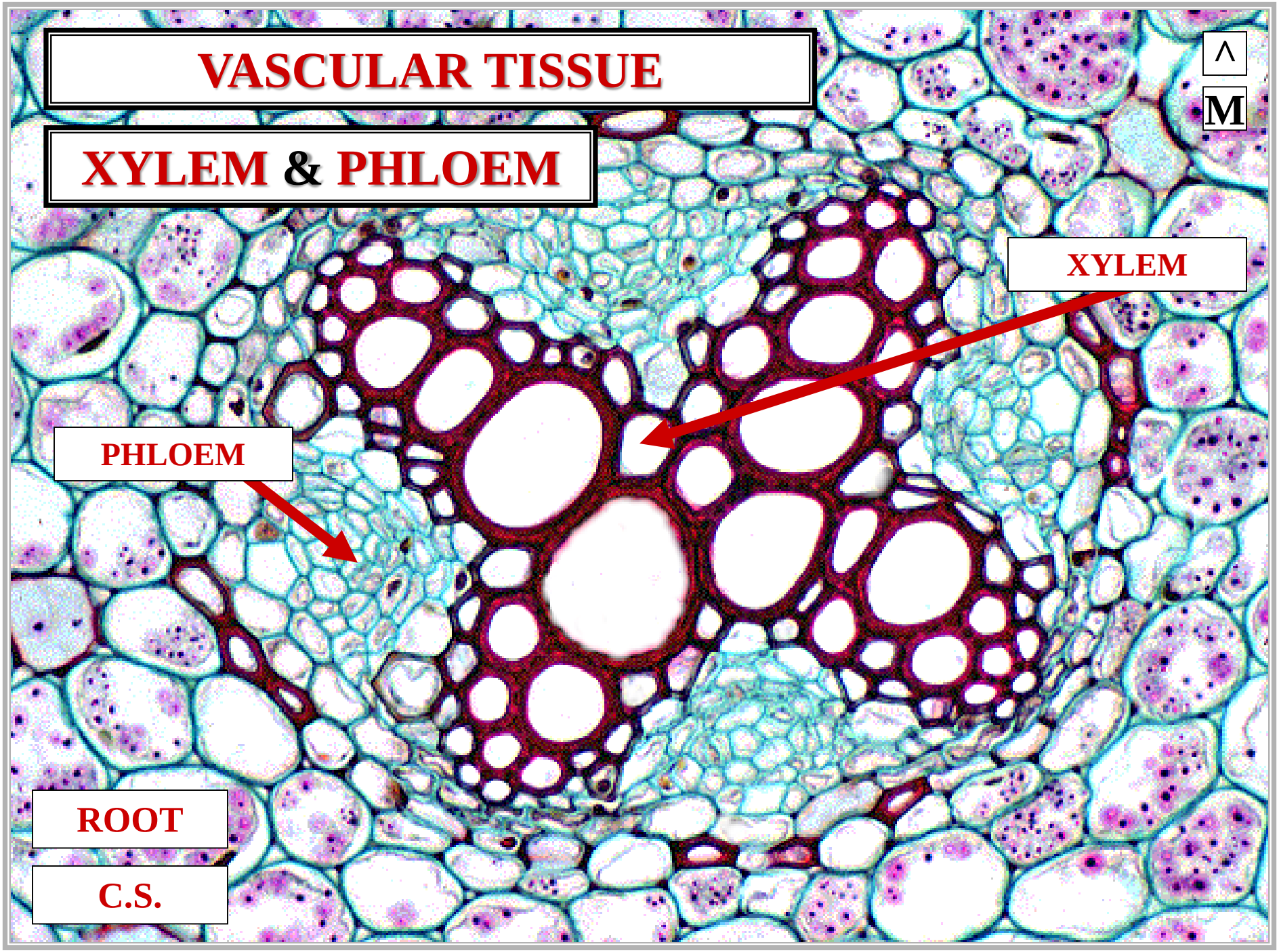
VASCULAR TISSUE

XYLEM & PHLOEM



MORPHOLOGY

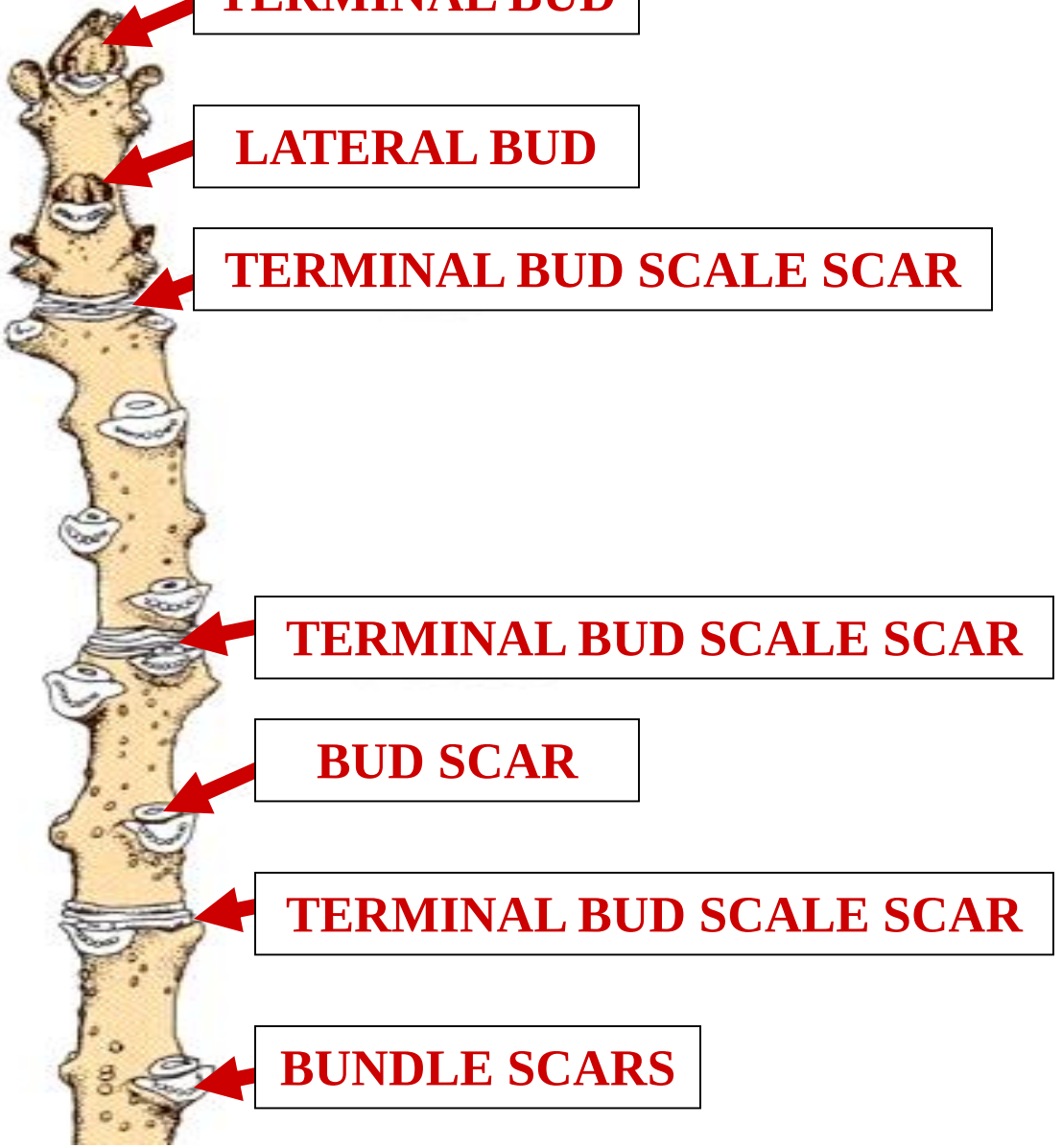
MORPHIOLOGY

STUDY PLANT EXTERNAL STRUCTURE

MORPHOLOGY

MORPHOLOGY STUDY EXTERNAL PLANT STRUCTURE

ANGIOSPERM TWIG MORPHOLOGY



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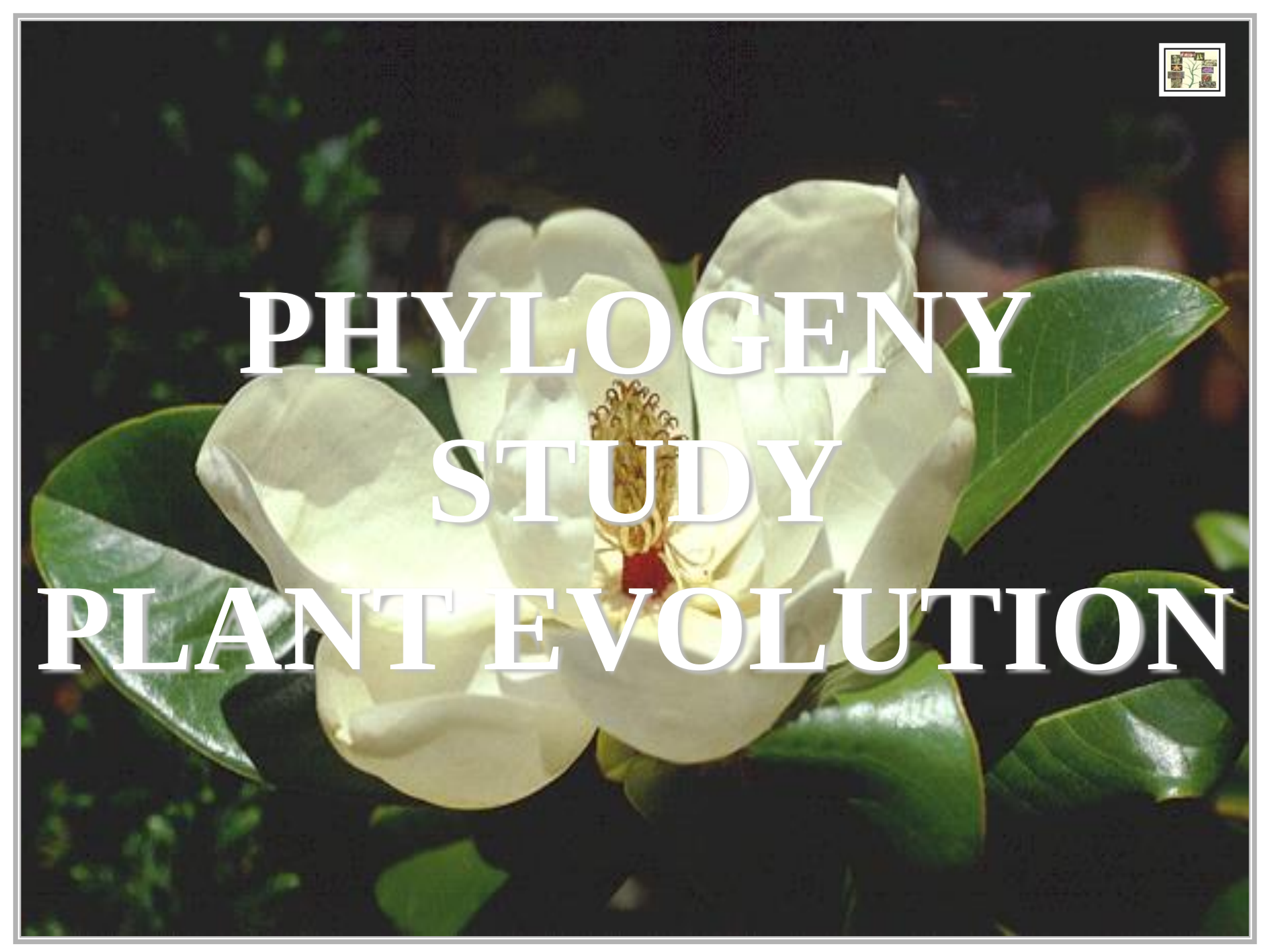
P

PHYLOGENY

PHYLOGENY

STUDY PLANT EVOLUTION

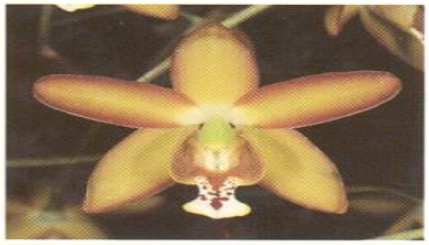
PHYLOGENY


PHYLOGENY
STUDY
PLANT EVOLUTION

PLANT PHYLOGENY










TRACHEOPHYTES

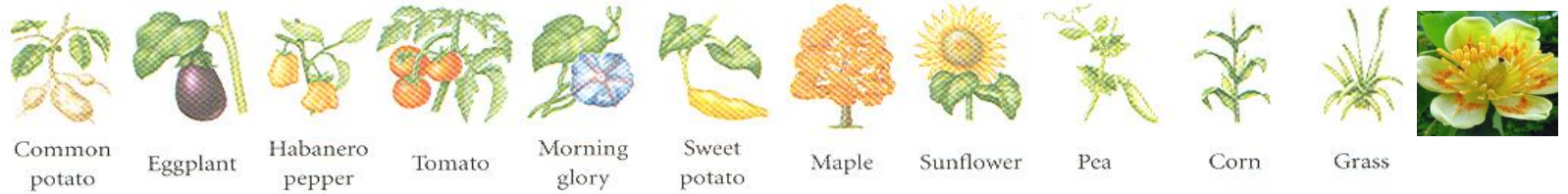
TAXONOMY

TAXONOMY

STUDY PLANT CLASSIFICATION

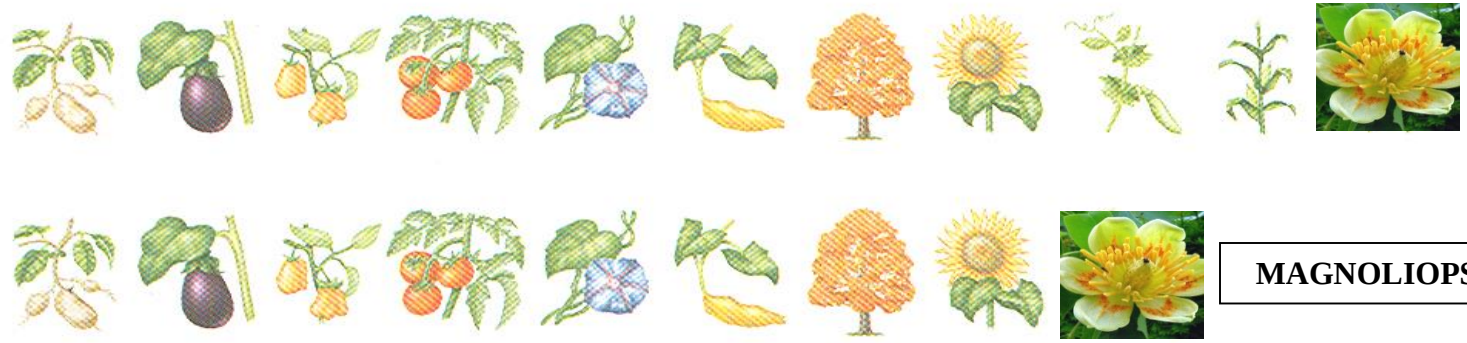
TAXONOMY

TAXONOMY STUDY PLANT CLASSIFICATION



PLANTAE

^



MAGNOLIOPHYTA

MAGNOLIOPSIDA

MAGNOLIALES

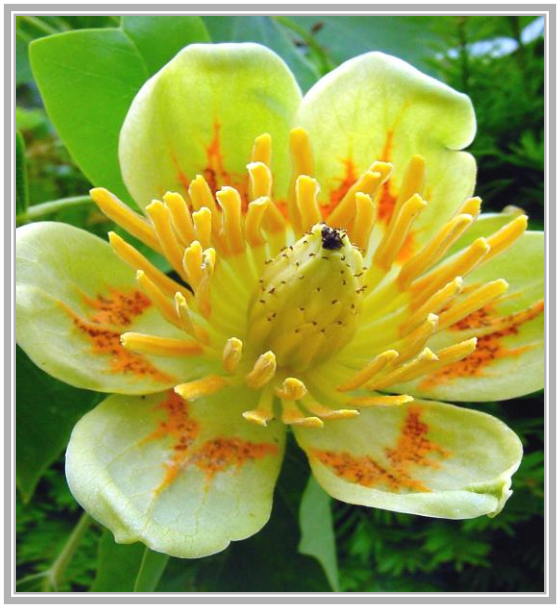
MAGNOLIACEAE

LIRIODENDRON

TULIPIFERA

TULIP POPLAR

TAXONOMIC CLASSIFICATION



PLANT DEFINITION


PLANT DEFINTION
NO
COMMON DEFINITION
AMONGST BOTANISTS


PLANT DEFINITION
SUBJECTIVE

PLANT
CLASS DEFINITION

PLANT

PLANT

ORGANISM THAT POSSESSES PLASTIDS

PLANT

PLANT CELL

P

PLASTID

C.S.

PLASTID

PLASTID

PLANT ORGANELLE ASSOCIATED WITH:

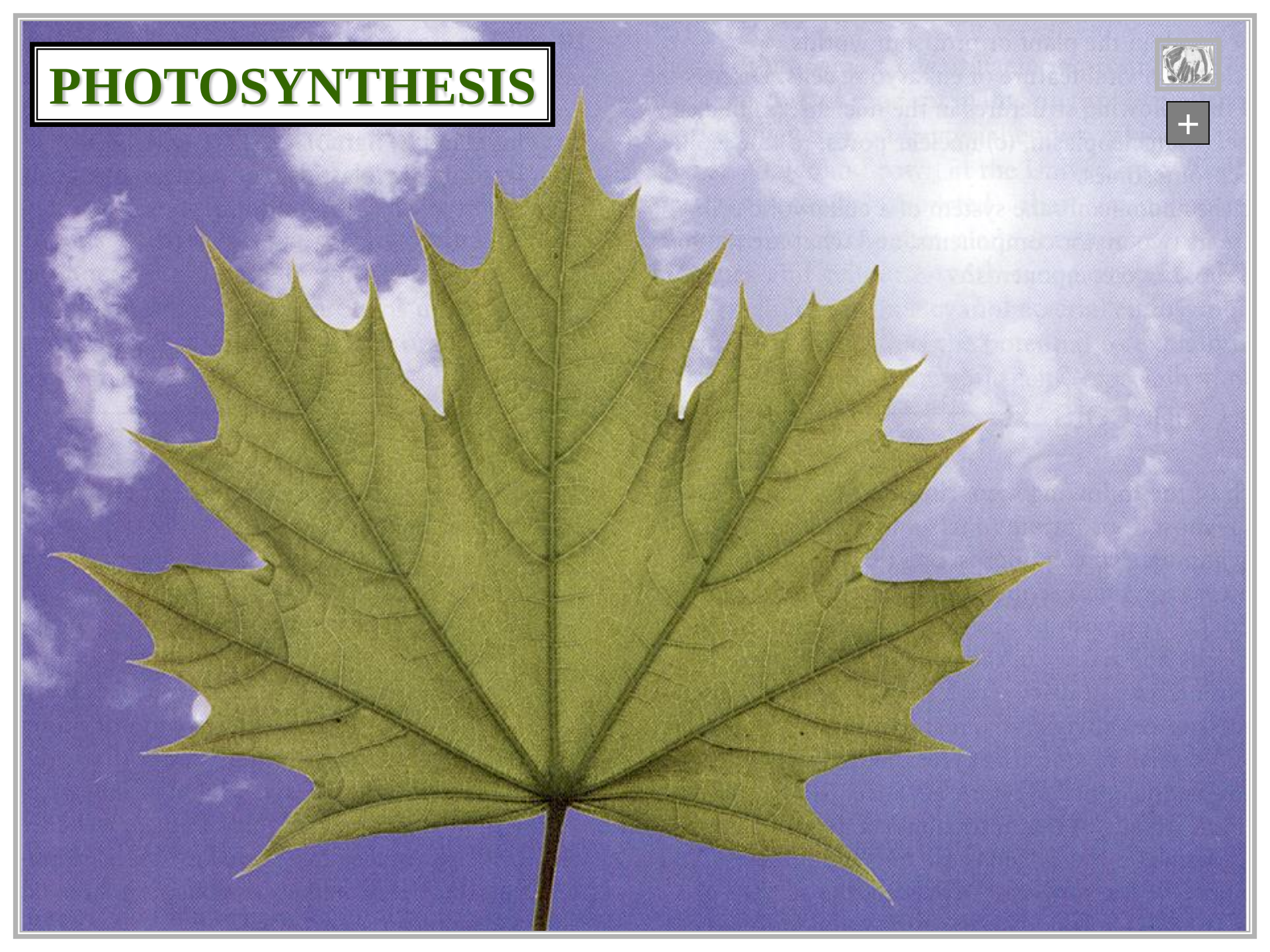
PLASTID

PLASTID

PLANT ORGANELLE ASSOCIATED WITH: PHOTOSYNTHESIS

PLASTID

PHOTOSYNTHESIS



LEAF CELL

C

¿

PLASTID

C.S.

LEAF CELL

P

CHLOROPLAST

C.S.

PHOTOSYNTHESIS

^

P

WATER

CO2

LIGHT EGY

PHOTO

ATMOSPHERE

E-

PHOTOLYSIS

LT RXT

THYLAKOID

CHEMICAL ENERGY

DK RXT

STROMA

SYNTHESIS

CHEM EGY INPUT

CHLOROPLAST

ATMOSPHERE

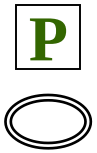
OXYGEN

GLUCOSE

PLASTID

PLANT ORGANELLE ASSOCIATED WITH:

PLASTID



PLASTID

PLANT ORGANELLE ASSOCIATED WITH: STARCH STORAGE

PLASTID

PHOTOSYNTHESIS

S

WATER

CO2

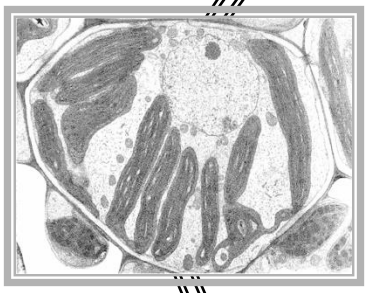
LIGHT EGY

PHOTO

ATMOSPHERE

E-

PHOTOLYSIS



LT RXT

THYLAKOID

CHEMICAL ENERGY

DK RXT

STROMA

SYNTHESIS

CHEM EGY INPUT

CHLOROPLAST

ATMOSPHERE

OXYGEN

GLUCOSE

PHOTOSYNTHESIS

WATER

CO2

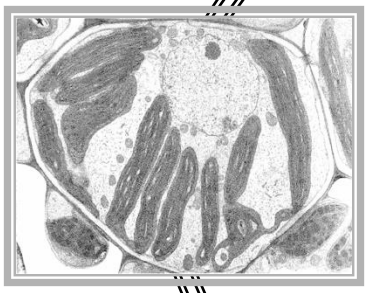
LIGHT EGY

PHOTO

ATMOSPHERE

E-

PHOTOLYSIS



LT RXT

THYLAKOID

CHEMICAL ENERGY

DK RXT

STROMA

SYNTHESIS

CHEM EGY INPUT

CHLOROPLAST

ATMOSPHERE

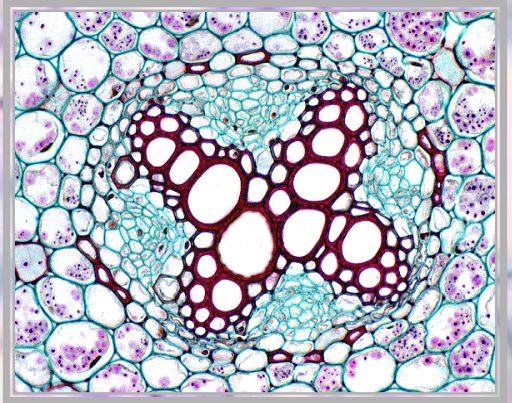
OXYGEN

STARCH

STARCH STORAGE

P

STARCH GRAINS



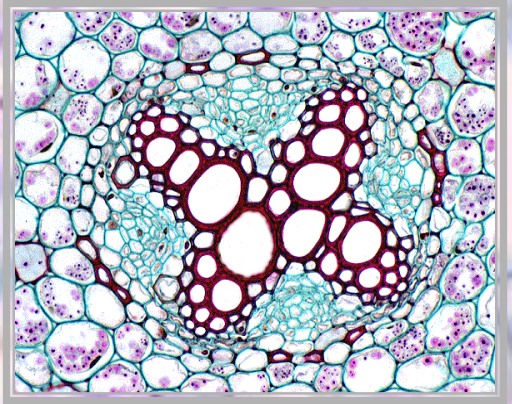
ROOT

C.S.

STARCH STORAGE

L

PLASTIDS



ROOT

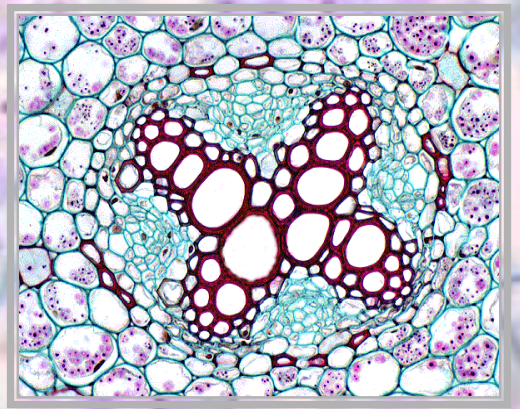
C.S.

STARCH STORAGE

^

T

LEUCOPLASTS



ROOT

C.S.

TRUE PLANT

TRUE PLANT

POSSESSES CHLOROPLASTS WITH:

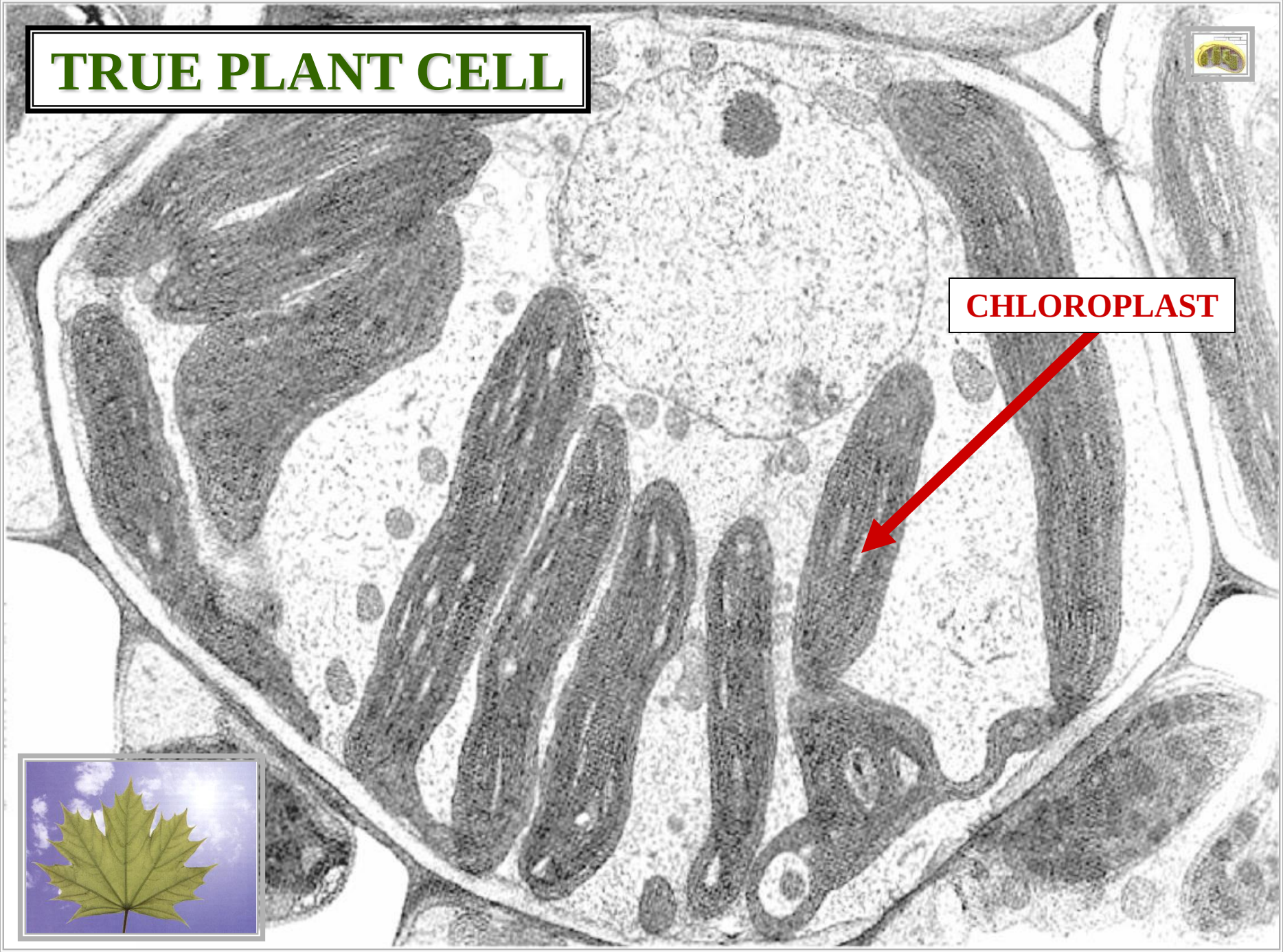
TRUE PLANT

TRUE PLANT

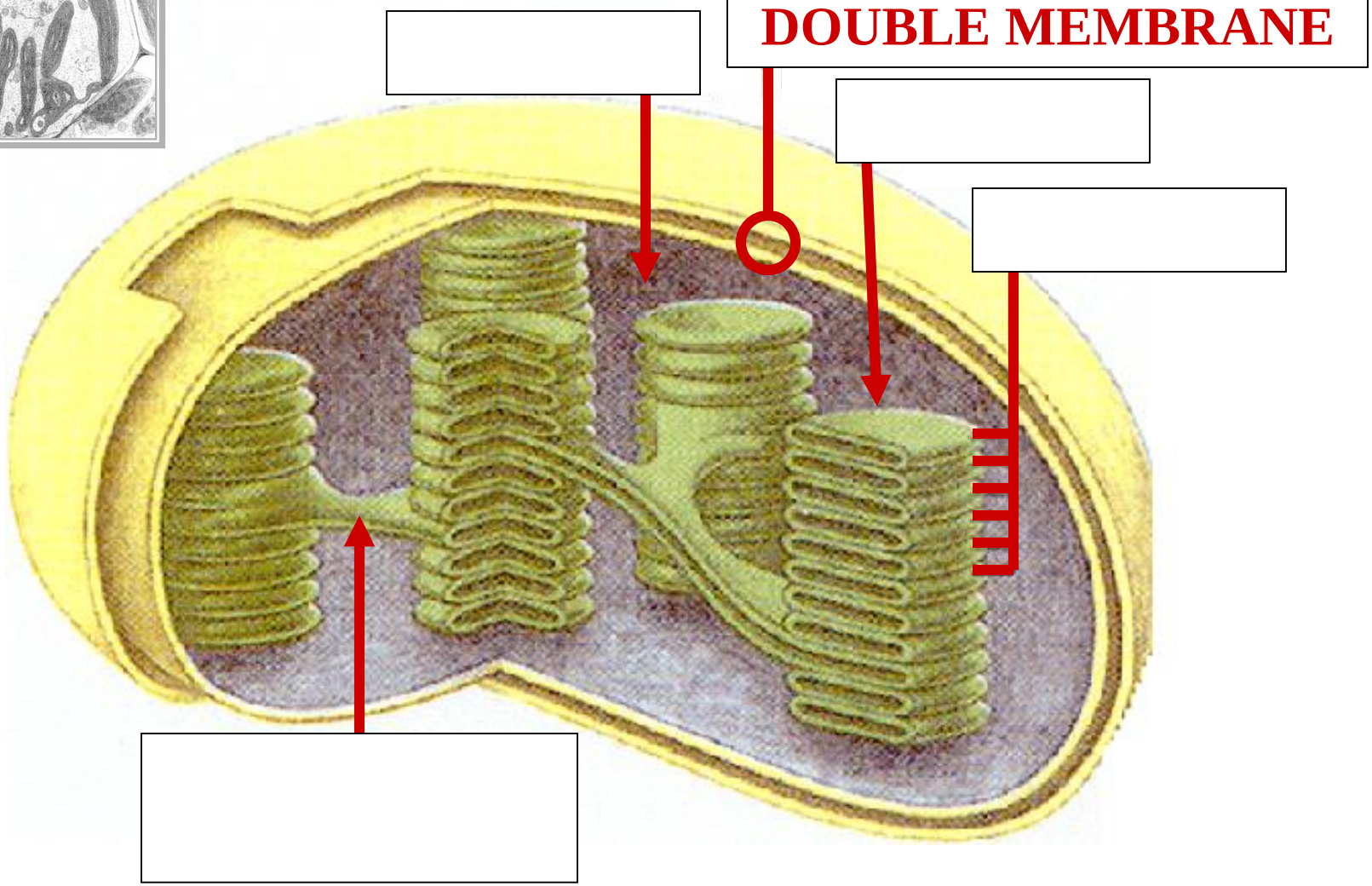
POSSESSES CHLOROPLASTS WITH: DOUBLE MEMBRANE

TRUE PLANT

TRUE PLANT CELL



TRUE PLANT CHLOROPLAST ULTRASTRUCTURE



TRUE PLANT

TRUE PLANT

POSSESSES CHLOROPLASTS WITH:

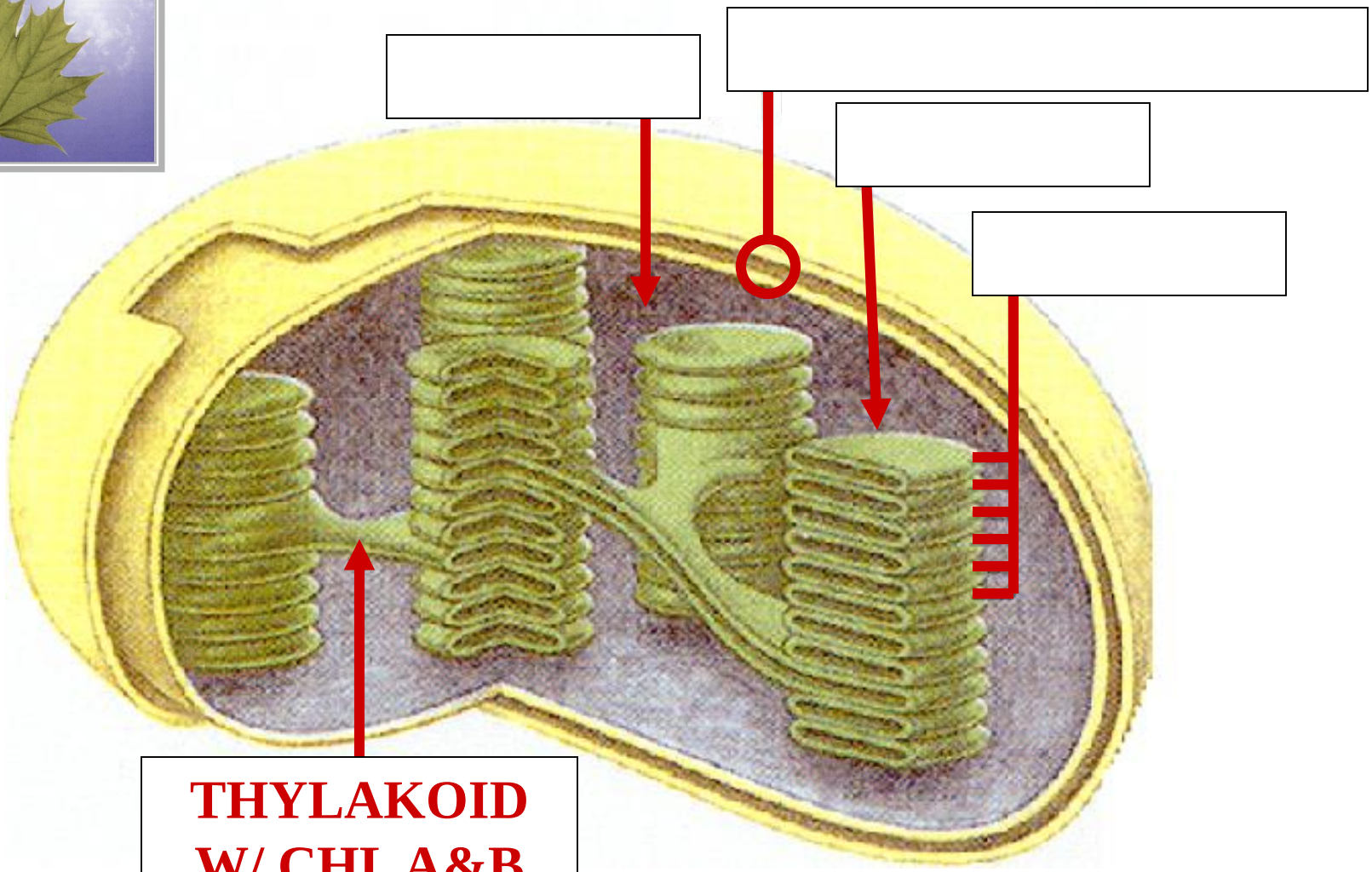
TRUE PLANT

TRUE PLANT

POSSESSES CHLOROPLASTS WITH: CHLOROPHYLL A&B

TRUE PLANT

TRUE PLANT CHLOROPLAST ULTRASTRUCTURE



THYLAKOID W/ CHL A&B

P

PLANT DEFINITION & TRUE PLANT DEFINITION SUMMARY

PLANT

^
T

PLANT

ORGANISM THAT POSSESSES PLASTIDS

PLANT

TRUE PLANT

TRUE PLANT

POSSESSES CHLOROPLASTS WITH: DOUBLE MEMBRANE CHLOROPHYLL A&B

TRUE PLANT

GENERAL TAXONOMIC TERMS

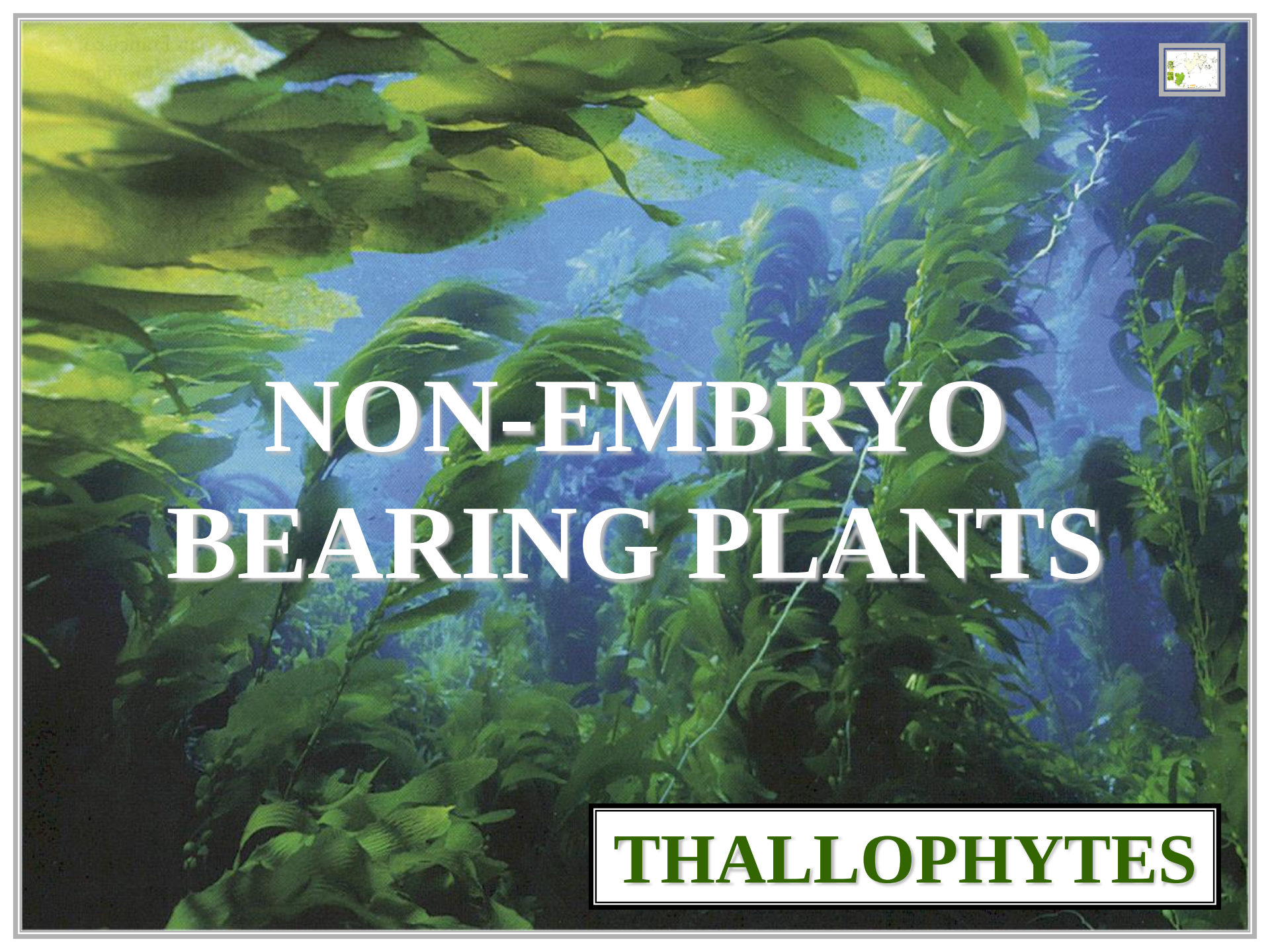
THALLOPHYTES
VS
EMBRYOPHYTES

THALLOPHYTES

THALLOPHYTES

NON-EMBRYO BEARING PLANTS

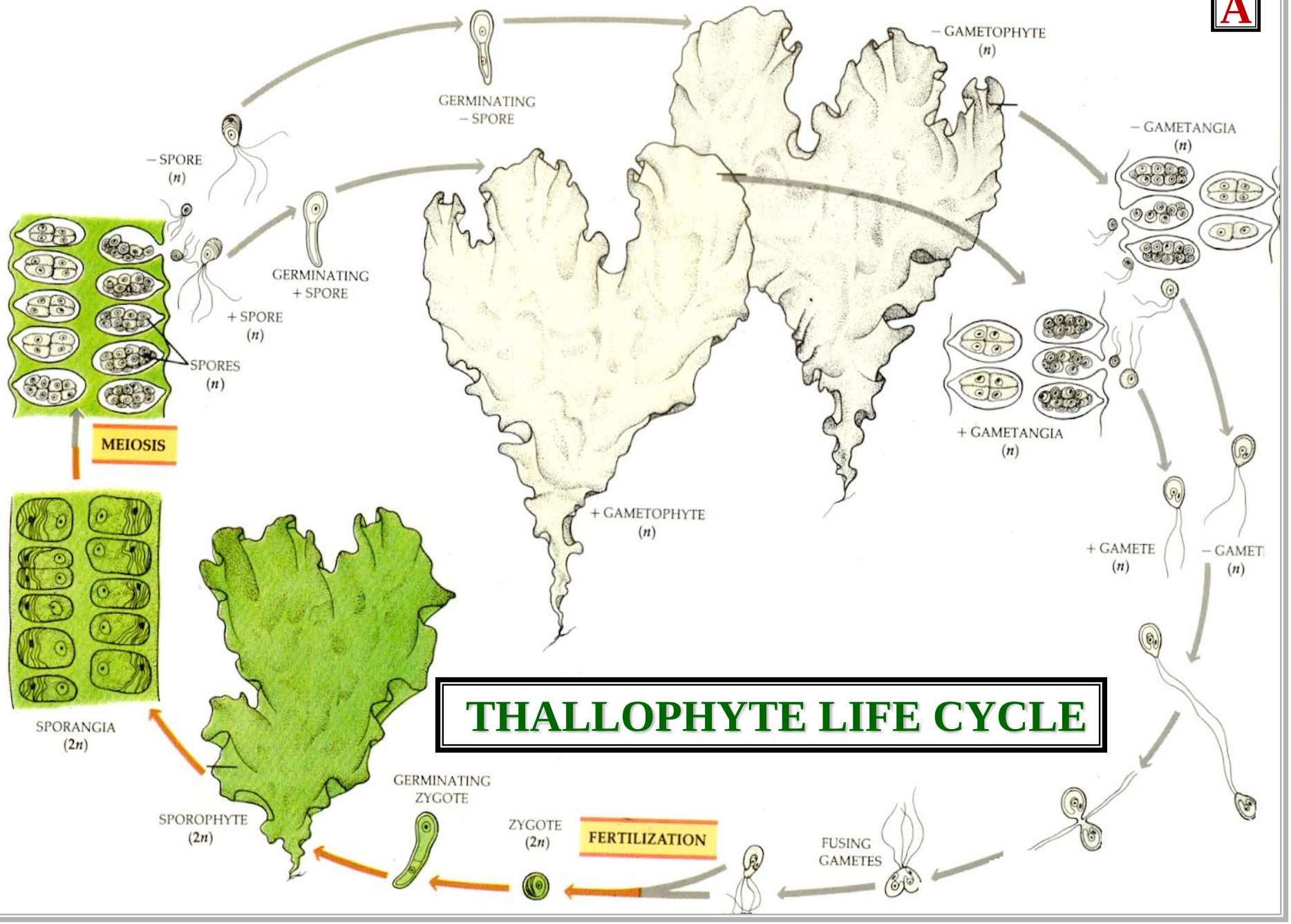
THALLOPHYTES



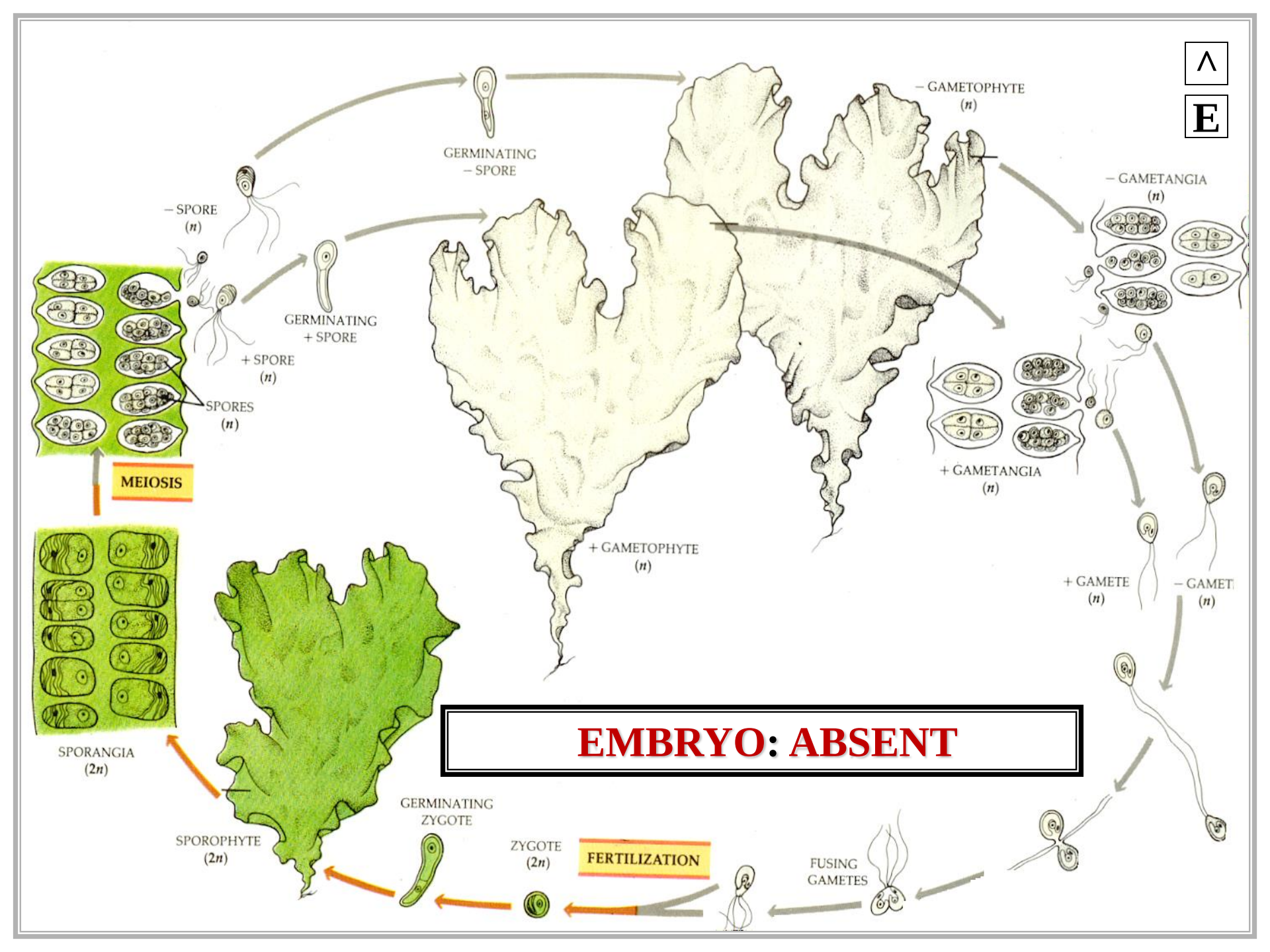
NON-EMBRYO BEARING PLANTS

THALLOPHYTES

A



THALLOPHYTE LIFE CYCLE


– GAMETOPHYTE
(n)
GERMINATING
– SPORE
– SPORE
(n)
– GAMETANGIA
(n)
GERMINATING
+ SPORE
+ SPORE
(n)
SPORES
(n)
+ GAMETANGIA
(n)
+ GAMETOPHYTE
(n)
MEIOSIS
+ GAMETE
(n)
– GAMET
(n)
SPORANGIA
(2n)
EMBRYO: ABSENT
GERMINATING
ZYGOTE
SPOROPHYTE
(2n)
ZYGOTE
(2n)
FERTILIZATION
FUSING
GAMETES

EMBRYOPHYTES

EMBRYOPHYTES

EMBRYO BEARING PLANTS

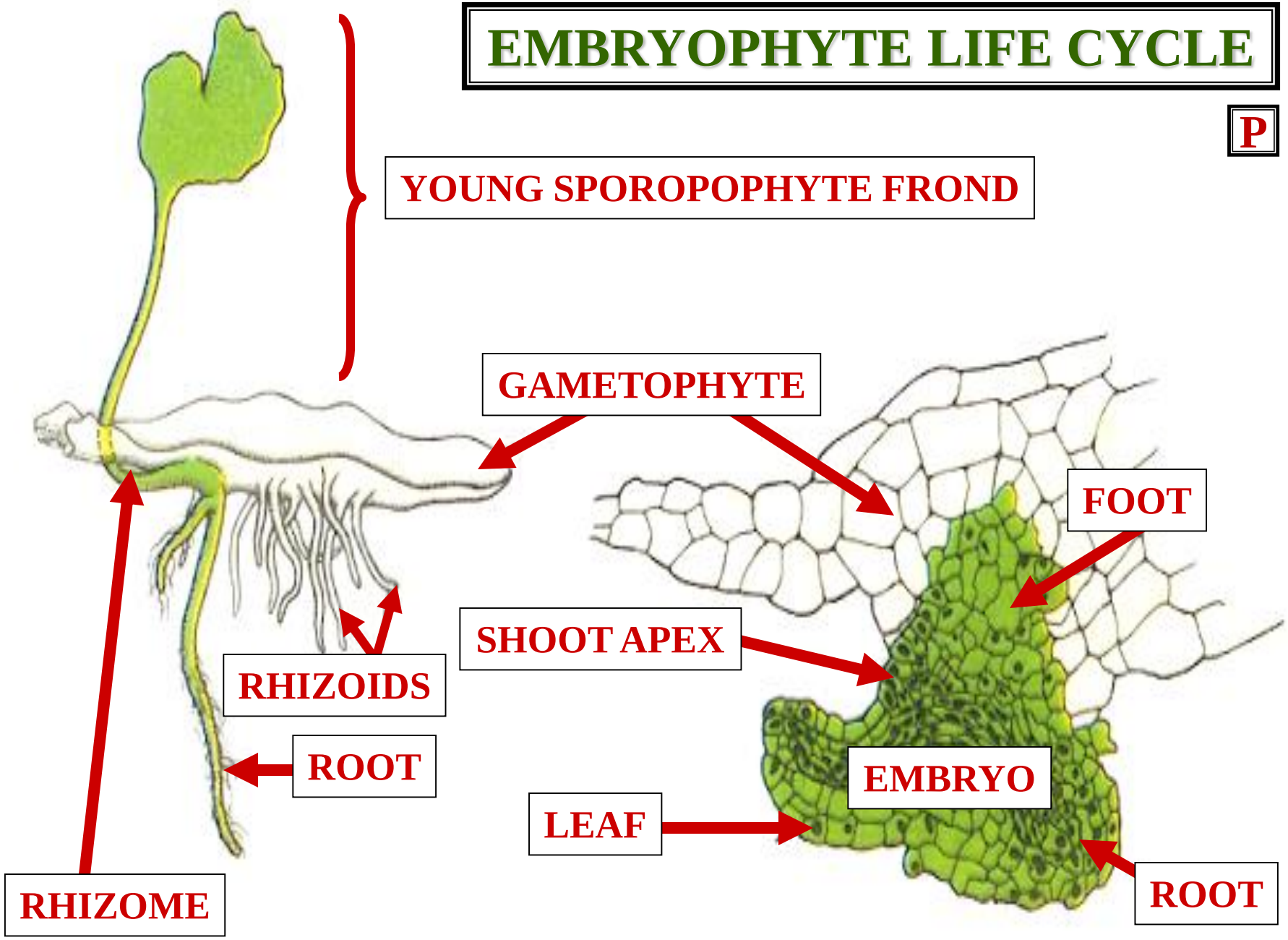
EMBRYOPHYTES

EMBRYOPHYTES

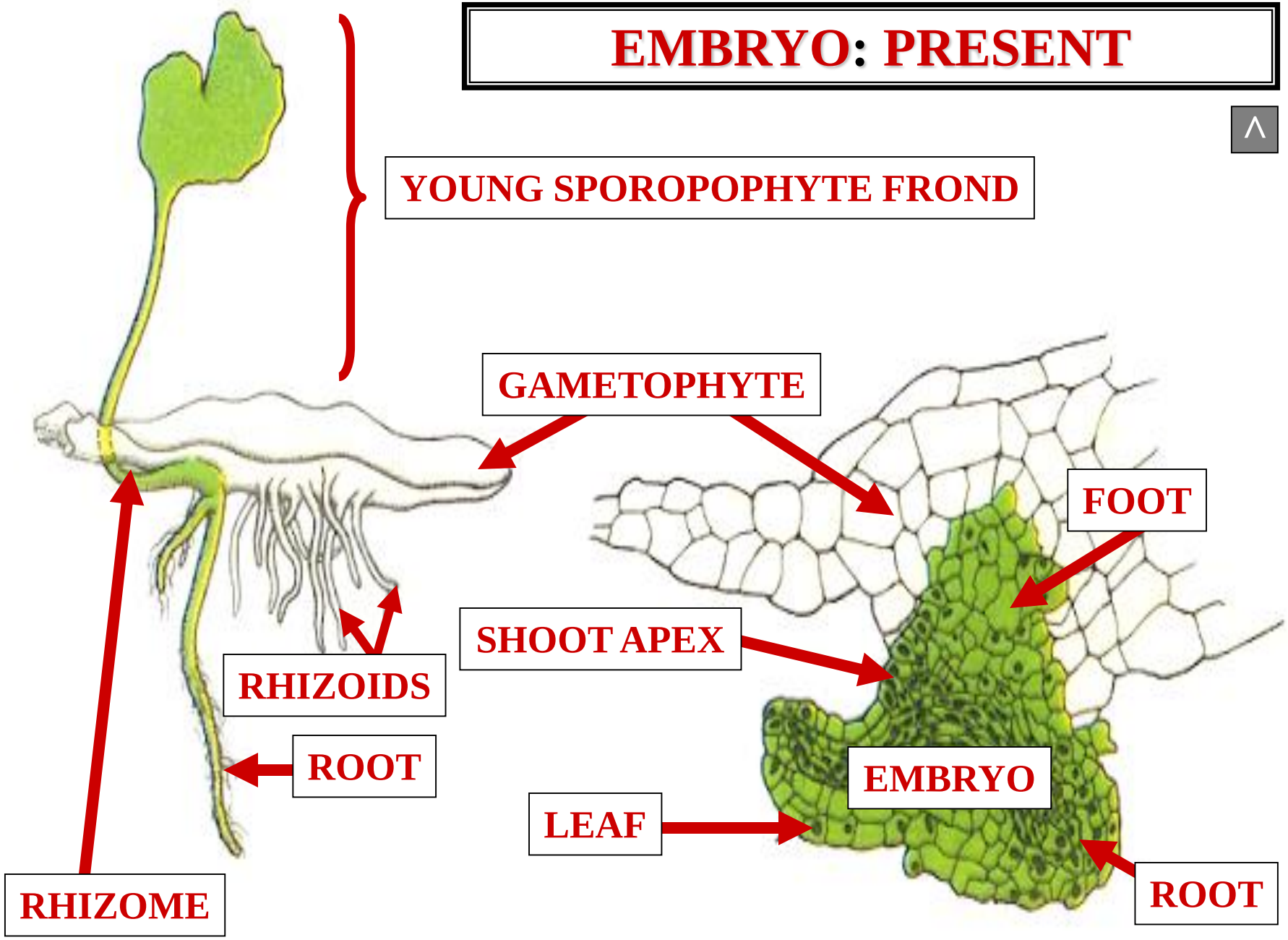
EMBRYO BEARING PLANTS

EMBRYOPHYTE LIFE CYCLE

P



EMBRYO: PRESENT



B

BRYOPHYTES
VS
TRACHEOPHYTES

BRYOPHYTES

BRYOPHYTES

NON-VASCULAR EMBRYOPHYTES

BRYOPHYTES

NON-VASCULAR EMBRYOPHYTES

BRYOPHYTES

VASCULAR TISSUE

A

C.S.

VASCULAR TISSUE: ABSENT

C.S.

TRACHEOPHYTES

TRACHEOPHYTES

VASCULAR EMBRYOPHYTES

TRACHEOPHYTES

TRACHEOPHYTES

VASCULAR EMBRYOPHYTES

VASCULAR TISSUE

P

C.S.

VASCULAR TISSUE: PRESENT

?

C.S.

VASCULAR TISSUE: PRESENT

X

?

C.S.

VASCULAR TISSUE: PRESENT

XYLEM & PHLOEM

?

C.S.

VASCULAR TISSUE: PRESENT

XYLEM & PHLOEM

X

?

C.S.

VASCULAR TISSUE: PRESENT

XYLEM & PHLOEM

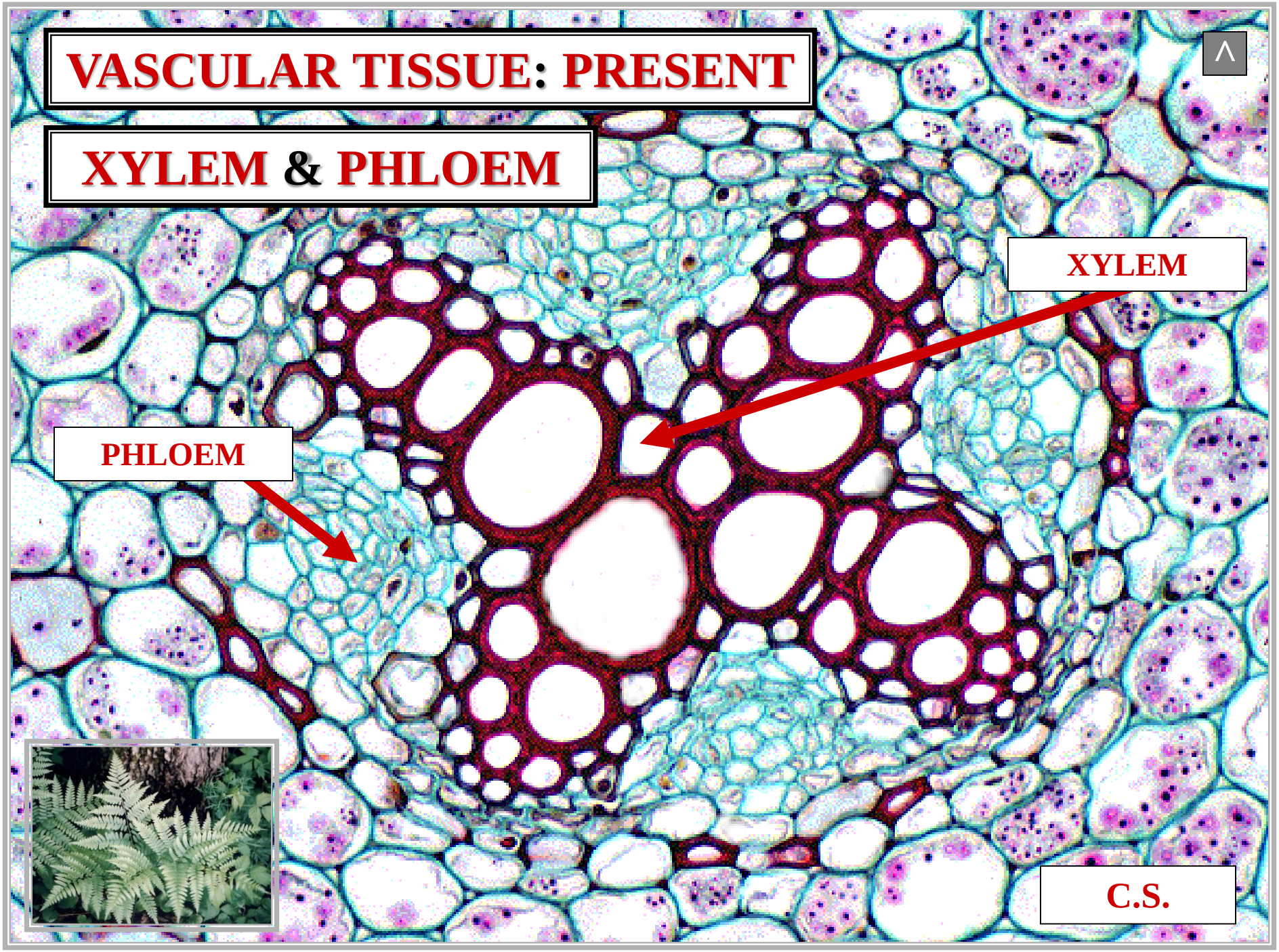
P

XYLEM

C.S.

VASCULAR TISSUE: PRESENT

XYLEM & PHLOEM



P

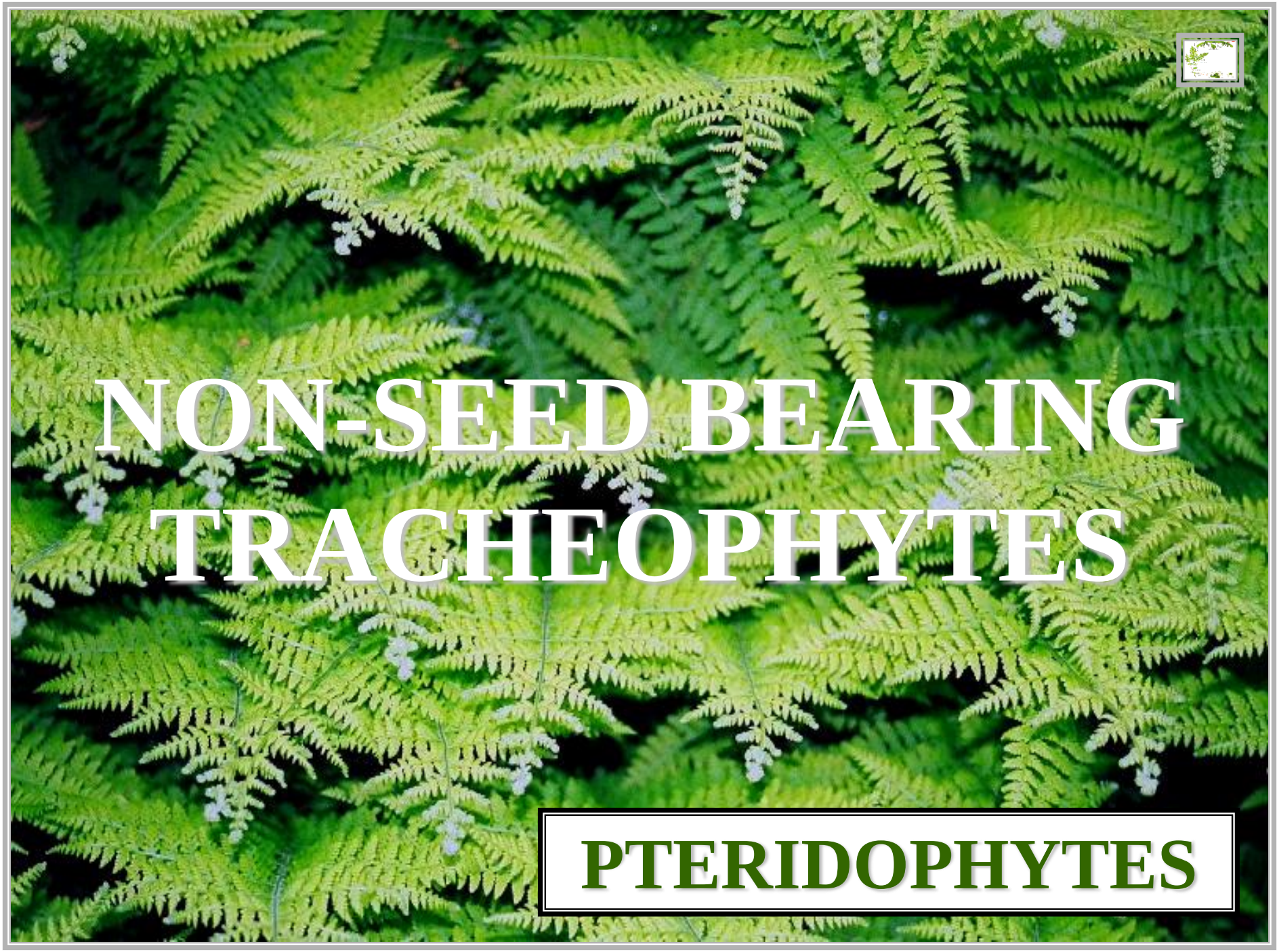
PTERIDOPHYTES
VS
SPERMATOPHYTES

PTERIDOPHYTES

PTERIDOPHYTES

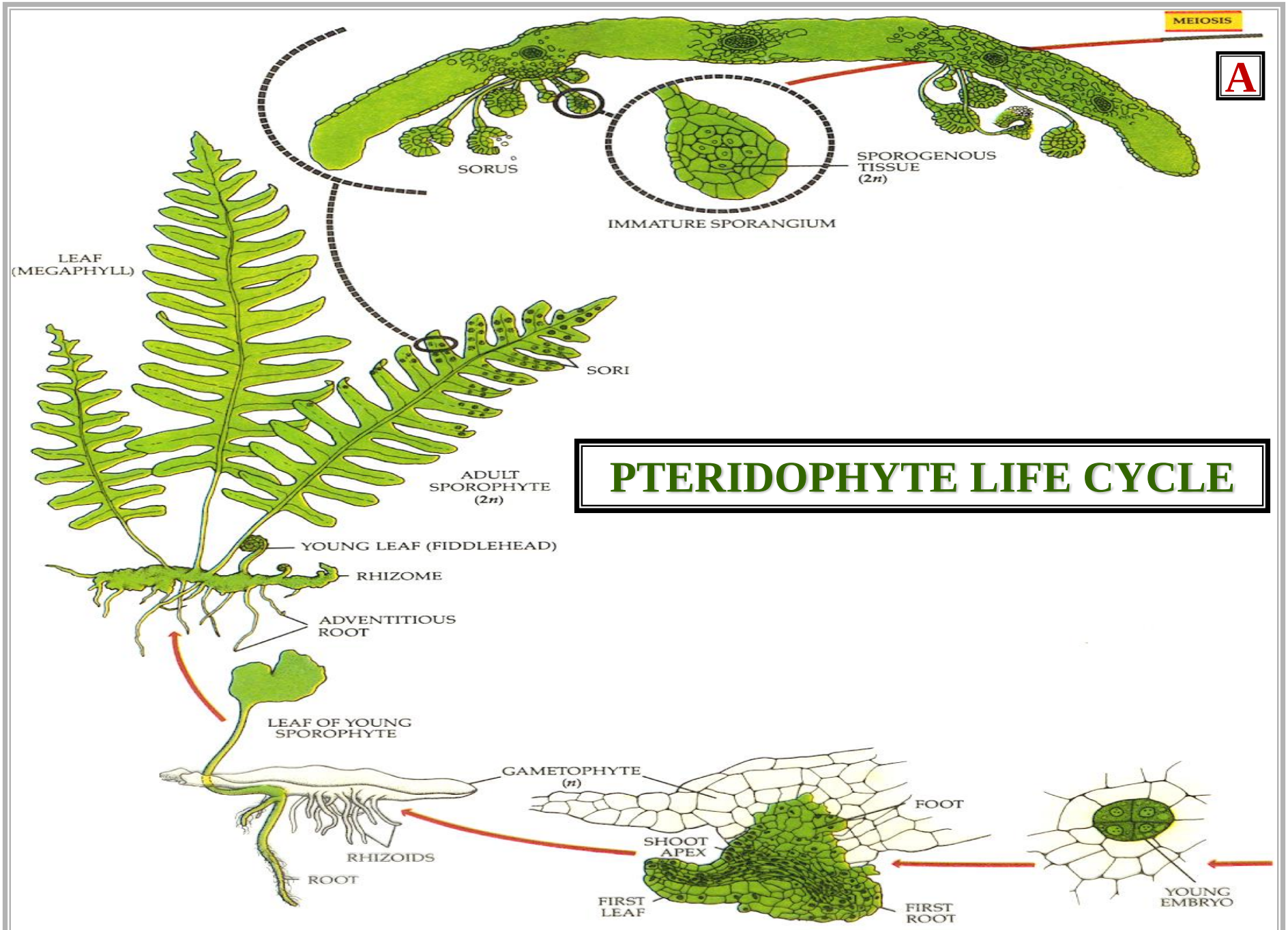
NON-SEED BEARING TRACHEOPHYTES

PTERIDOPHYTES

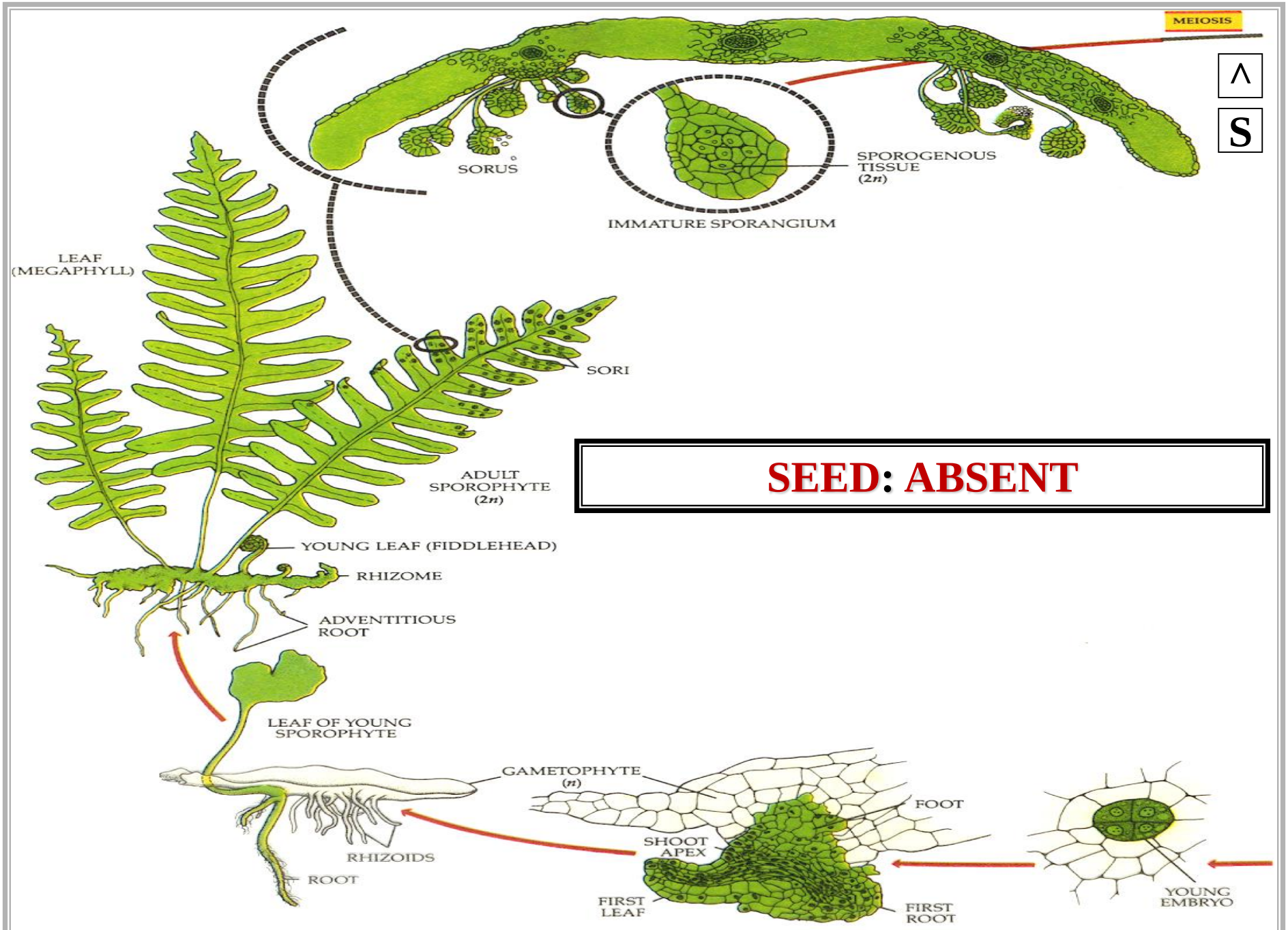


NON-SEED BEARING TRACHEOPHYTES

PTERIDOPHYTES



PTERIDOPHYTE LIFE CYCLE


MEIOSIS
SORUS
SPOROGENOUS TISSUE (2n)
IMMATURE SPORANGIUM
LEAF (MEGAPHYLL)
SORI
ADULT SPOROPHYTE (2n)
YOUNG LEAF (FIDDLEHEAD)
RHIZOME
ADVENTITIOUS ROOT
LEAF OF YOUNG SPOROPHYTE
GAMETOPHYTE (n)
RHIZOIDS
ROOT
FOOT
SHOOT APEX
FIRST LEAF
FIRST ROOT
YOUNG EMBRYO

SEED: ABSENT

SPERMATOPHYTES

SPERMATOPHYTES

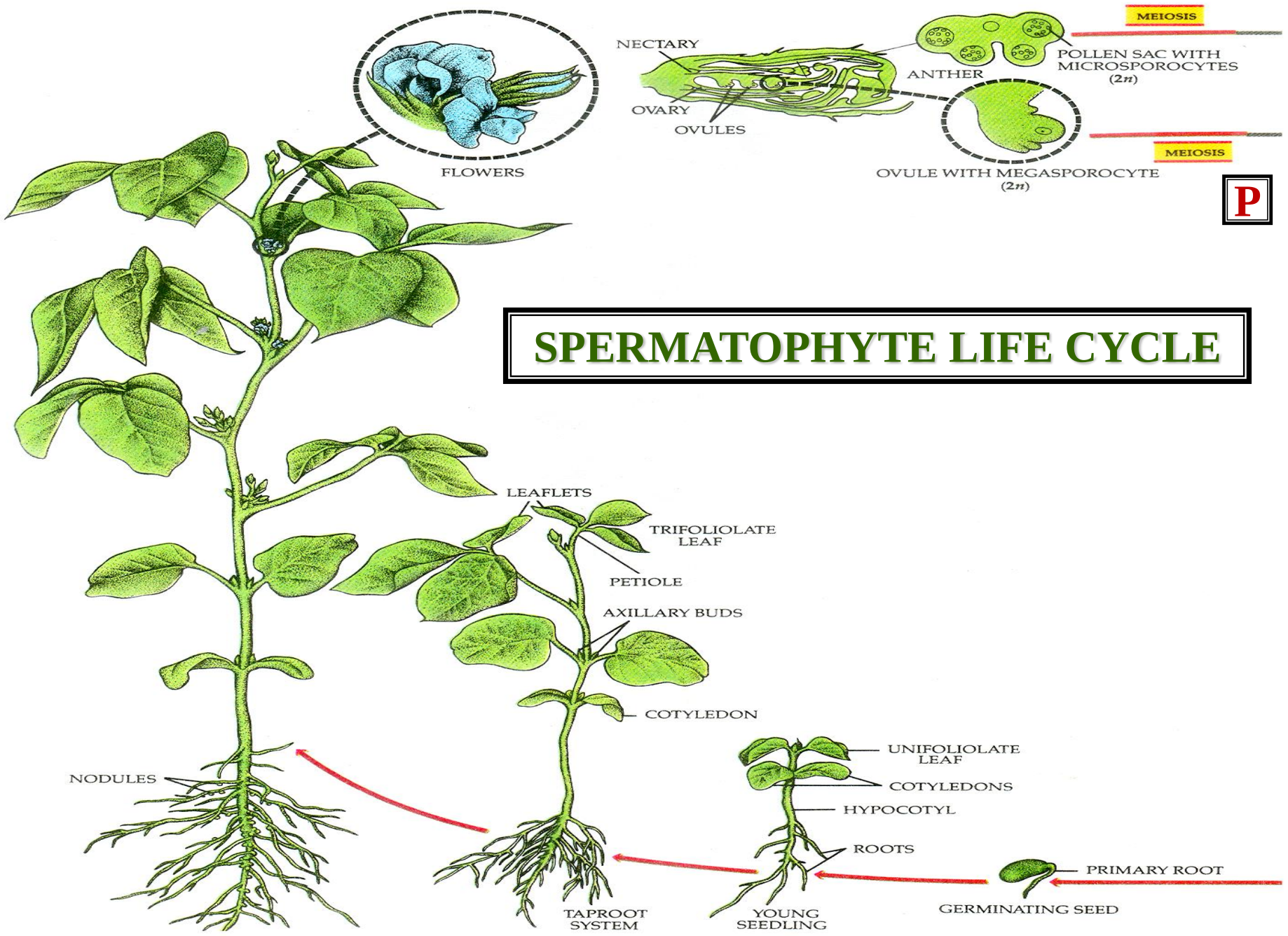
SEED BEARING TRACHEOPHYTES

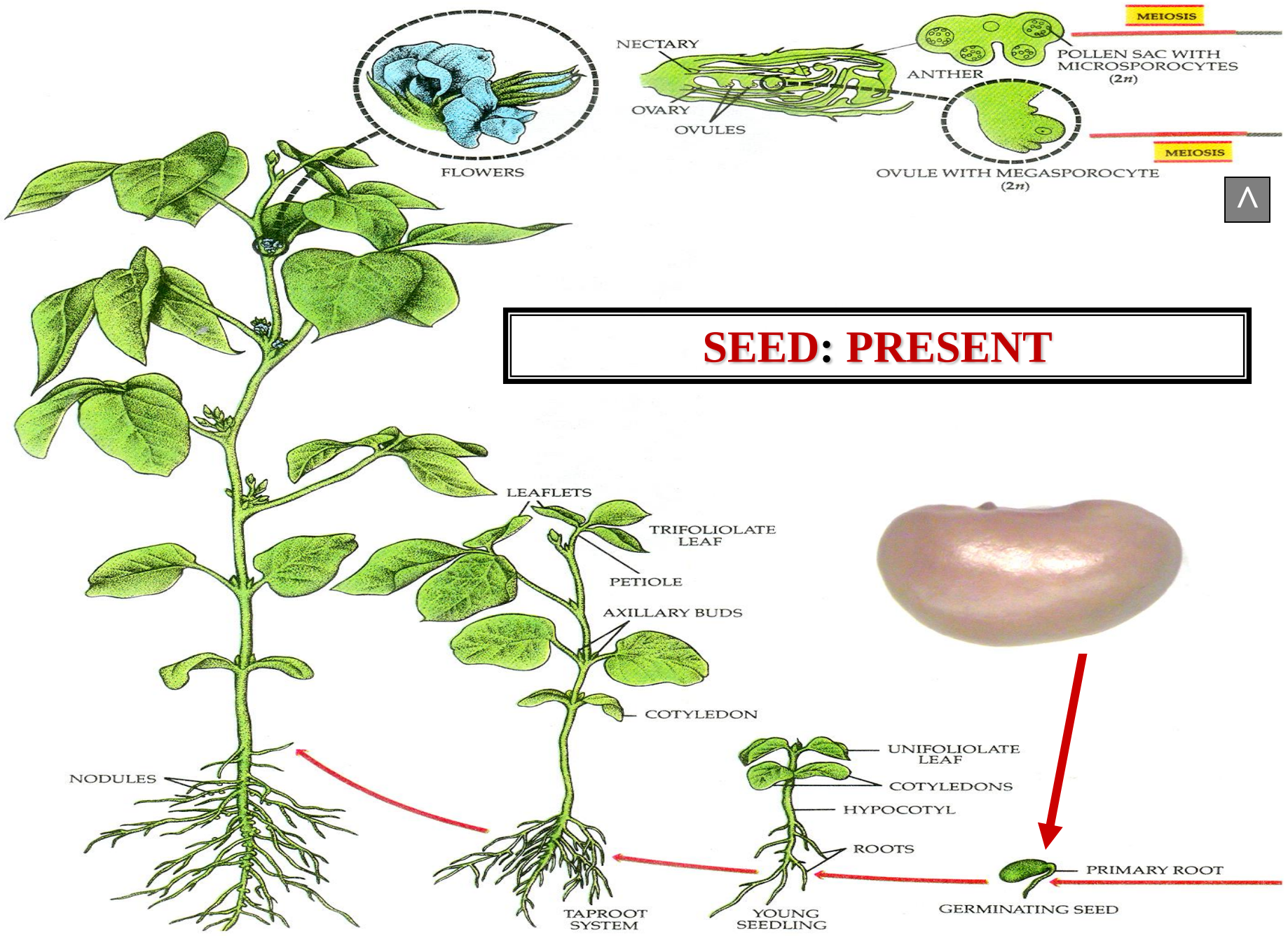
SPERMATOPHYTES

SPERMATOPHYTES

SEED BEARING TRACHEOPHYTES

SPERMATOPHYTE LIFE CYCLE




FLOWERS
NECTARY
OVARY
OVULES
ANTHER
MEIOSIS
POLLEN SAC WITH MICROSPOROCYTES
(2n)
MEIOSIS
OVULE WITH MEGASPOROCYTE
(2n)
SEED: PRESENT
LEAFLETS
TRIFOLIOLATE LEAF
PETIOLE
AXILLARY BUDS
COTYLEDON
NODULES
UNIFOLIOLATE LEAF
COTYLEDONS
HYPOCOTYL
ROOTS
PRIMARY ROOT
TAPROOT SYSTEM
YOUNG SEEDLING
GERMINATING SEED

G

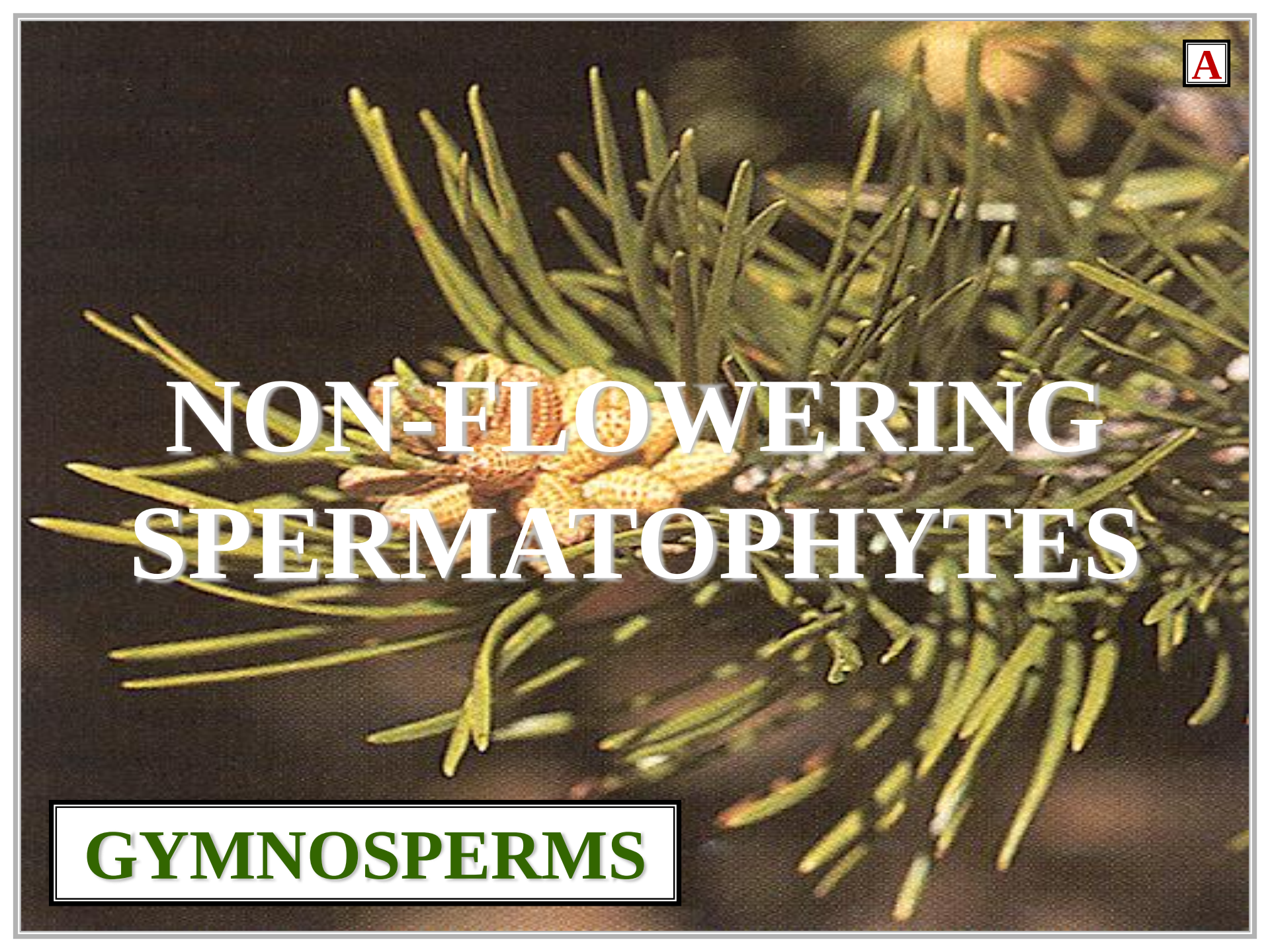
GYMNOSPERMS VS ANGIOSPERMS

GYMNOSPERMS

GYMNOSPERMS

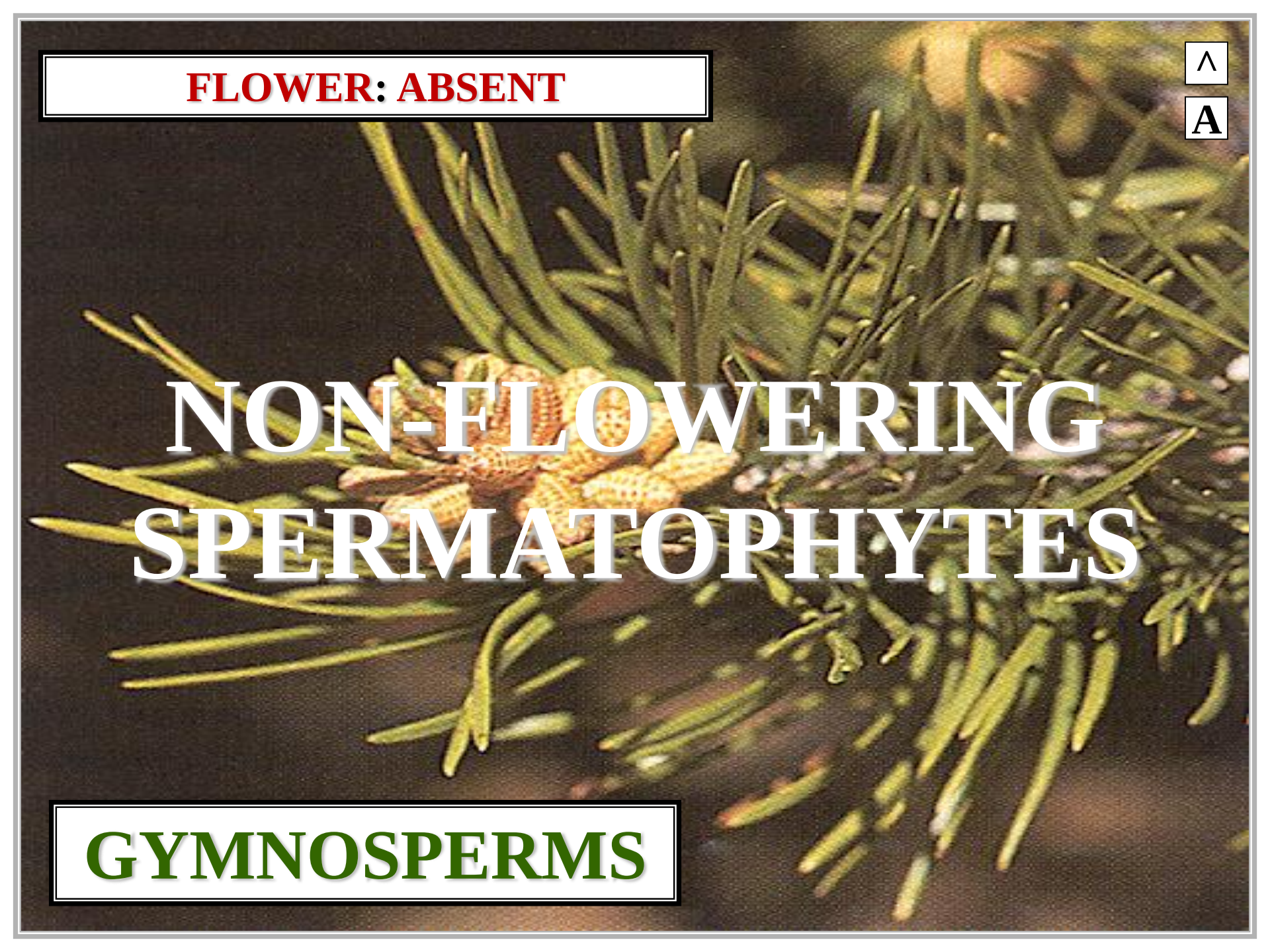
NON-FLOWERING SPERMATOPHYTES

GYMNOSPERMS



NON-FLOWERING SPERMATOPHYTES

GYMNOSPERMS


FLOWER: ABSENT
^
A
NON-FLOWERING SPERMATOPHYTES
GYMNOSPERMS

ANGIOSPERMS

ANGIOSPERMS

FLOWERING SPERMATOPHYTES

ANGIOSPERMS

FLOWERING SPERMATOPHYTES

ANGIOSPERMS

FLOWER: PRESENT

Q

FLOWERING SPERMATOPHYTES

ANGIOSPERMS

LECTURE QUIZ

GENERAL TAXONOMIC TERMS

TAXONOMIC HIERARCHY

R

RANK VS TAXON

RANK