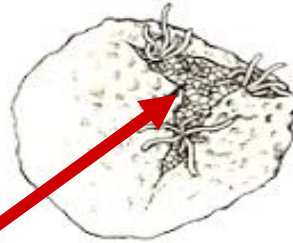
# SELAGINELLA



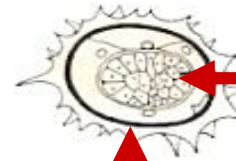
MICROSPORE



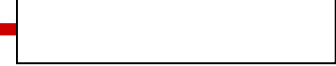
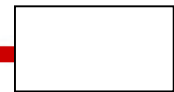
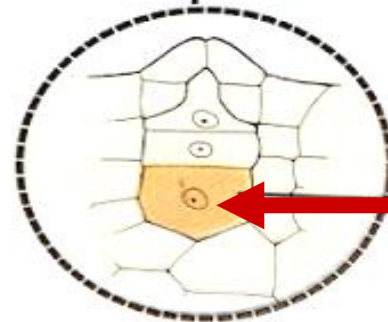
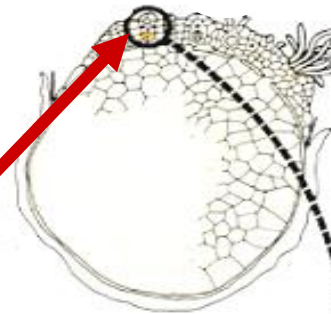
MEGASPORE

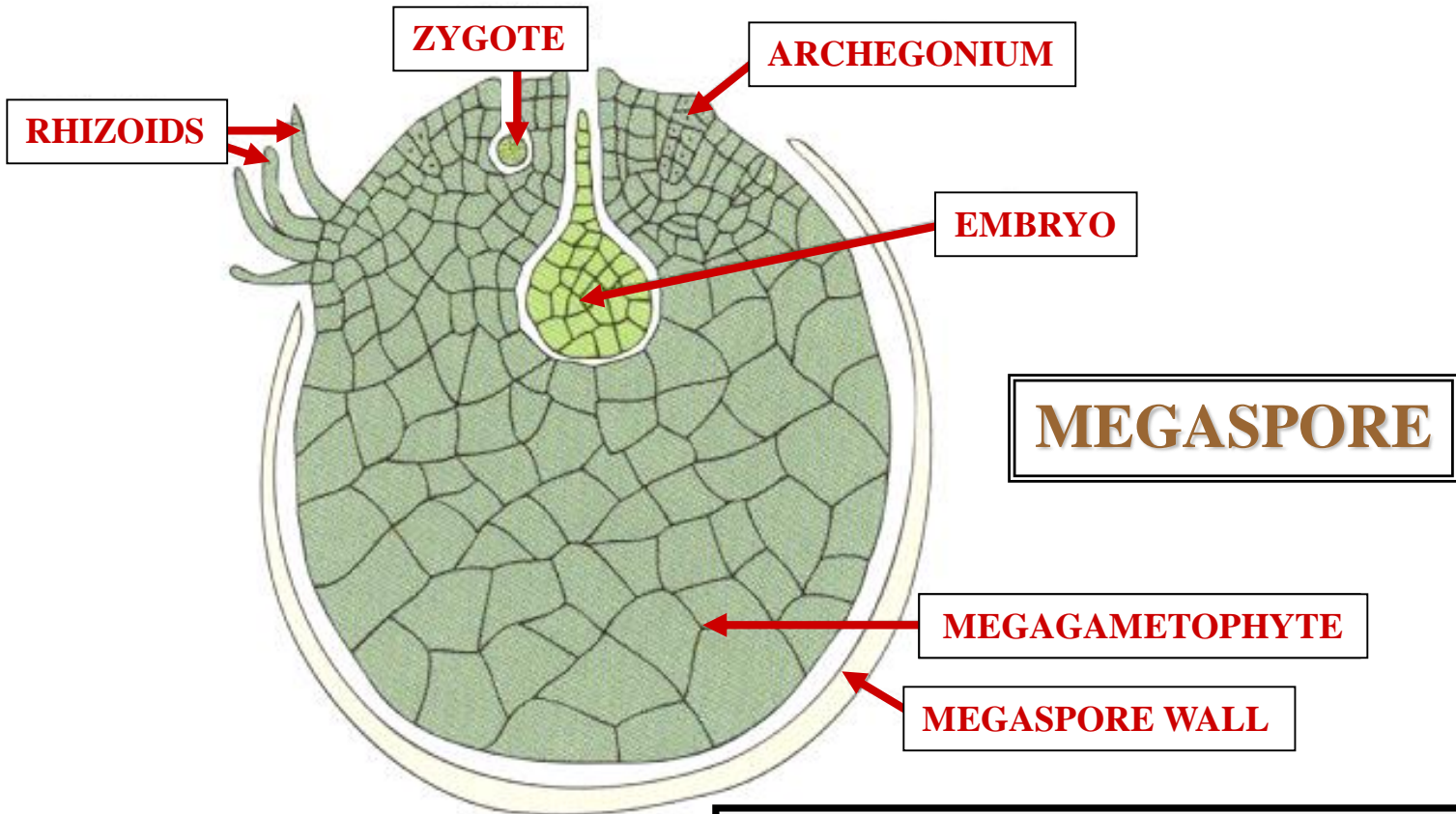


MEGAGAMETOPHYTE



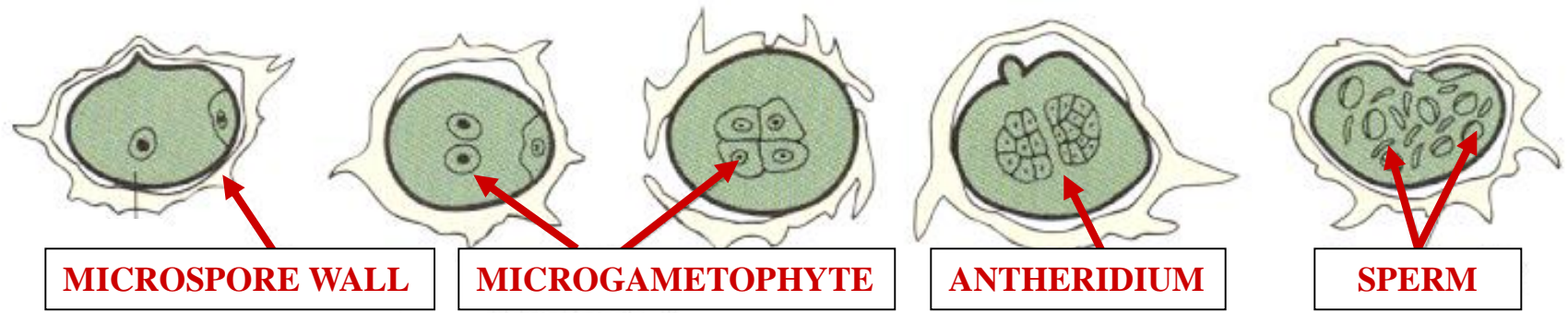
MICROGAMETOPHYTE

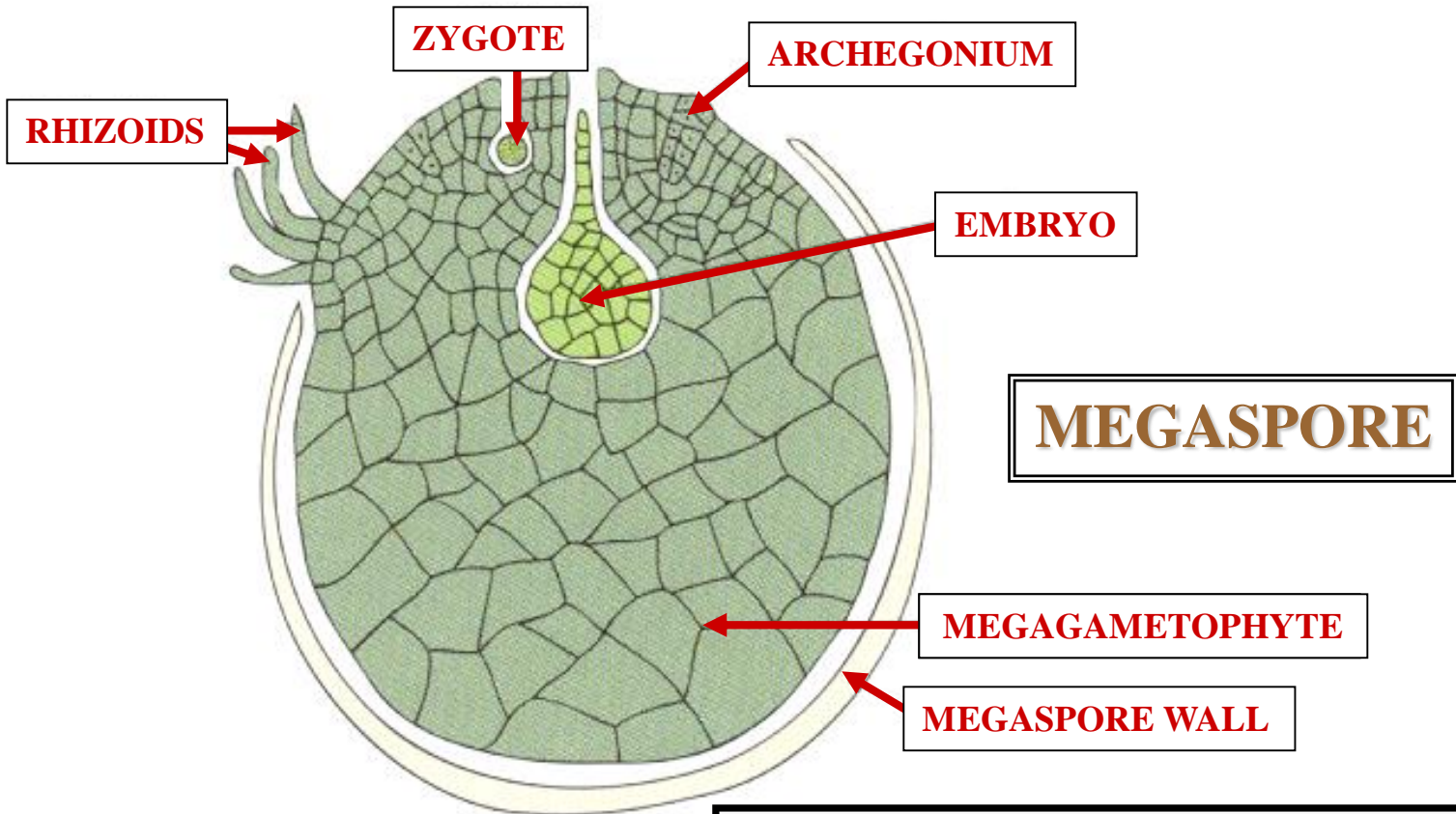




**MICROSPORE**

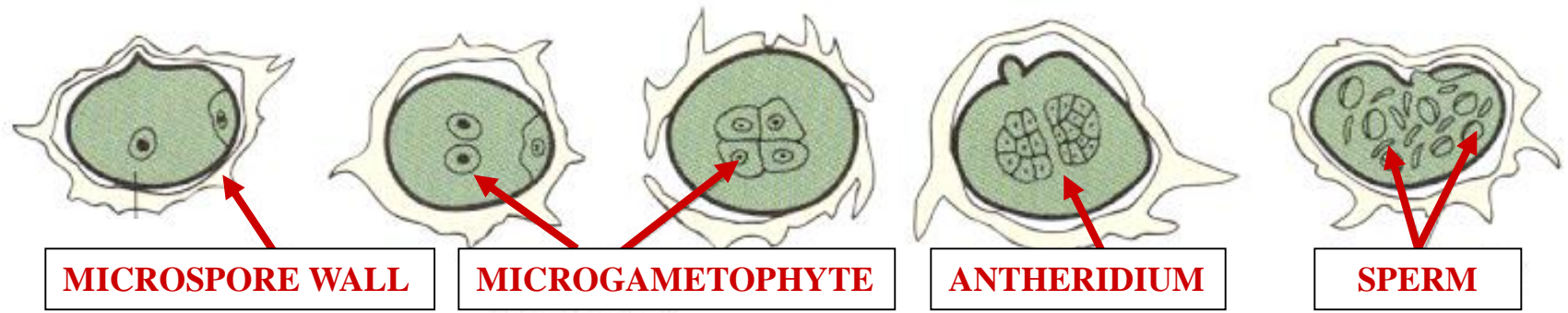
**GAMETOPHYTES**

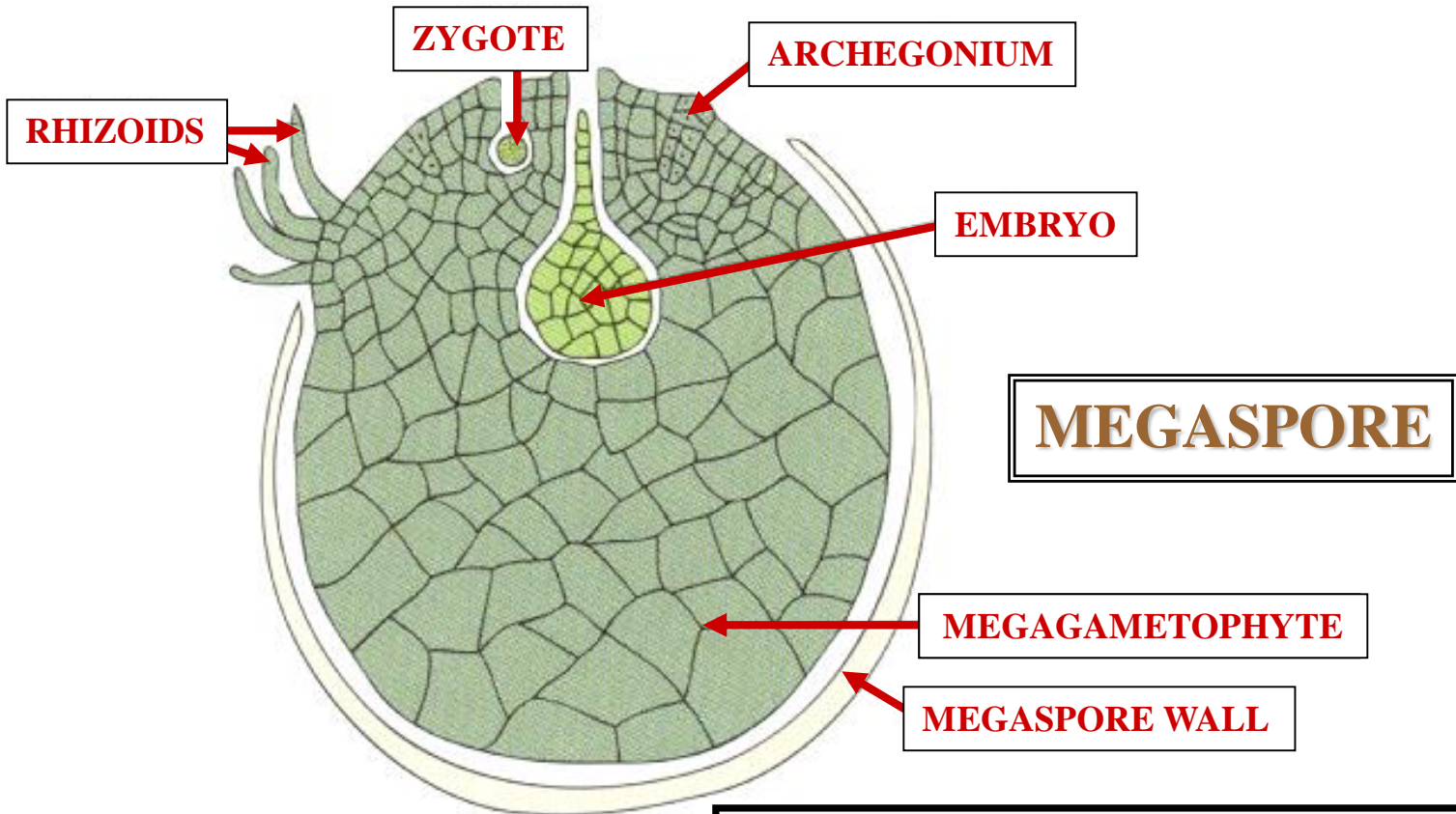




**MICROSPORE**

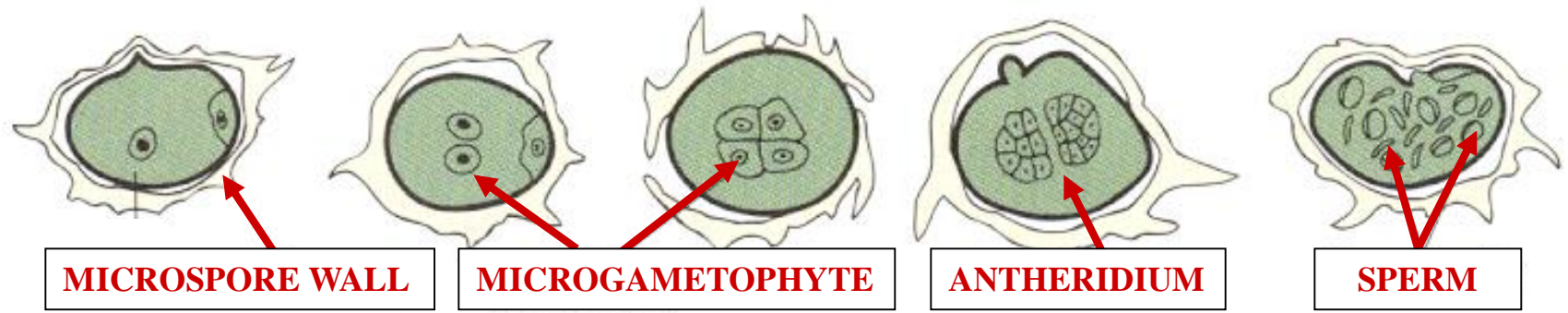
**ENDOSPORIC**





**MICROSPORE**

**UNISEXUAL**





# **TRACHEOPHYTE HETEROSPOROUS LIFE CYCLE SUMMARY**



***SELAGINELLA***

**HETEROSPOROUS**

***SELAGINELLA***



**MICROSPORES & MEGASPORES**

***SELAGINELLA***

**ENDOSPORIC GAMETOPHYTE**

***SELAGINELLA***



**UNISEXUAL GAMETOPHYTE**

***SELAGINELLA***



**B**

# SPERM

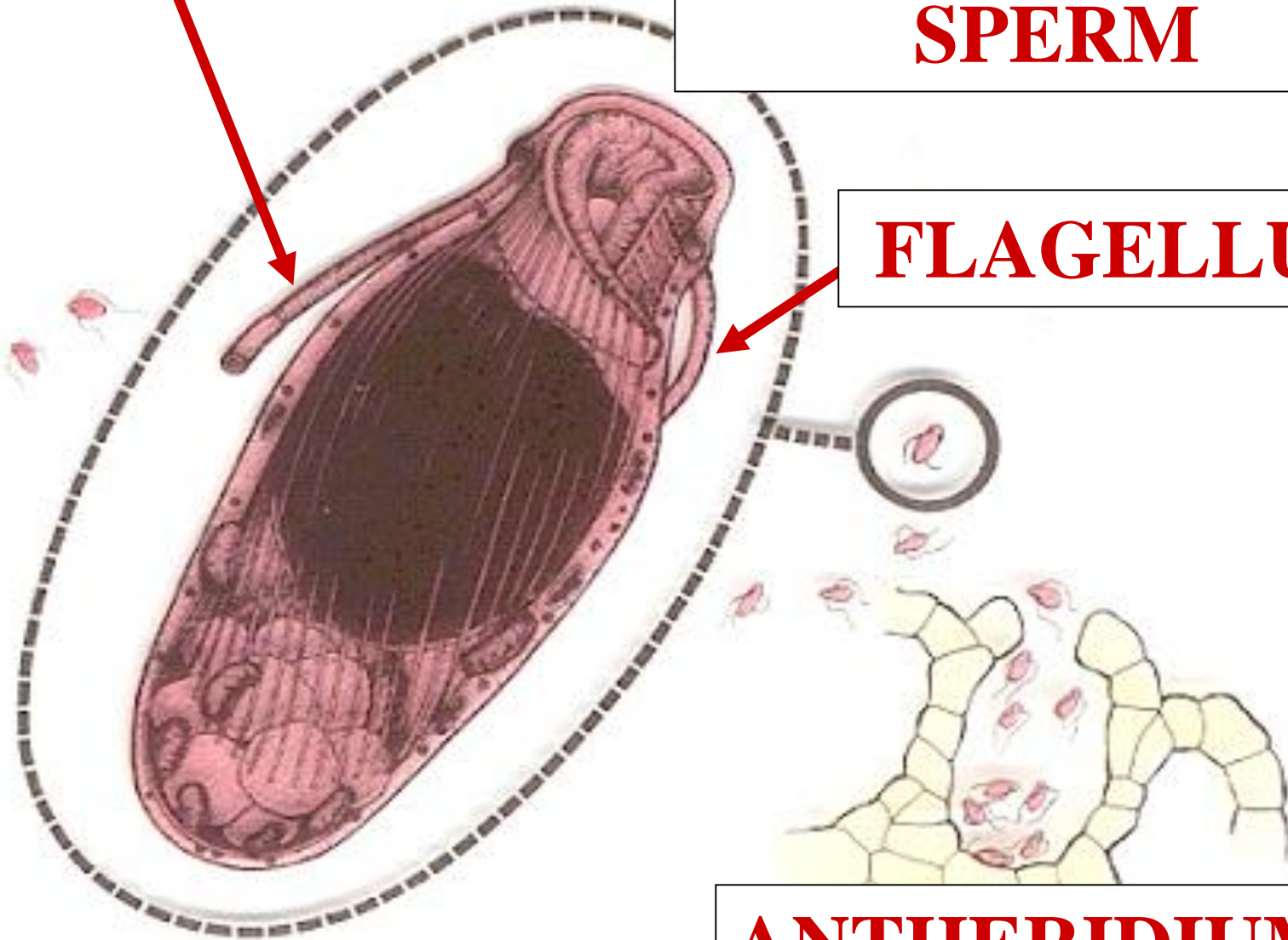
**FLAGELLUM**

**BIFLAGELLATED  
SPERM**

**M**

**FLAGELLUM**

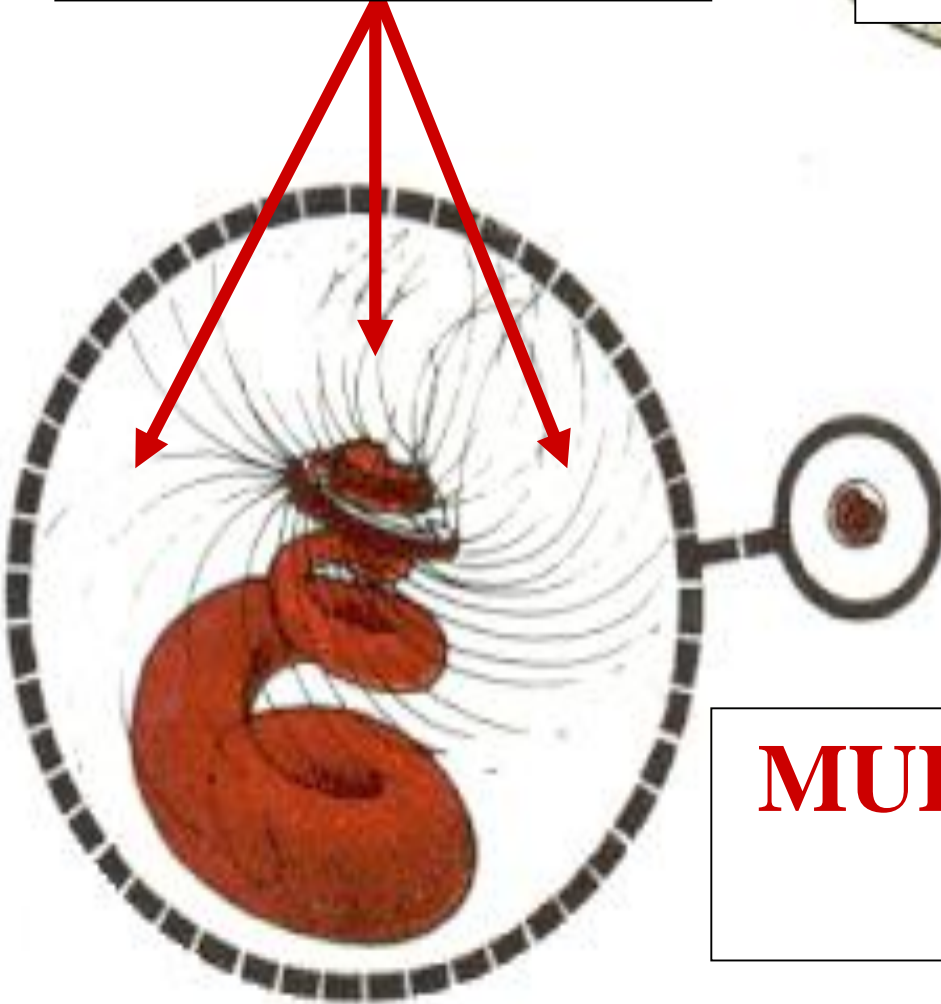
**ANTHERIDIUM**



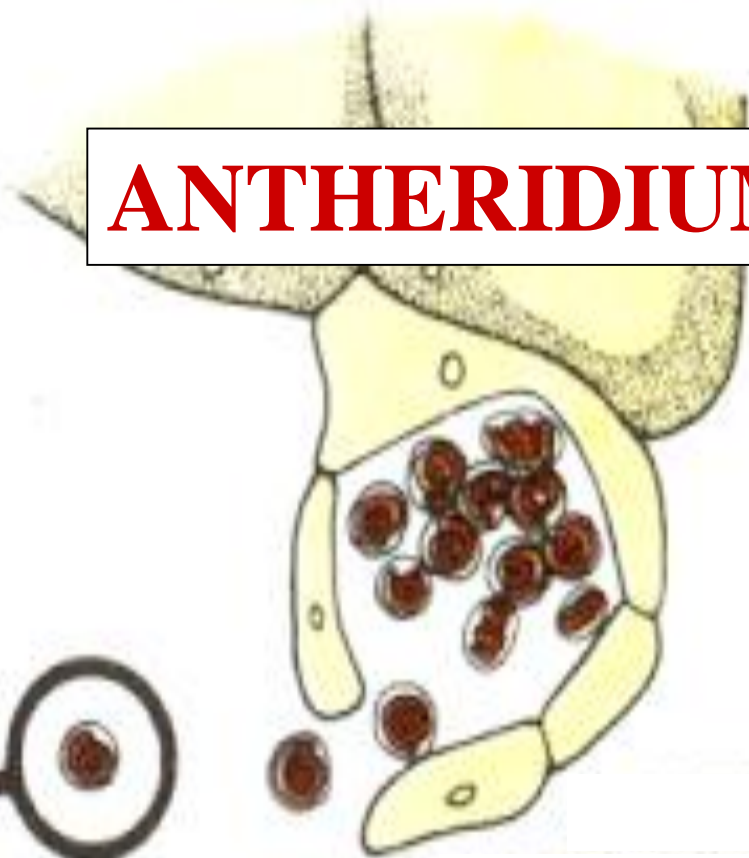


**MULTIPLE  
FLAGELLA**

**ANTHERIDIUM**



**MULTIFLAGELLATED  
SPERM**





# SYNGAMY

# PTERIDOPHYTES

ANTHERIDIUM

ARCHEGONIUM

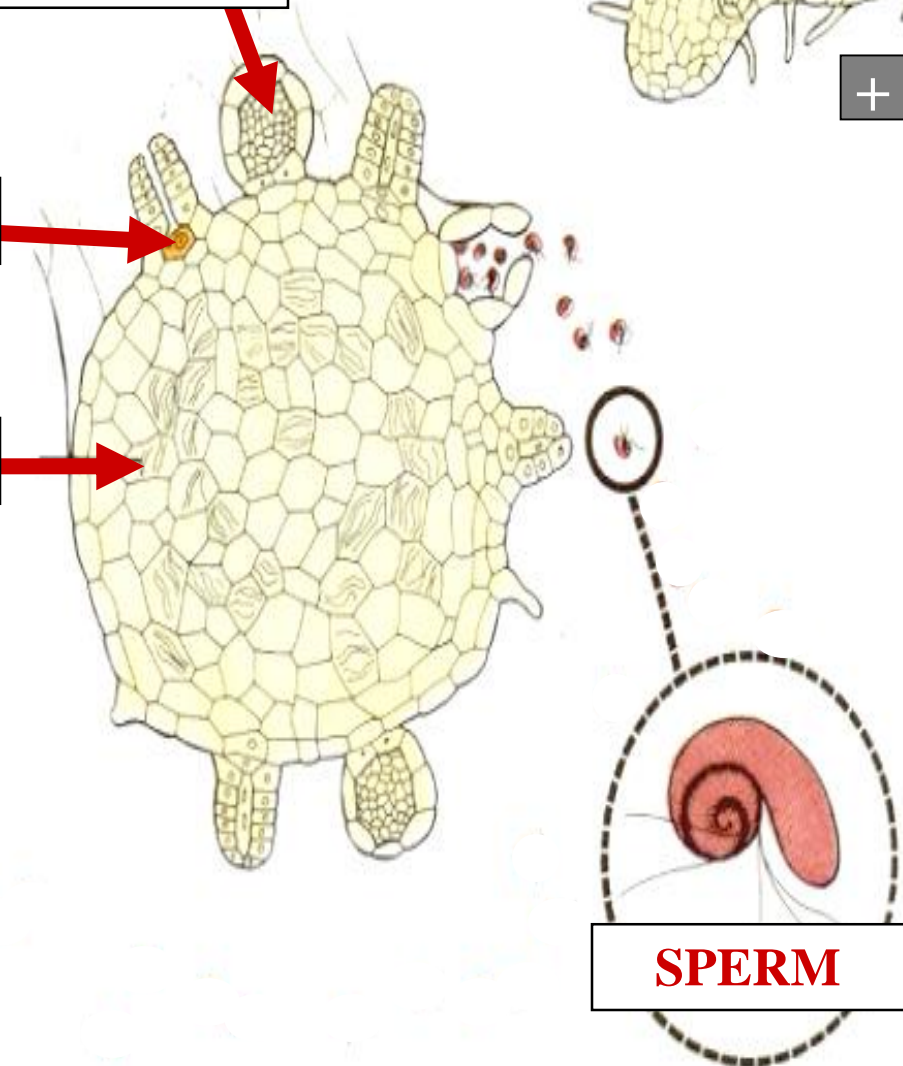
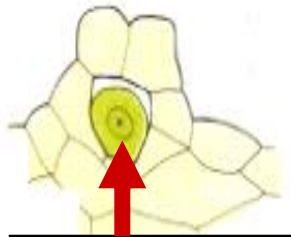
GAMETOPHYTE

ARCHEGONIUM

SPERM

EGG

FLAGELLATED SPERM





# PTERIDOPHYTES

ANTHERIDIUM

ARCHEGONIUM

GAMETOPHYTE

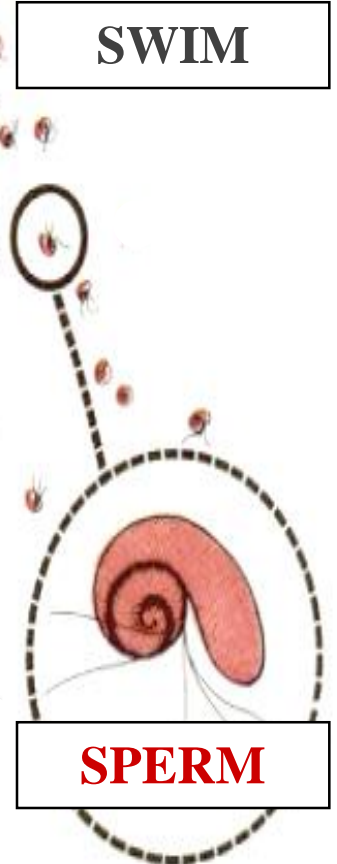
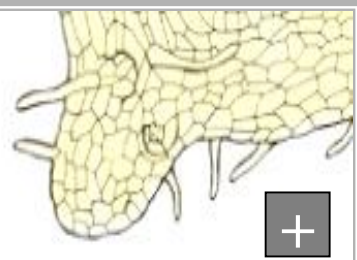
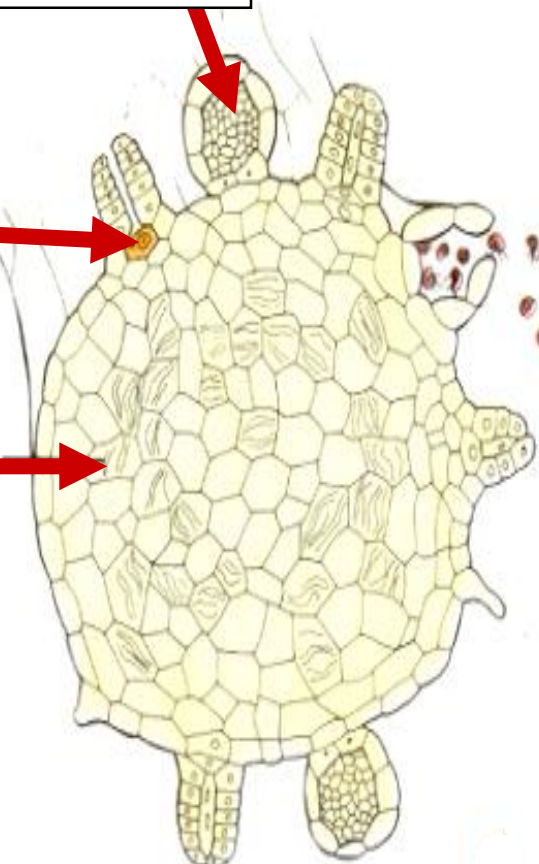
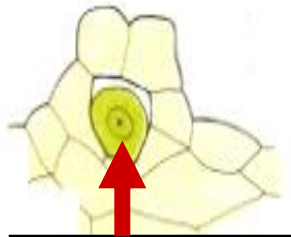
ARCHEGONIUM

EGG

FLAGELLATED SPERM

SPERM

SWIM



# PTERIDOPHYTES

ANTHERIDIUM

ARCHEGONIUM

GAMETOPHYTE

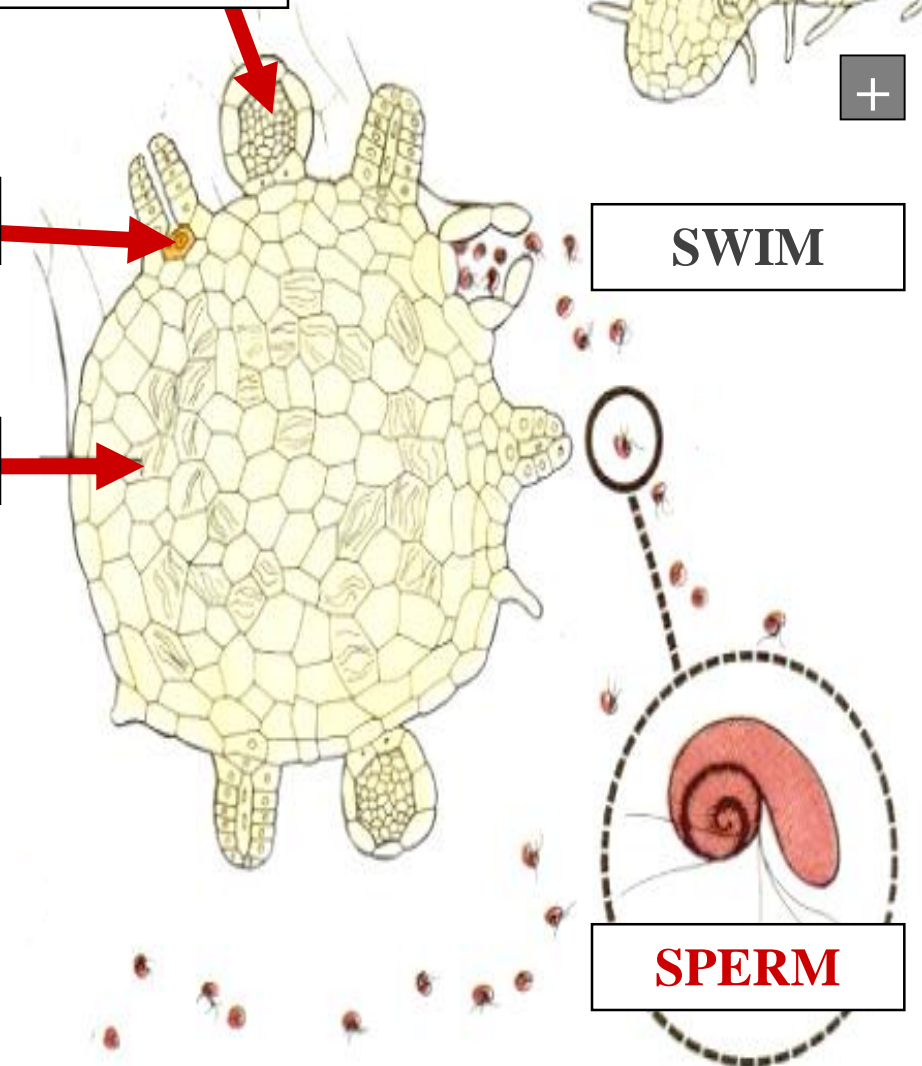
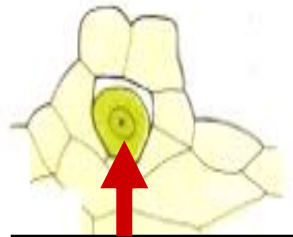
ARCHEGONIUM

EGG

FLAGELLATED SPERM

SPERM

SWIM



# PTERIDOPHYTES

ANTHERIDIUM

ARCHEGONIUM

GAMETOPHYTE

ARCHEGONIUM

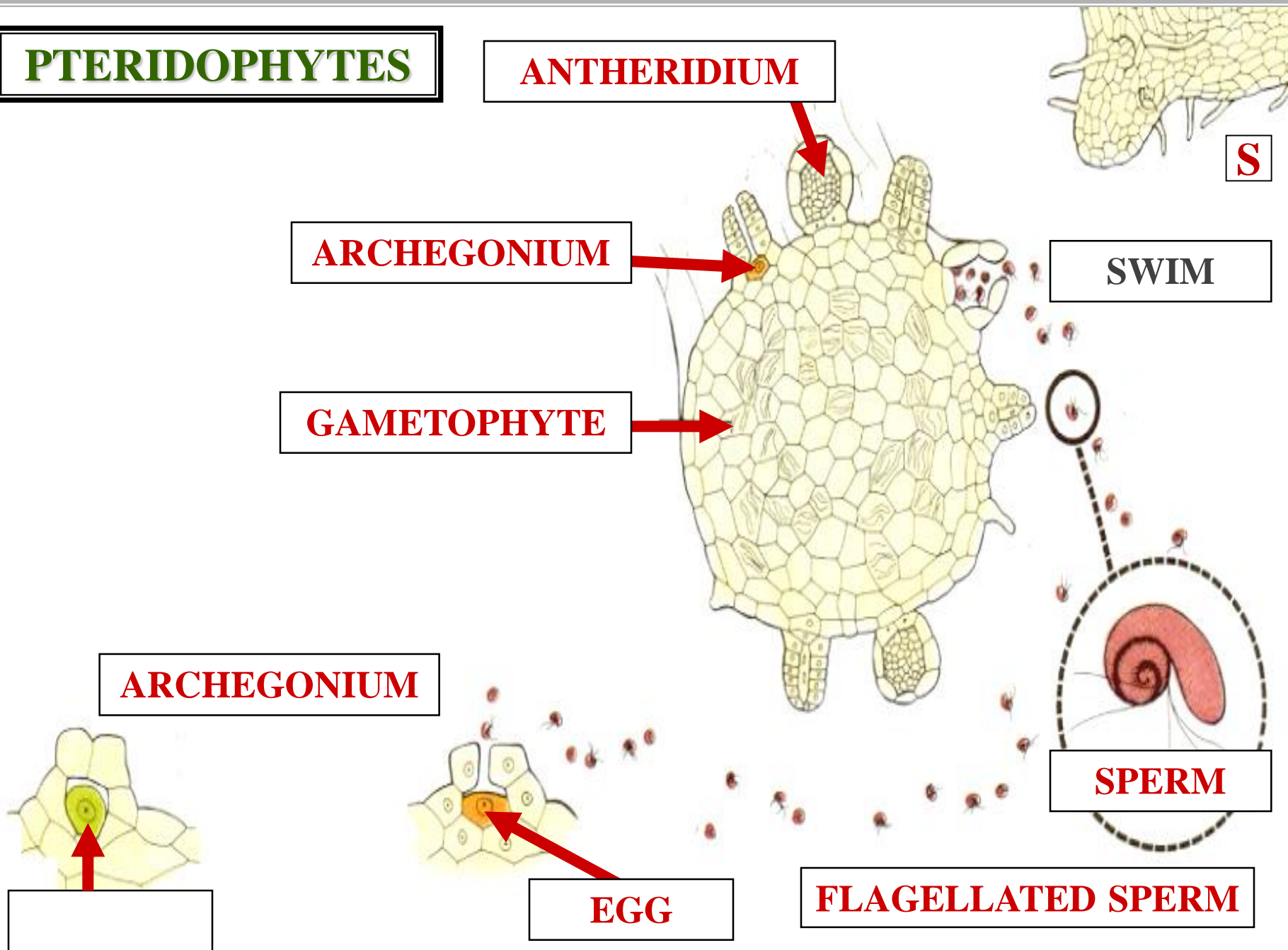
EGG

FLAGELLATED SPERM

SPERM

SWIM

S



# PTERIDOPHYTES

ANTHERIDIUM

ARCHEGONIUM

GAMETOPHYTE

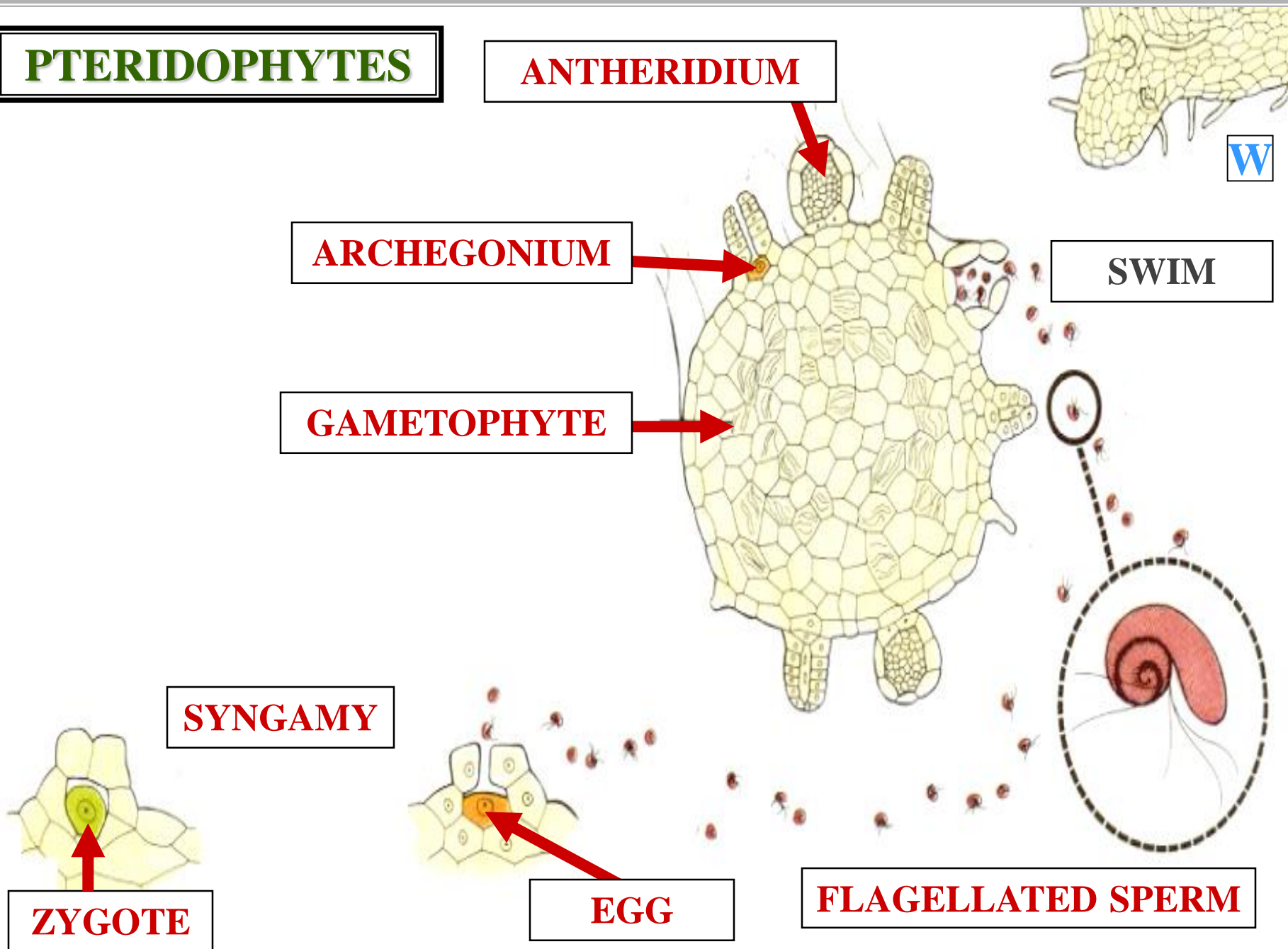
SWIM

SYNGAMY

ZYGOTE

EGG

FLAGELLATED SPERM



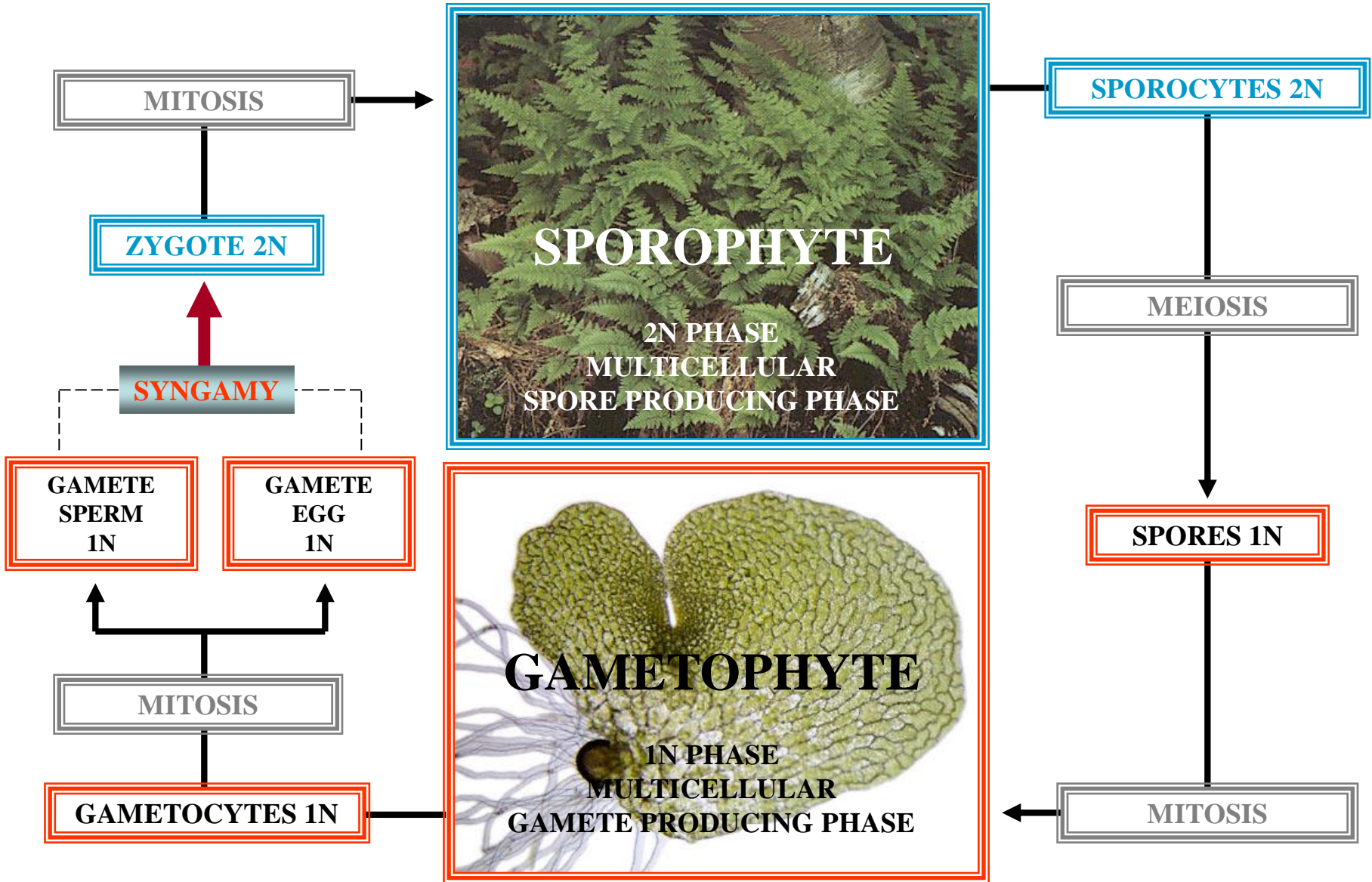
# PTERIDOPHYTES



## SYNGAMY REQUIRES WATER



# PTERIDOPHYTE LIFE CYCLE





**ALABAMA  
PTERIDOPHYTE  
PHYLA**



**ALABAMA  
PTERIDOPHYTE  
PHYLA**



L

i



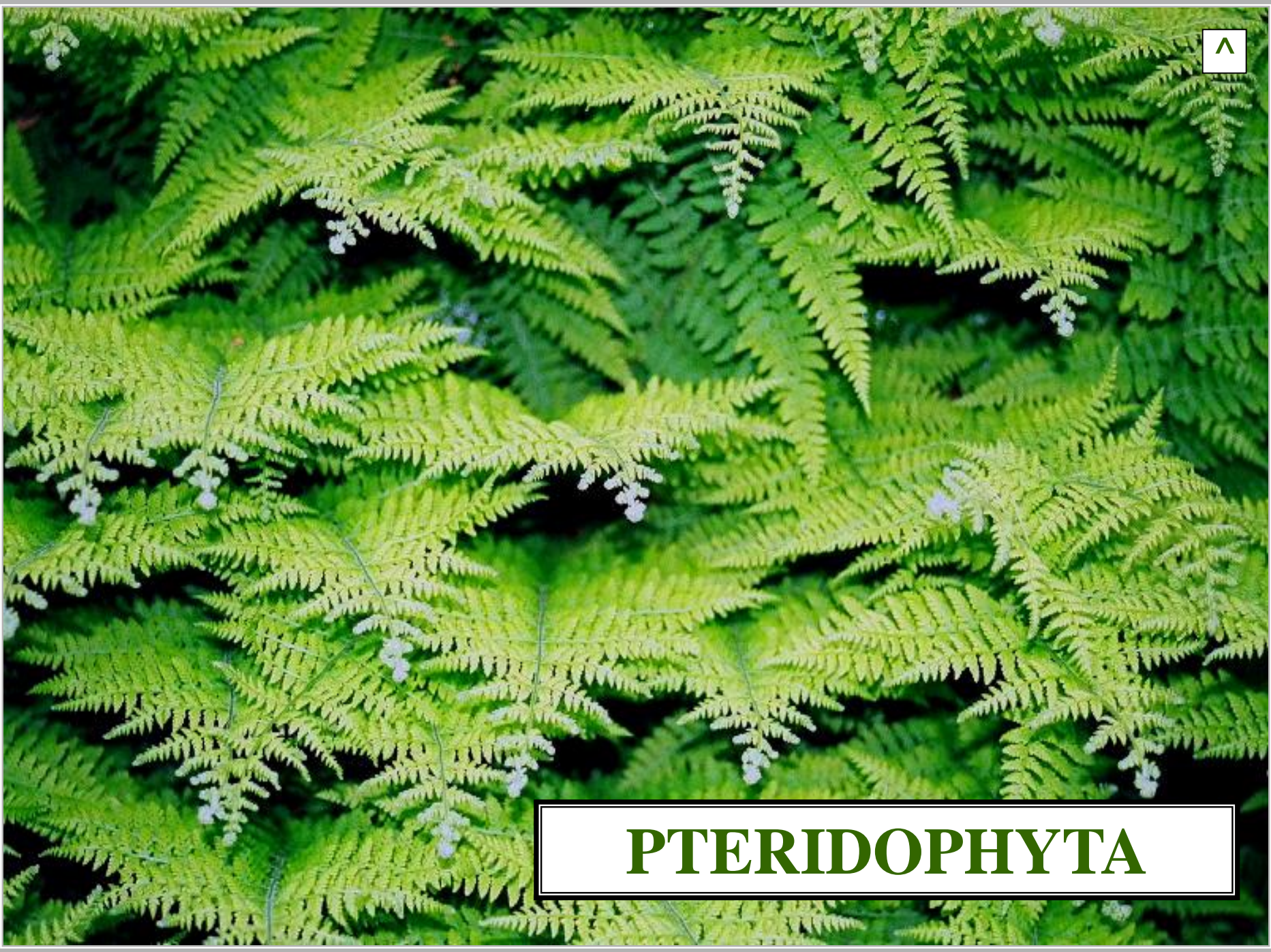


**LYCOPODIOPHYTA**

P

?





**PTERIDOPHYTA**

ALABAMA  
PHYLUM



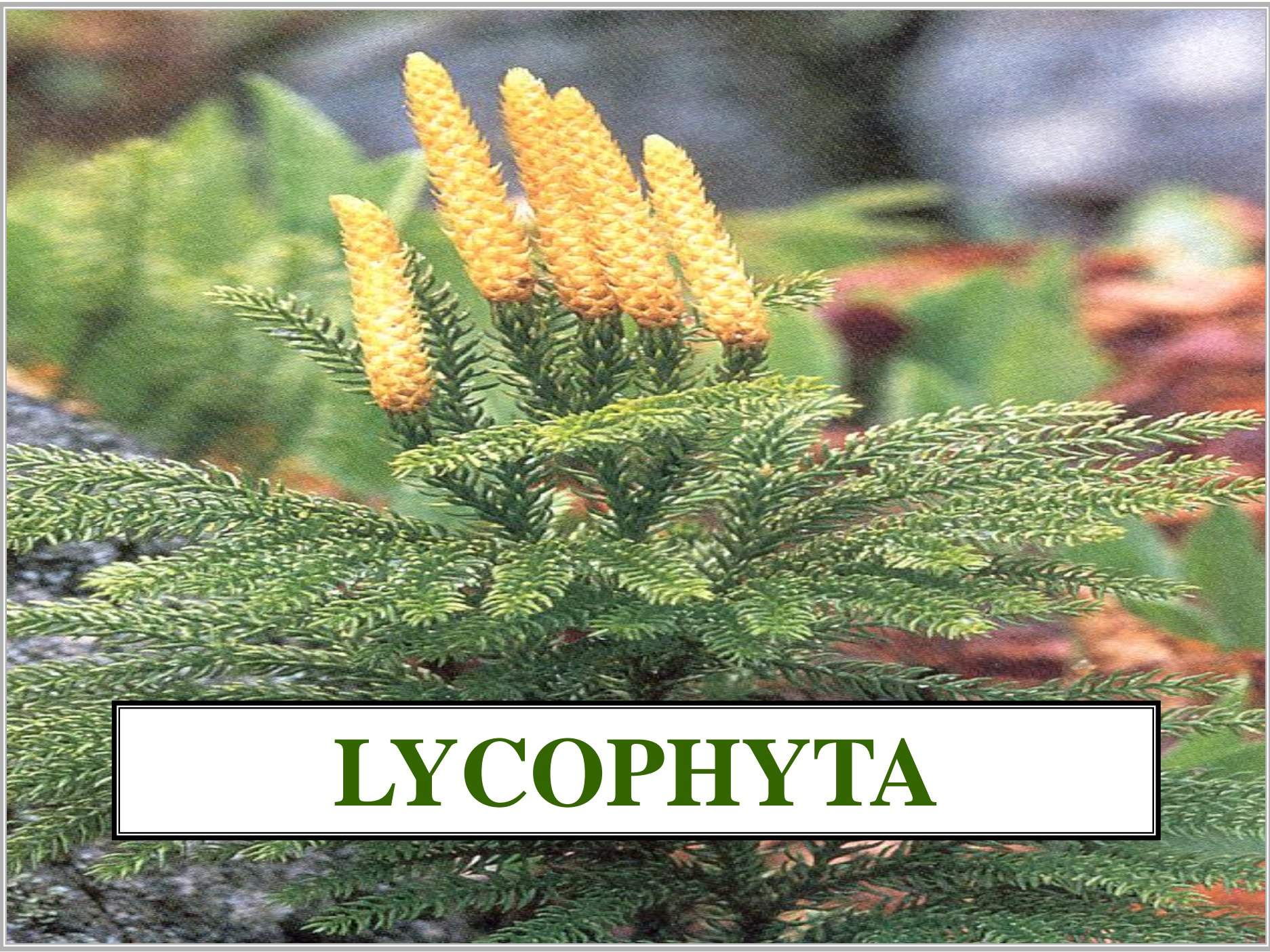
PHYLUM  
LYCOPODIOPHYTA

ALABAMA  
PHYLUM



**LYCOPODIOPHYTA**

# SYNONYMS



**LYCOPHYTA**



A close-up photograph of a plant's reproductive structures. The image shows several upright, yellowish, cone-shaped structures (microphylls) emerging from a cluster of green, needle-like leaves. The background is blurred, showing more green foliage and some reddish-brown ground.

# MICROPHYLLOPHYTA

# COMMON NAME



# LYCOPHYTES



# DIVERSITY



**~1,200 SPECIES**

**EARTH**



**~15 SPECIES**





**LYCOPODIOPHYTA**  
**MINOR**  
**COMPONENT**  
**ALABAMA FLORA**





# REPRESENTATIVE GENERA



L



?



***LYCOPODIUM***

S

?





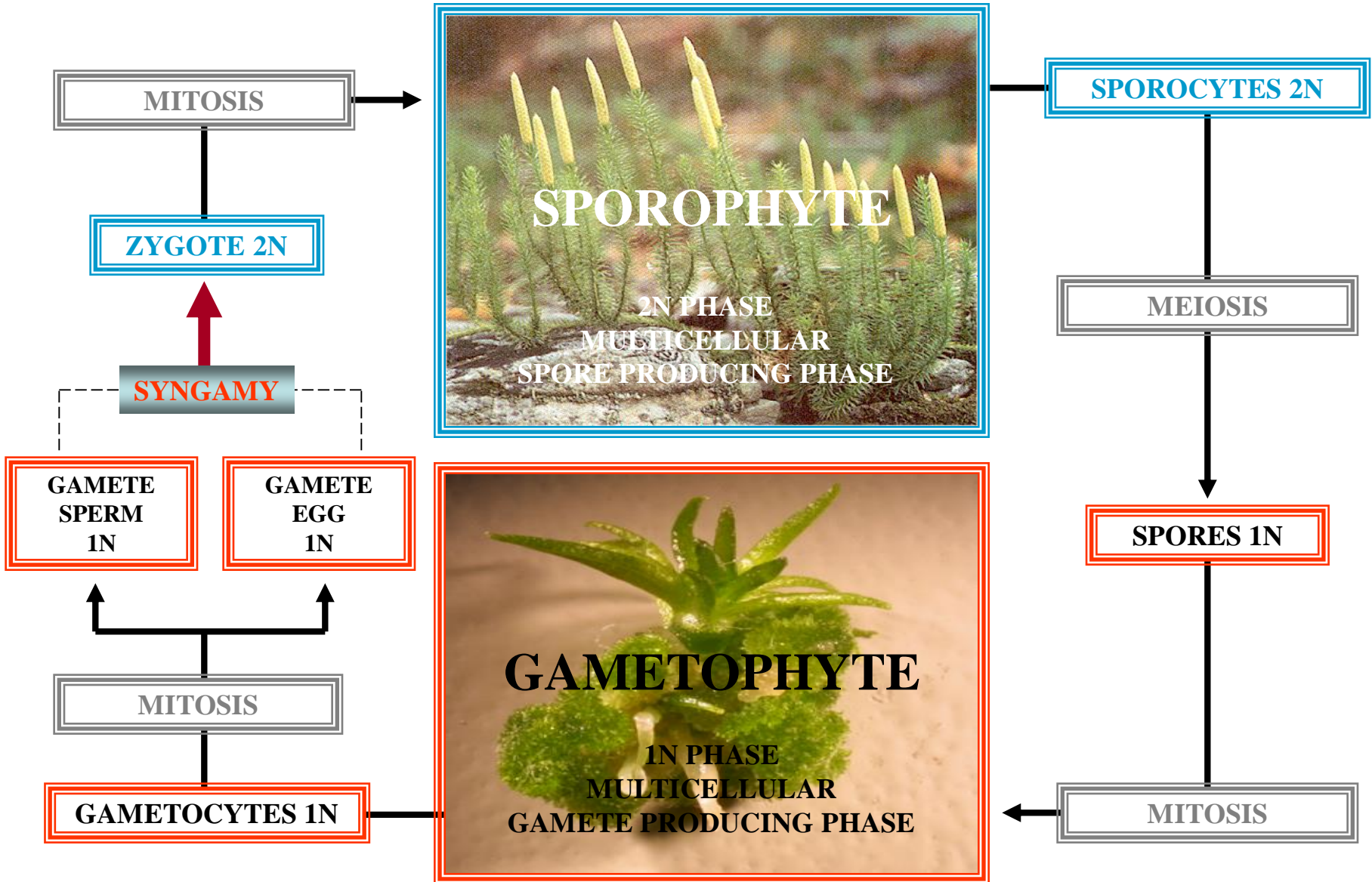
***SELAGINELLA***



# GENERAL CHARACTERS

# LYCOPODIOPHYTA

## LIFE CYCLE



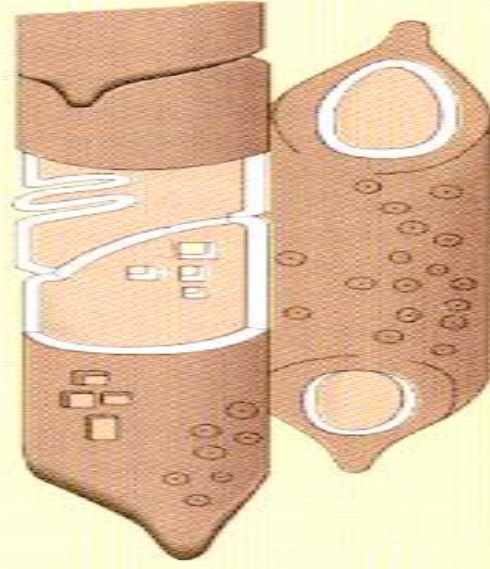
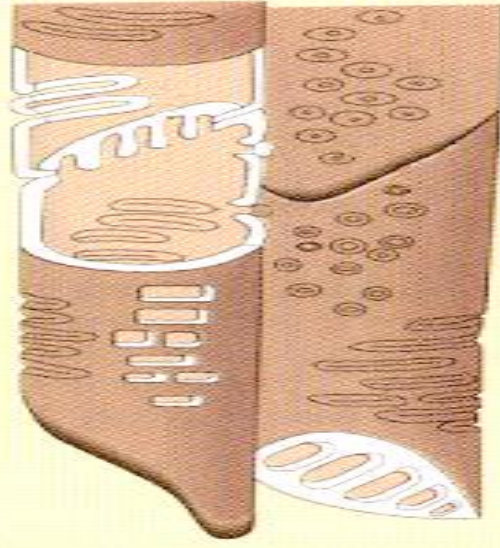
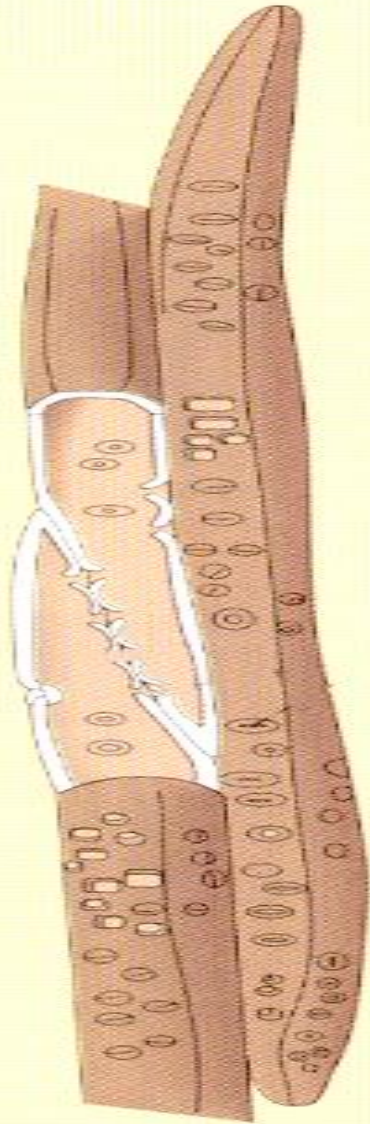


# **SPOROPHYTE CHARACTERS**

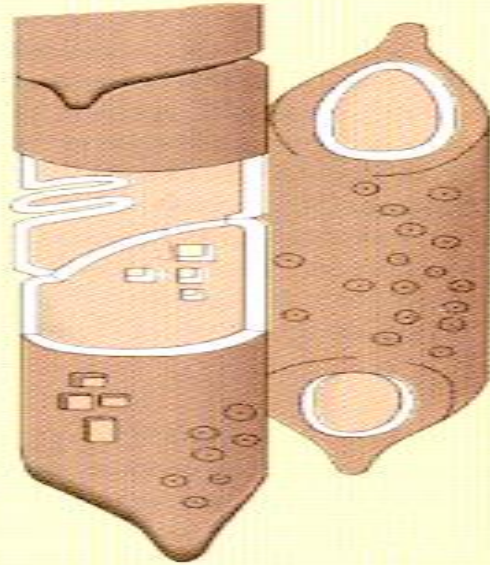
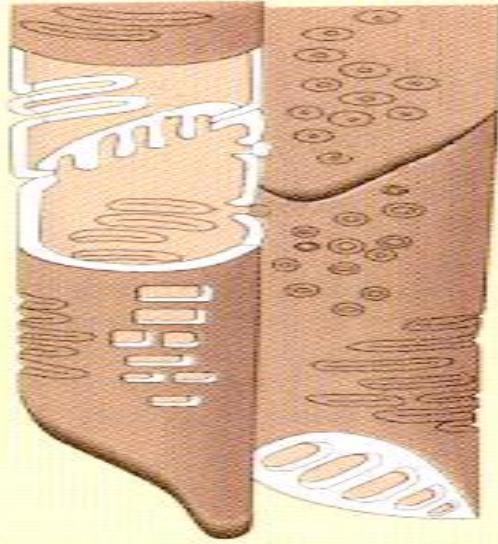
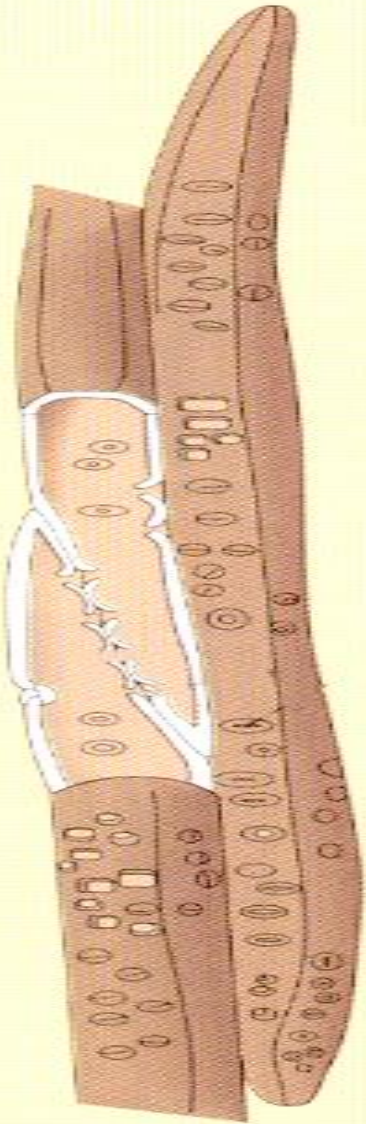


# XYLEM





**XYLEM CELLS**



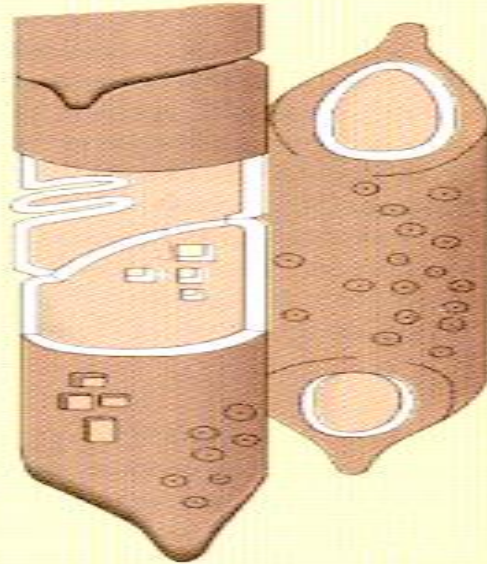
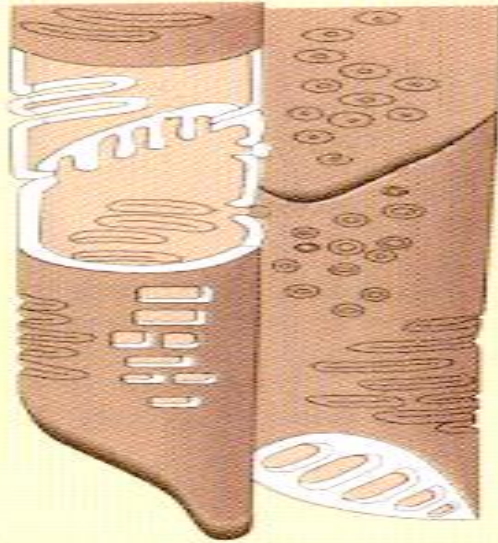
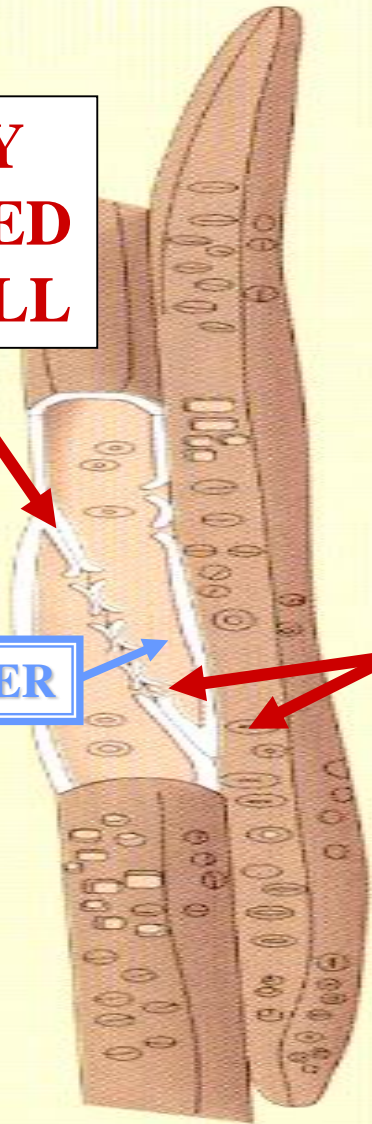
**TRACHEARY ELEMENTS**

**HIGHLY  
TAPPED  
END WALL**

**WATER**

**PITS**

**?**

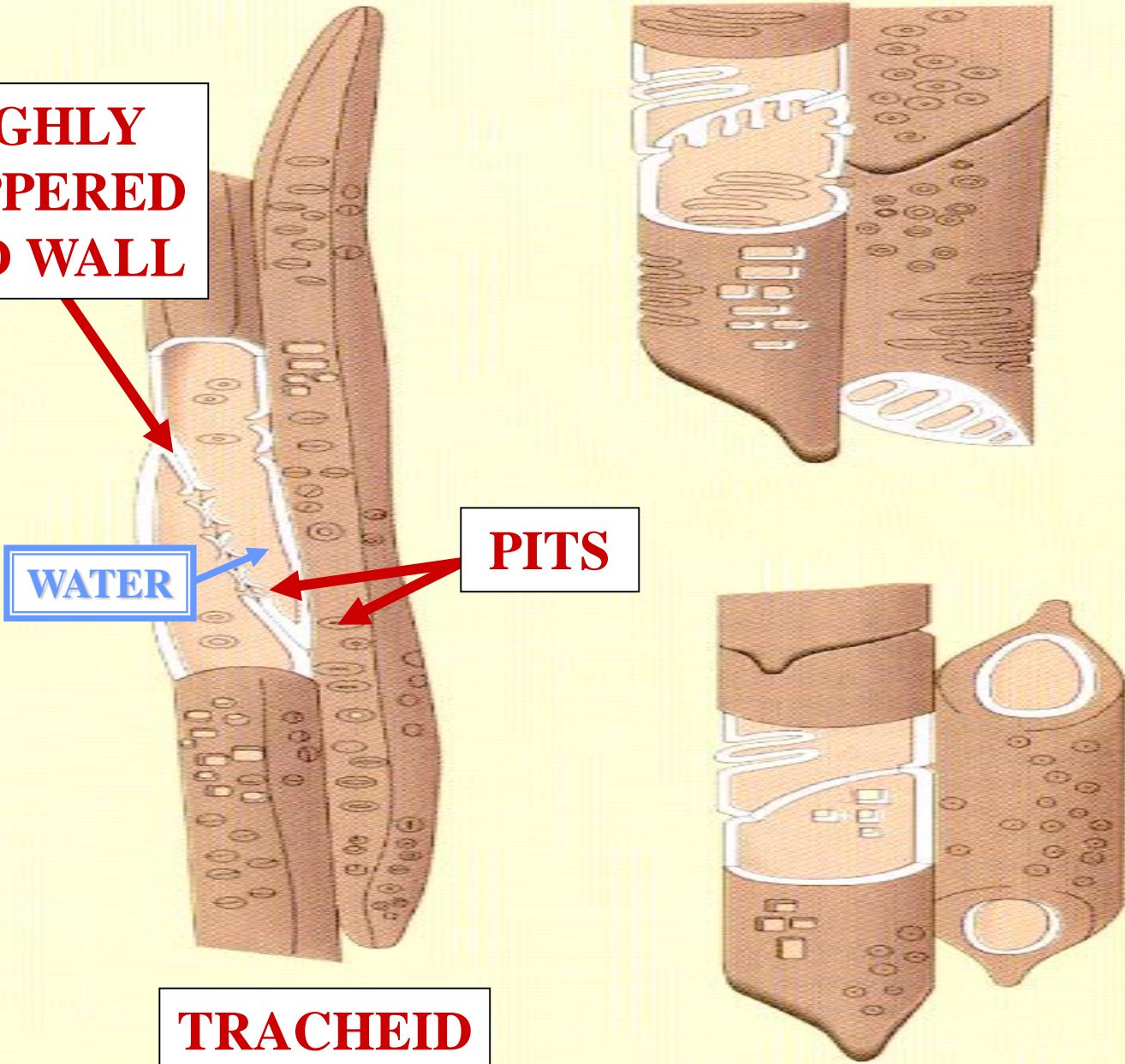


**HIGHLY  
TAPPED  
END WALL**

**WATER**

**PITS**

**TRACHEID**



**HIGHLY  
TAPPED  
END WALL**



**WATER**



**PITS**



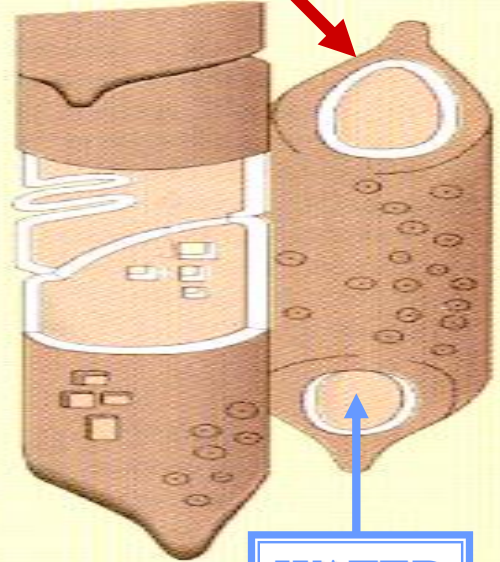
**TRACHEID**

**LESS  
TAPPED  
END WALL**



**?**

**PERFORATED PLATE**



**WATER**



**T**

**HIGHLY  
TAPPED  
END WALL**

**LESS  
TAPPED  
END WALL**

**VESSEL  
MEMBER**

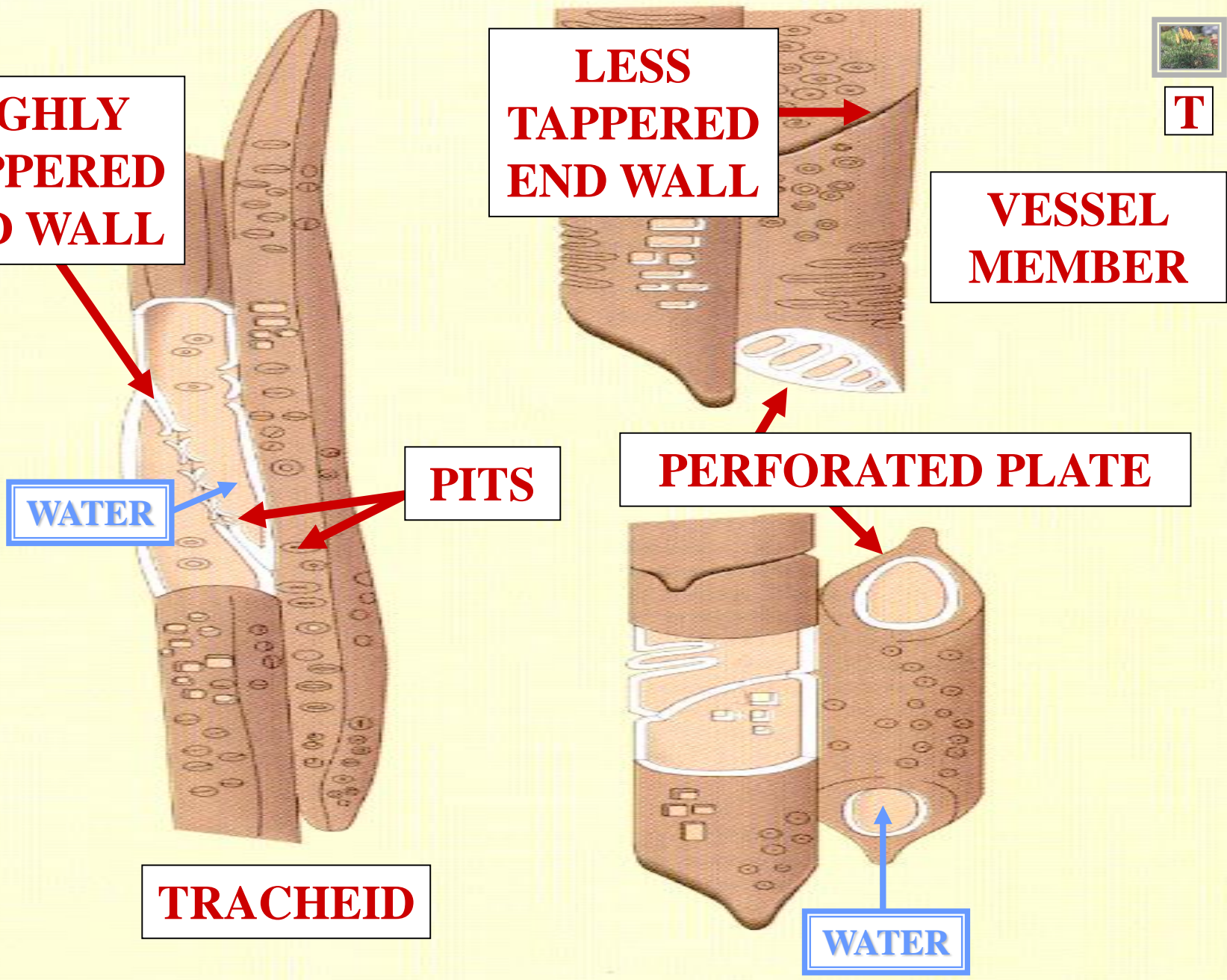
**WATER**

**PITS**

**PERFORATED PLATE**

**TRACHEID**

**WATER**





V

**TRACHEIDS**

*LYCOPODIUM*



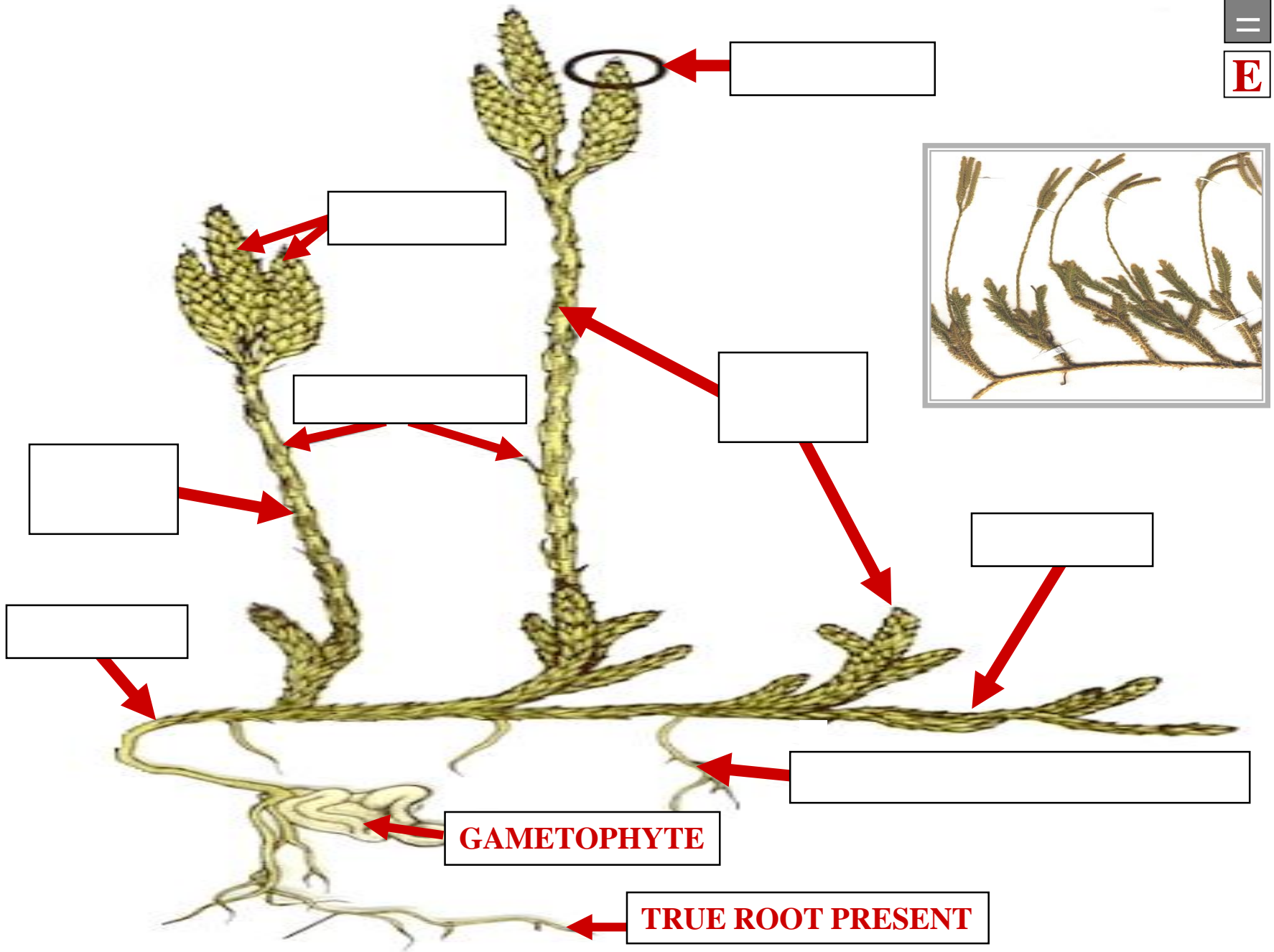
**TRACHEIDS  
&  
VESSEL MEMBERS**

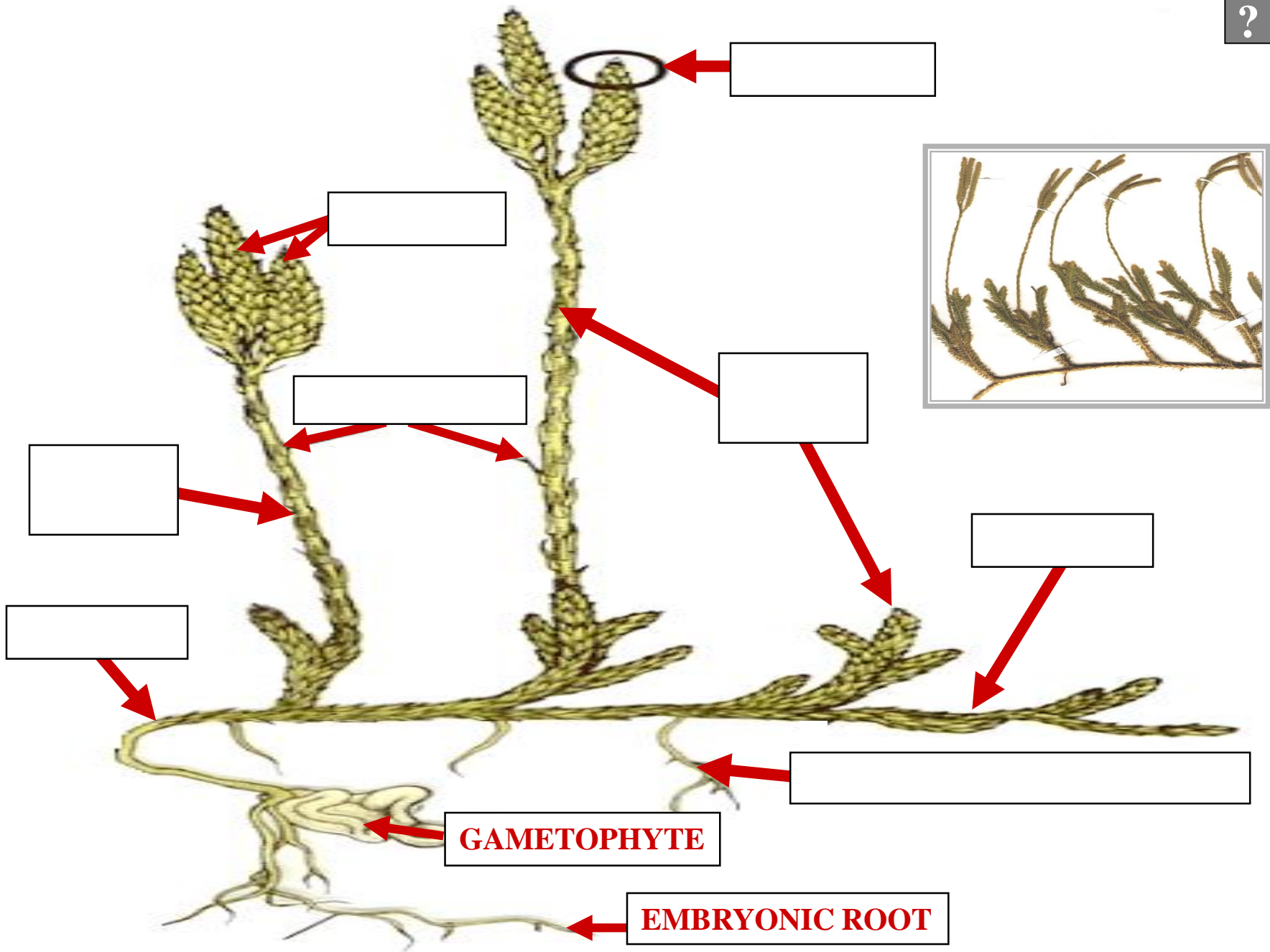
***SELAGINELLA***





**ROOT**





A

