

MESOPHYTE LEAF

MESOPHYTE LEAF

DICOT LEAF ANATOMY



MESOPHYTE

ADAPTED

MODERATE MOISTURE

HABITAT

DICOT LEAF ANATOMY

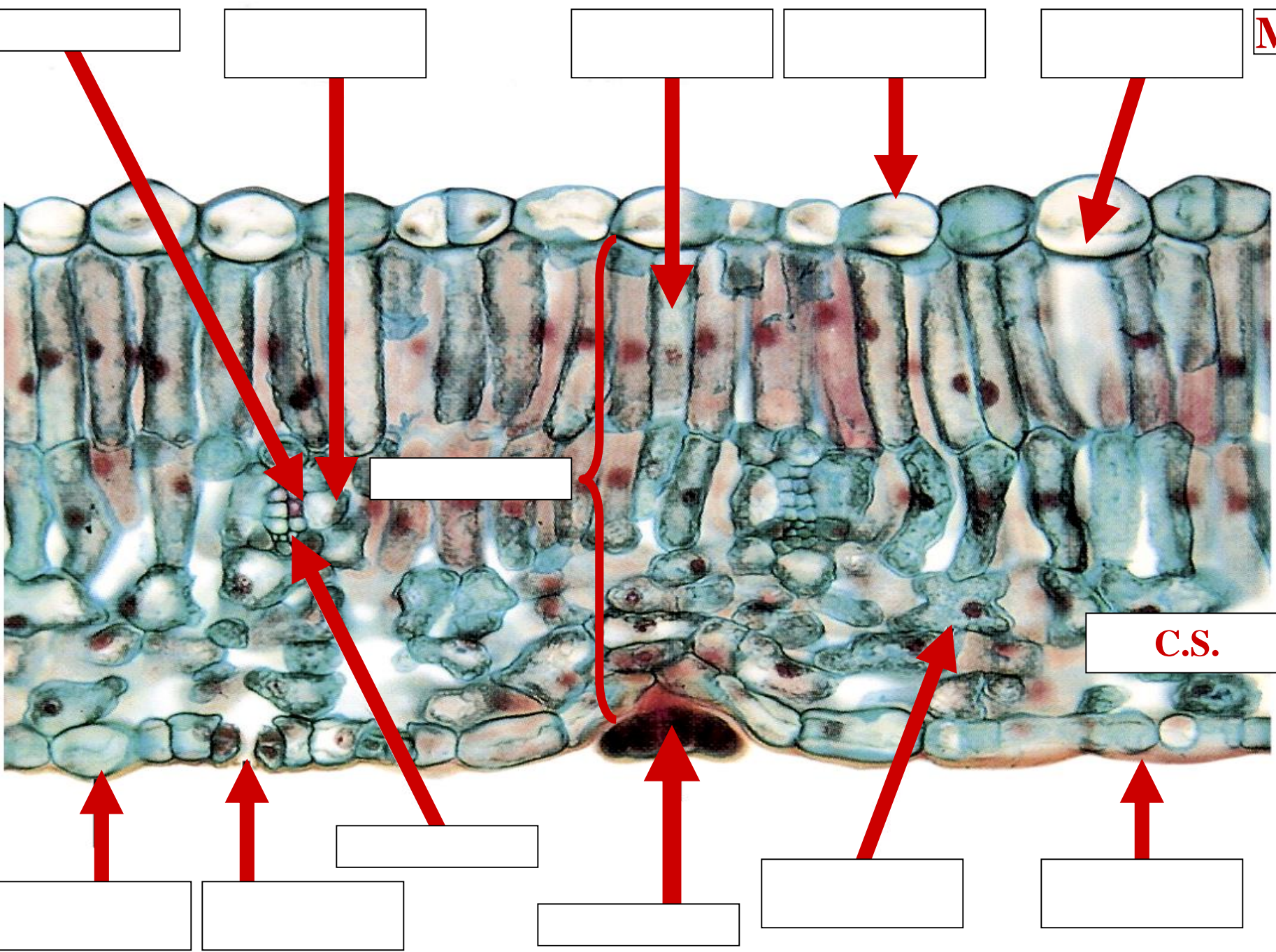
MESOPHYTE



MESIC HABITAT ALABAMA FOREST



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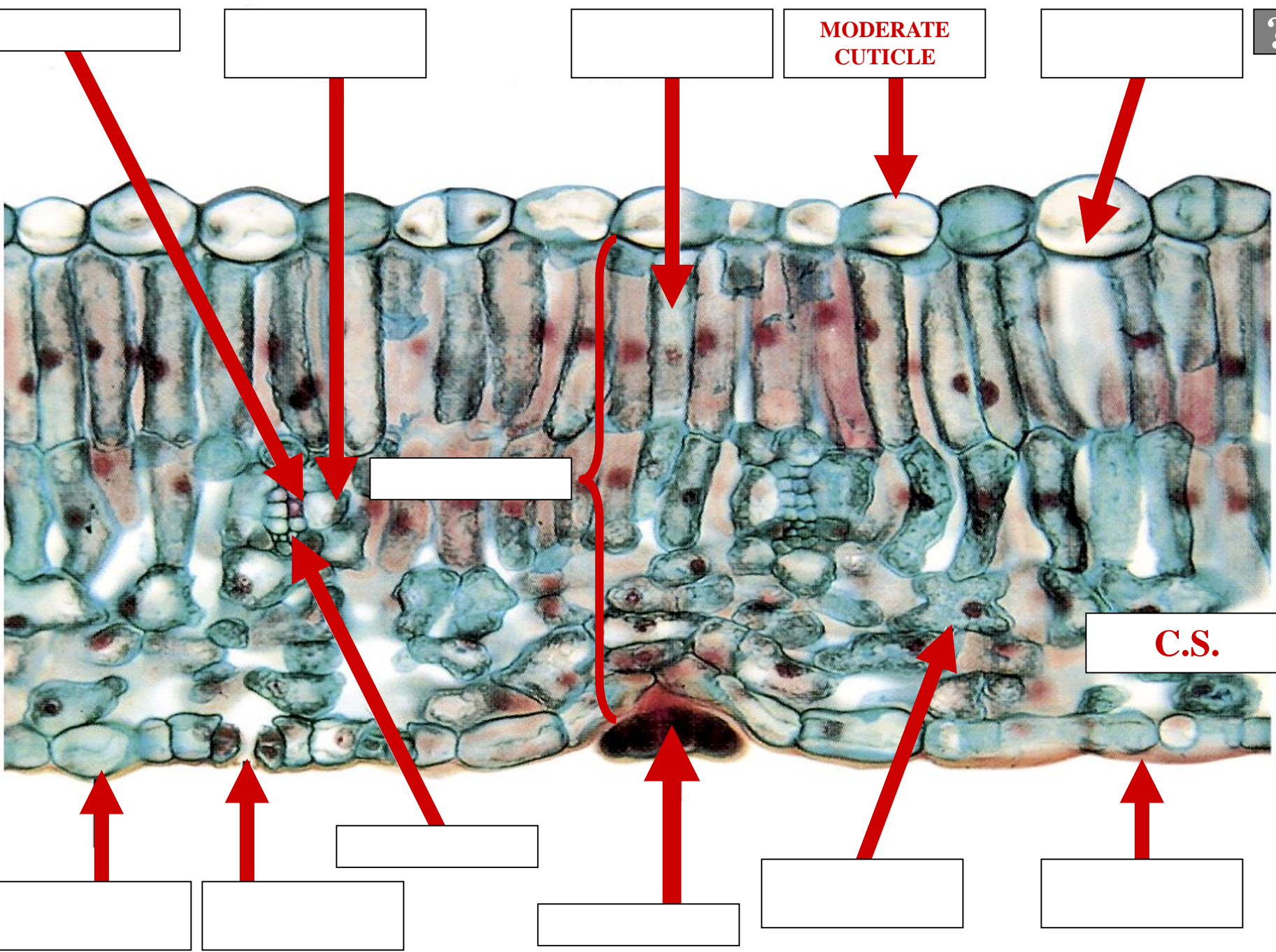
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MODERATE CUTICLE

C.S.

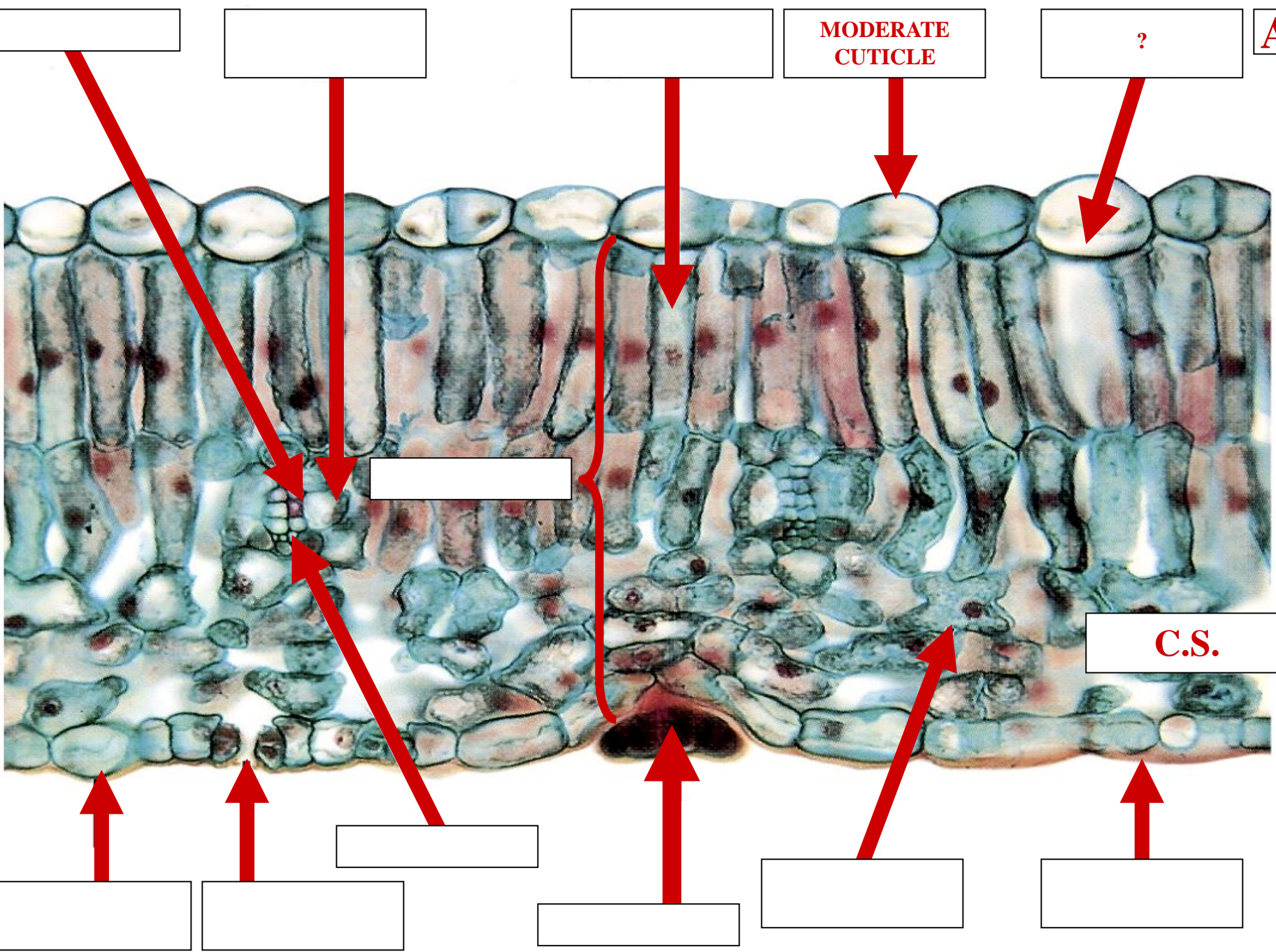


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MODERATE CUTICLE

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C.S.



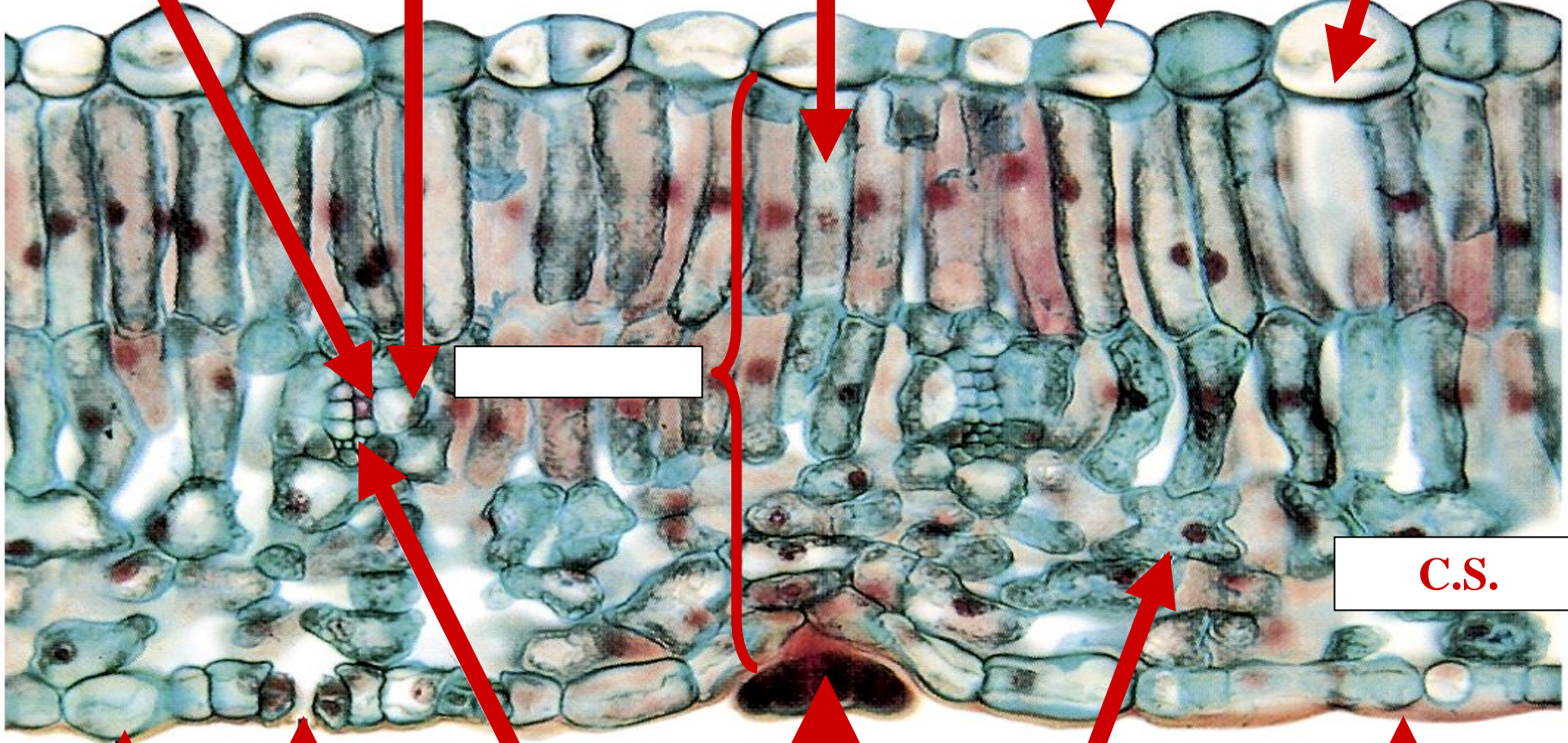
MODERATE CUTICLE

ADAXIAL EPIDERMIS

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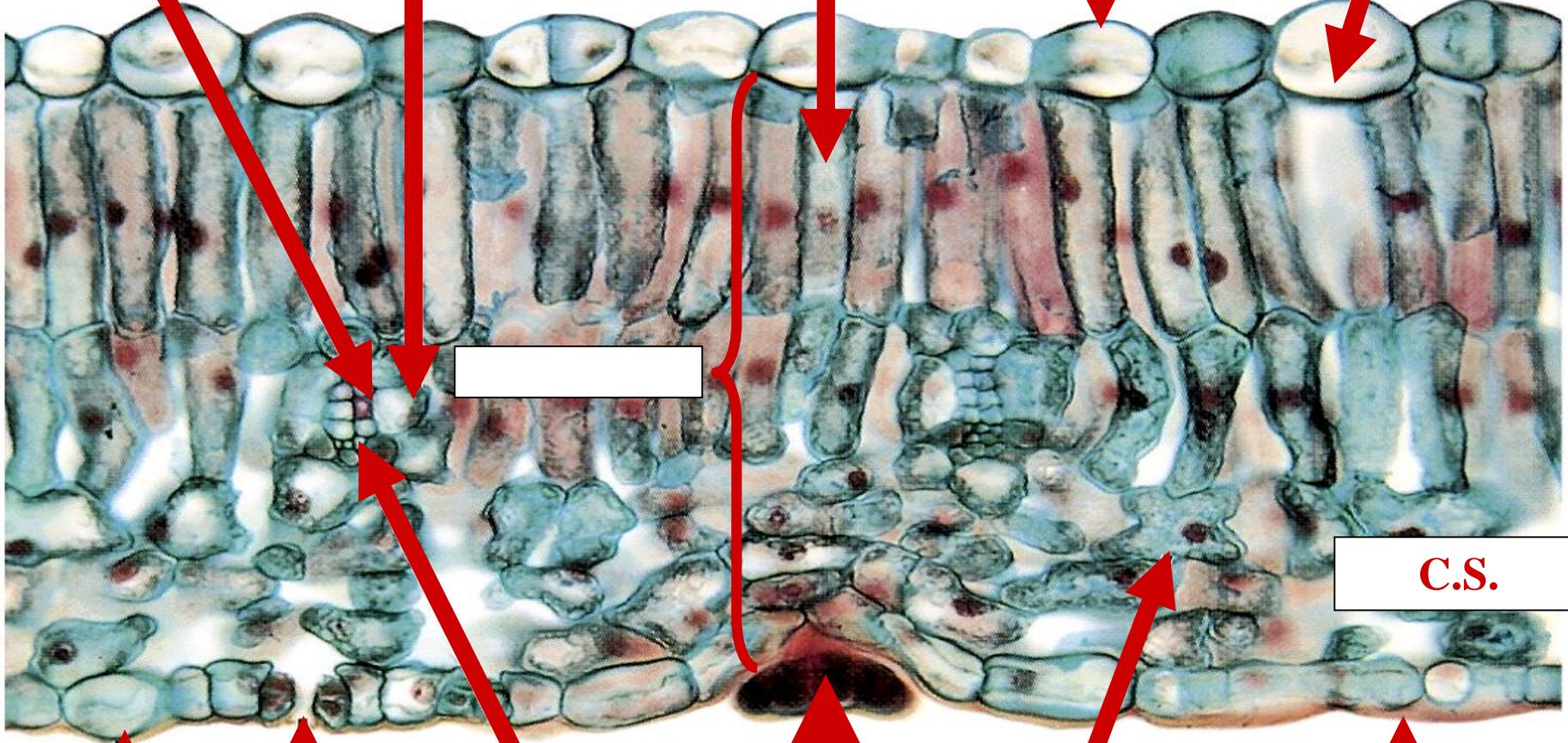
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MODERATE CUTICLE

STOMATES ABSENT



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MODERATE CUTICLE

STOMATES ABSENT

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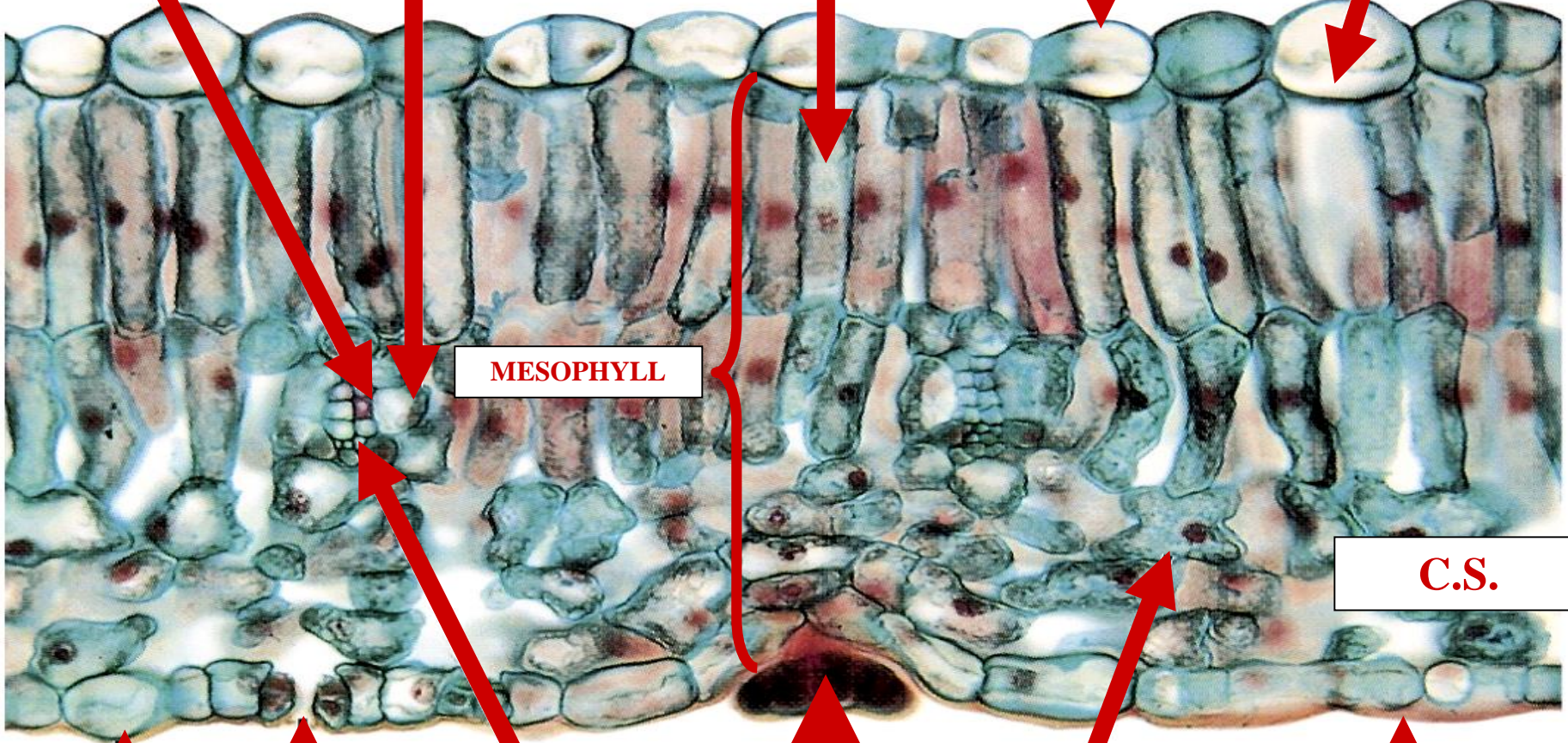
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MODERATE CUTICLE

STOMATES ABSENT

MESOPHYLL

C.S.



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MODERATE CUTICLE

STOMATES ABSENT

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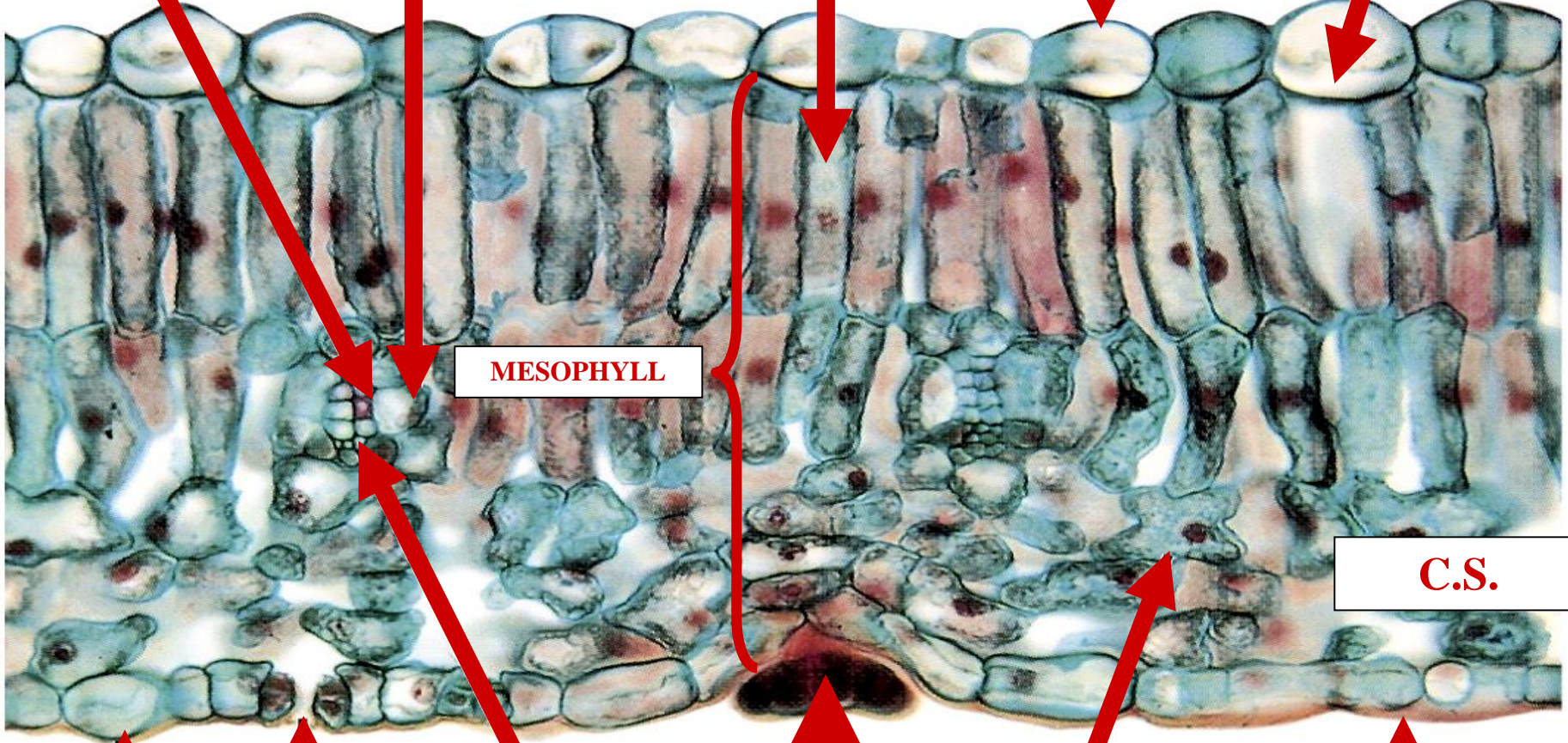
**PALISADE
LAYER**

**MODERATE
CUTICLE**

**STOMATES
ABSENT**

MESOPHYLL

C.S.



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PALISADE
LAYER

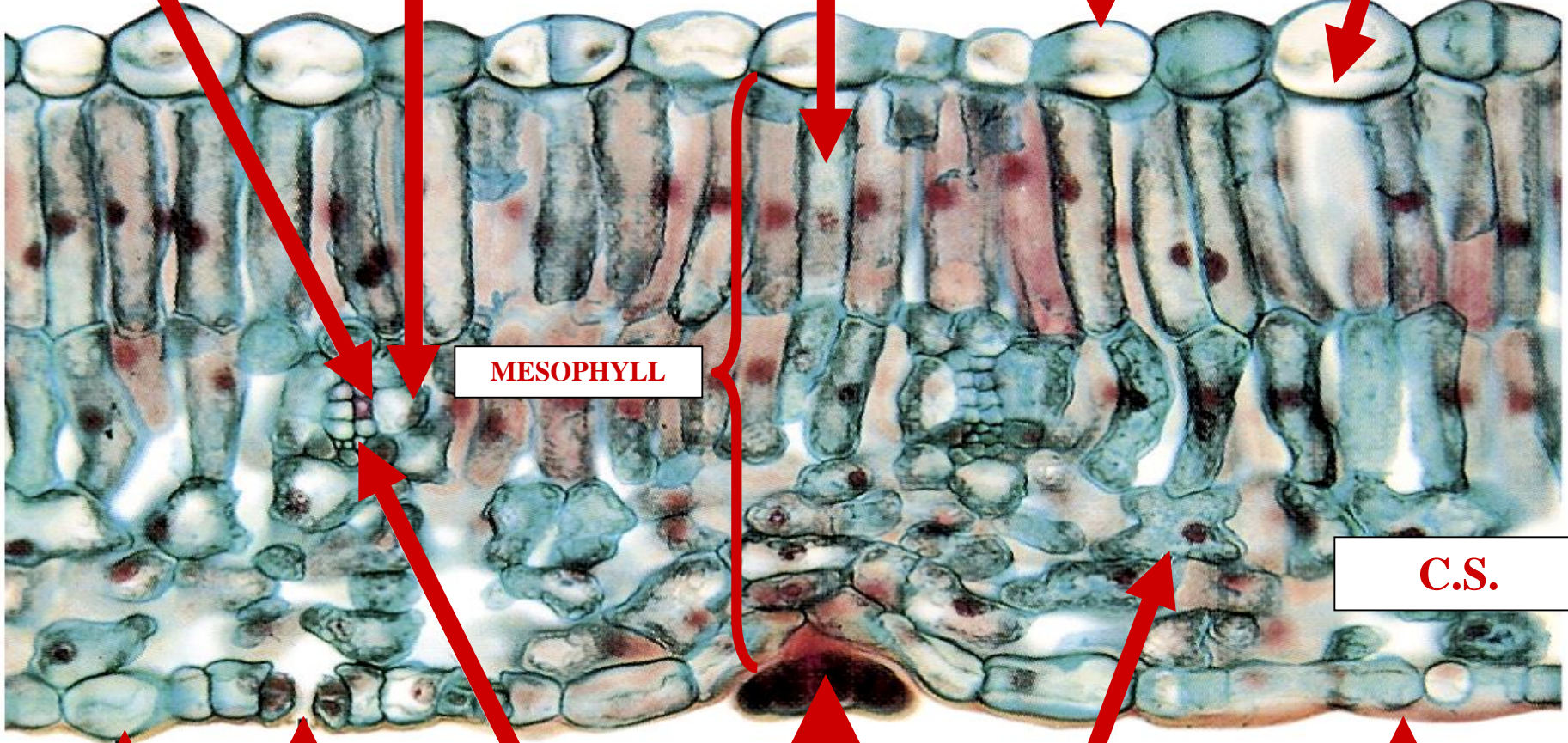
MODERATE
CUTICLE

STOMATES
ABSENT

MESOPHYLL

C.S.

SPONGY
LAYER



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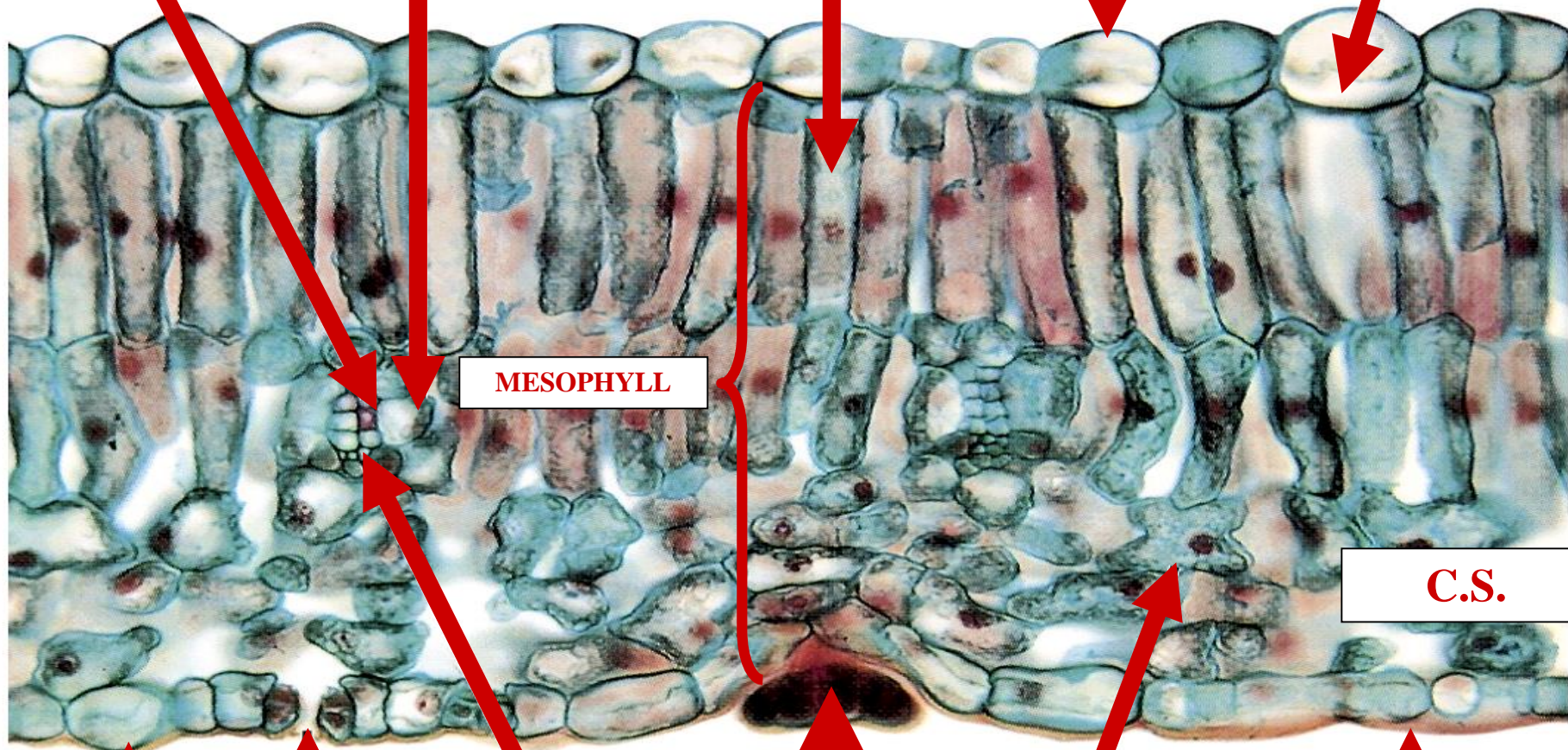
VASCULAR
BUNDLE

PALISADE
LAYER

MODERATE
CUTICLE

STOMATES
ABSENT

X



MESOPHYLL

C.S.

SPONGY
LAYER

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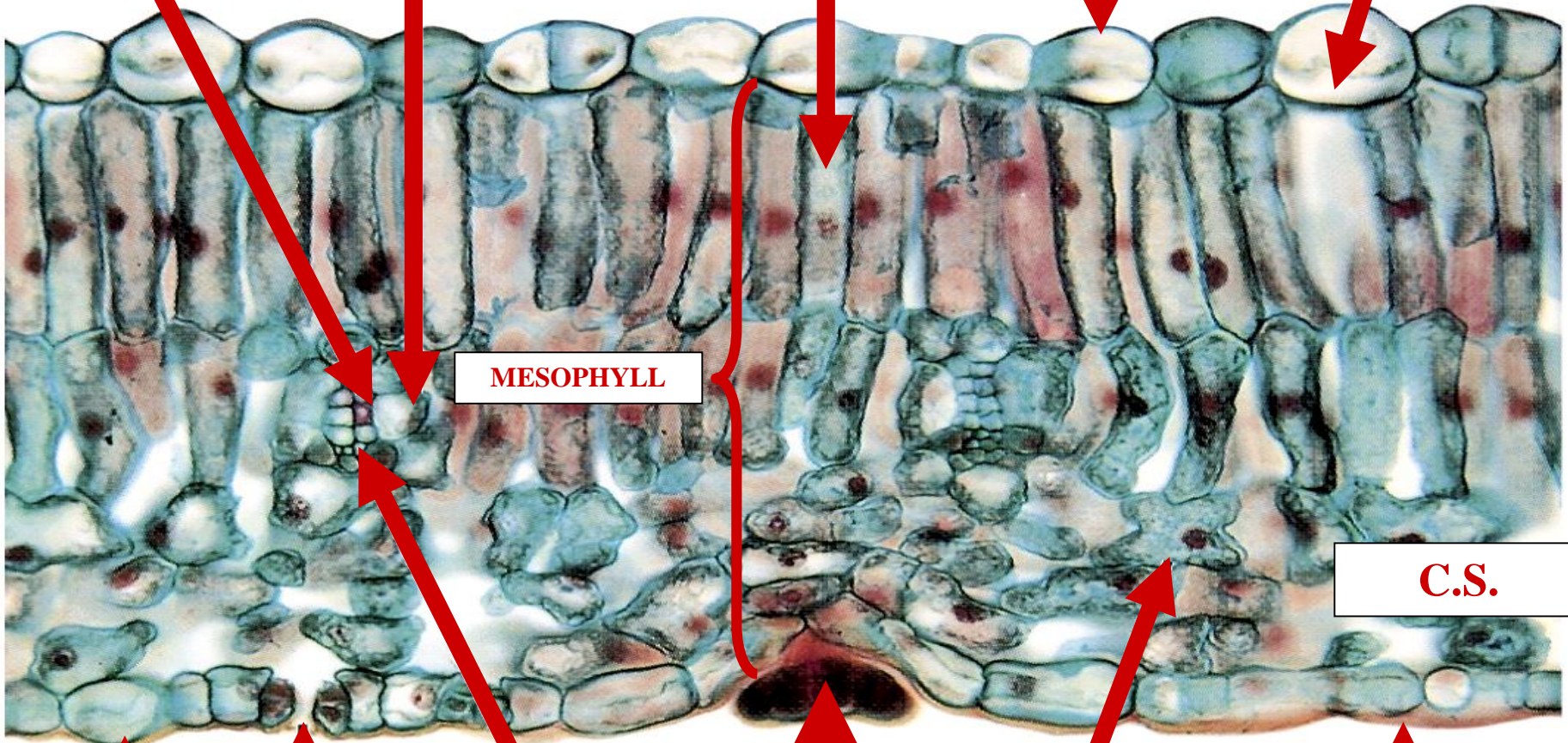
XYLEM

VASCULAR BUNDLE

PALISADE LAYER

MODERATE CUTICLE

STOMATES ABSENT



MESOPHYLL

C.S.

SPONGY LAYER

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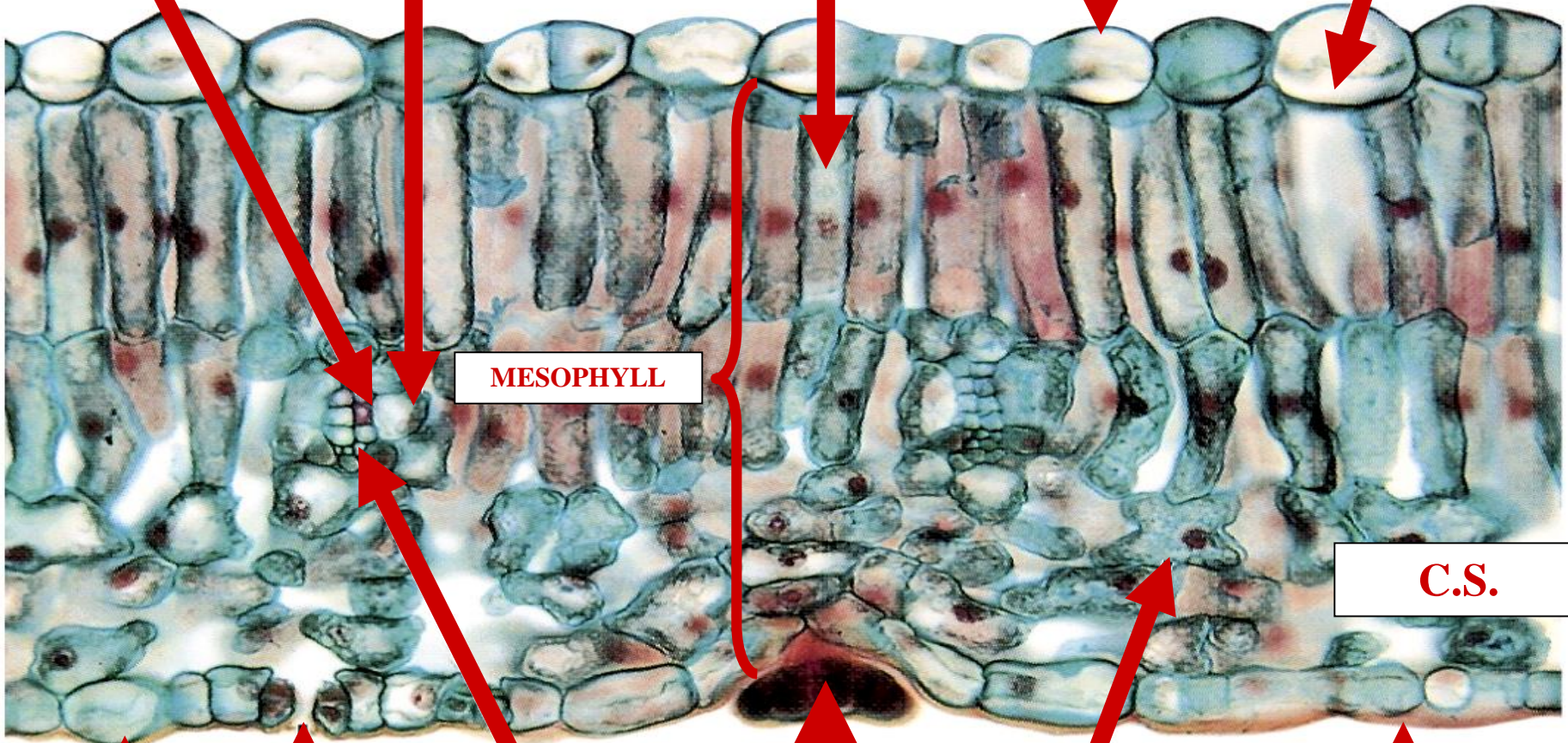
XYLEM

VASCULAR BUNDLE

PALISADE LAYER

MODERATE CUTICLE

STOMATES ABSENT

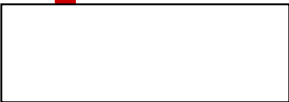


MESOPHYLL

C.S.

PHLOEM

SPONGY LAYER



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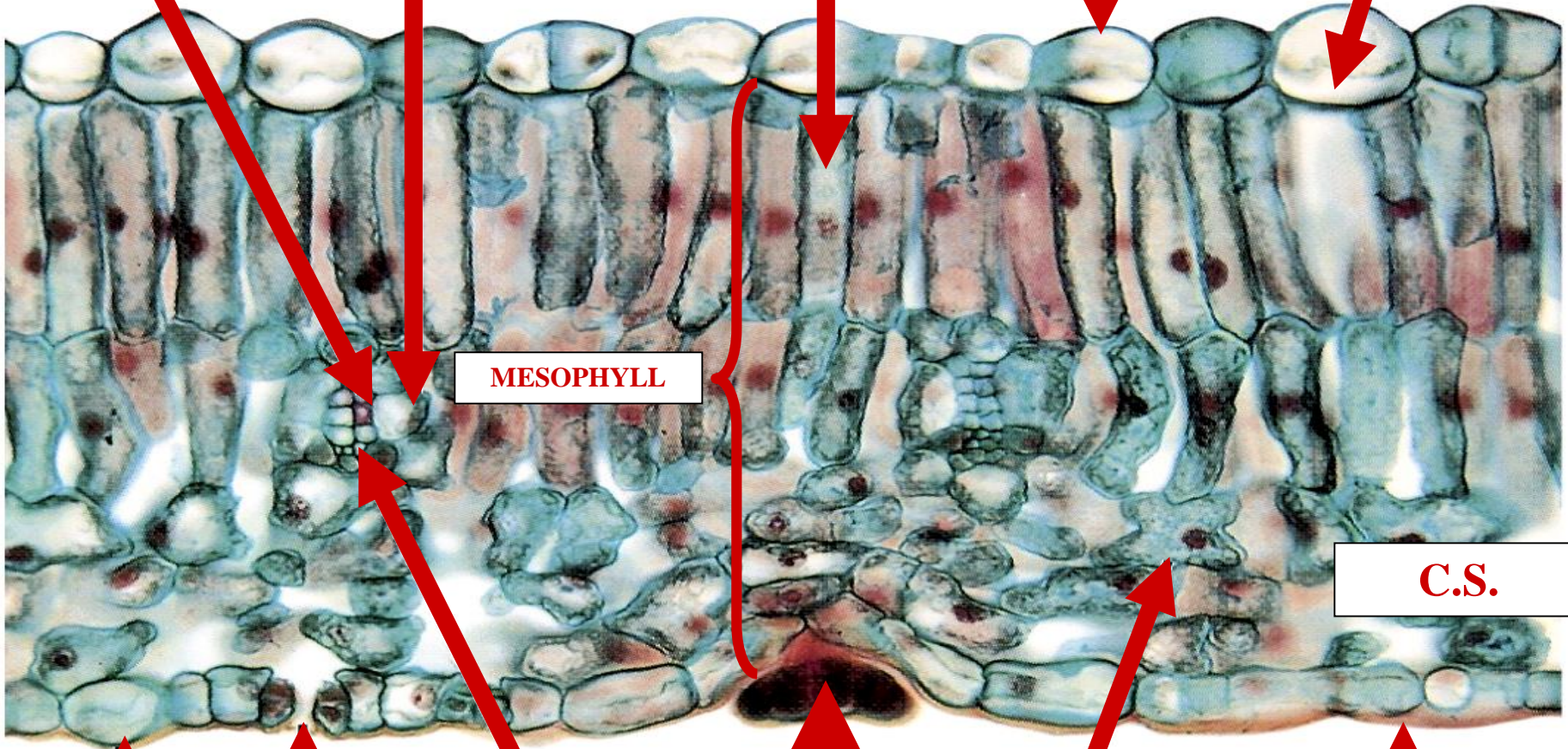
XYLEM

VASCULAR BUNDLE

PALISADE LAYER

MODERATE CUTICLE

STOMATES ABSENT



MESOPHYLL

C.S.

PHLOEM

SPONGY LAYER

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XYLEM

VASCULAR BUNDLE

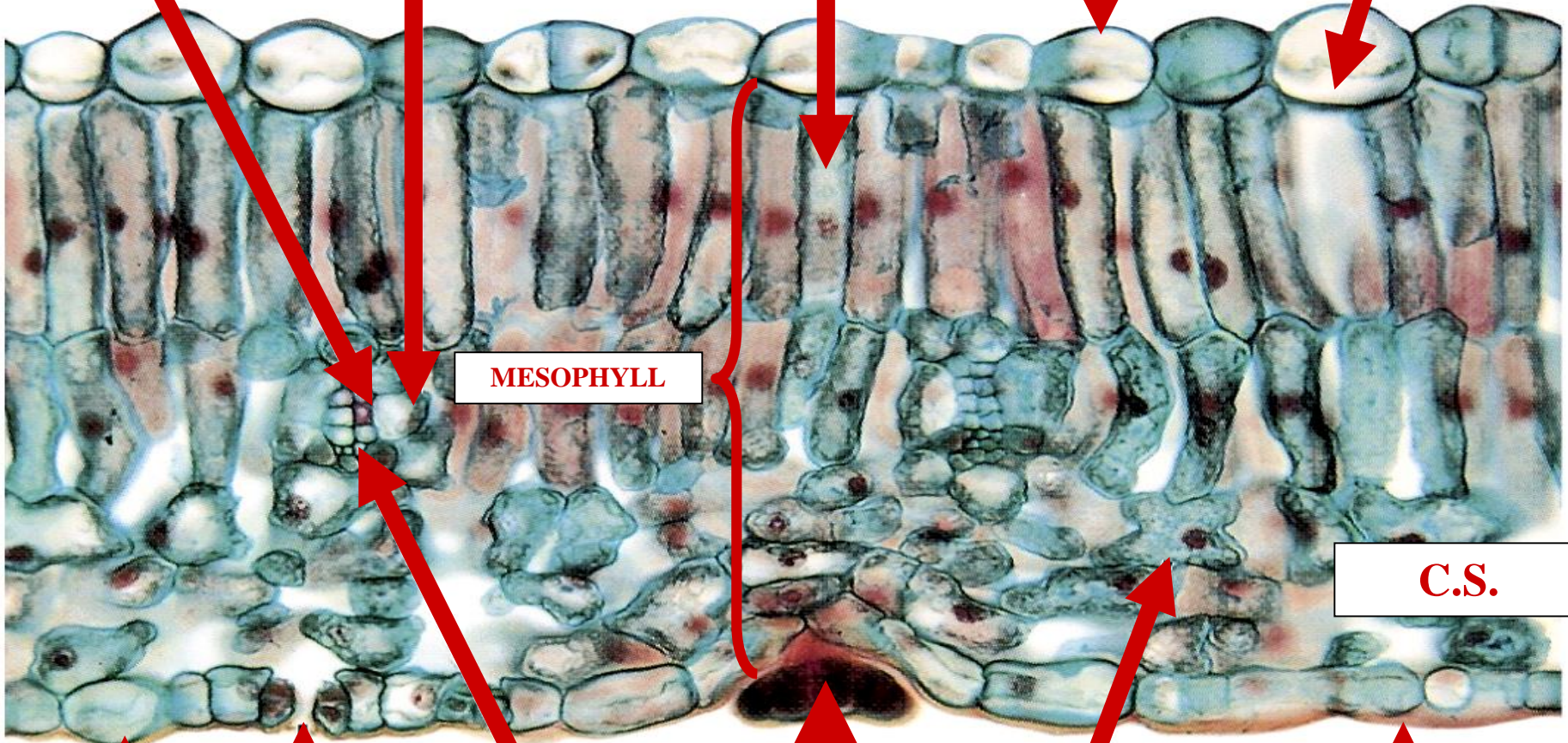
PALISADE LAYER

MODERATE CUTICLE

STOMATES ABSENT

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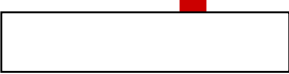
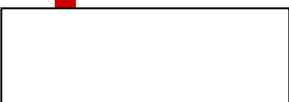
MESOPHYLL

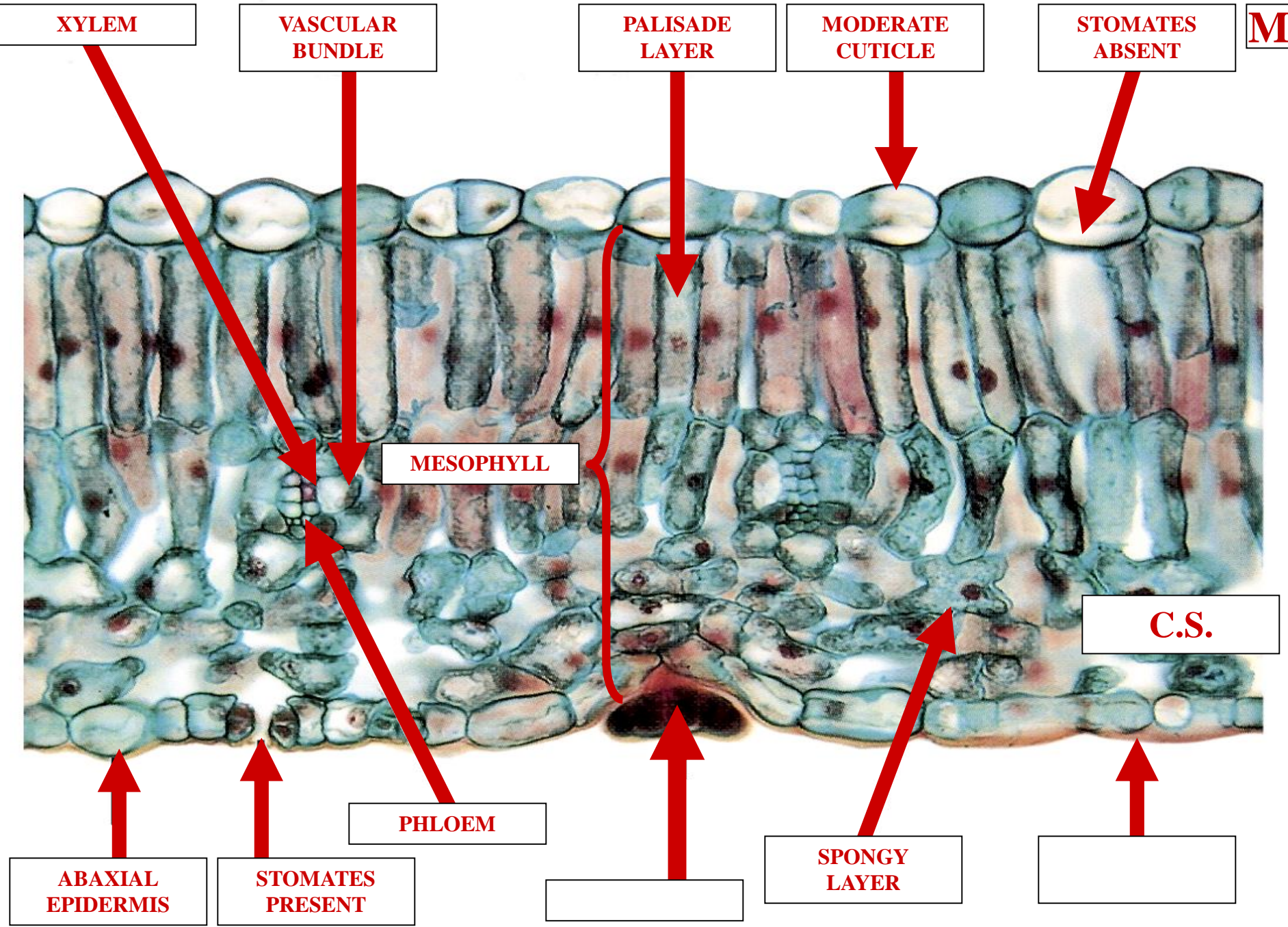
C.S.

PHLOEM

ABAXIAL EPIDERMIS

SPONGY LAYER





XYLEM

VASCULAR BUNDLE

PALISADE LAYER

MODERATE CUTICLE

STOMATES ABSENT

MESOPHYLL

C.S.

PHLOEM

ABAXIAL EPIDERMIS

STOMATES PRESENT

SPONGY LAYER

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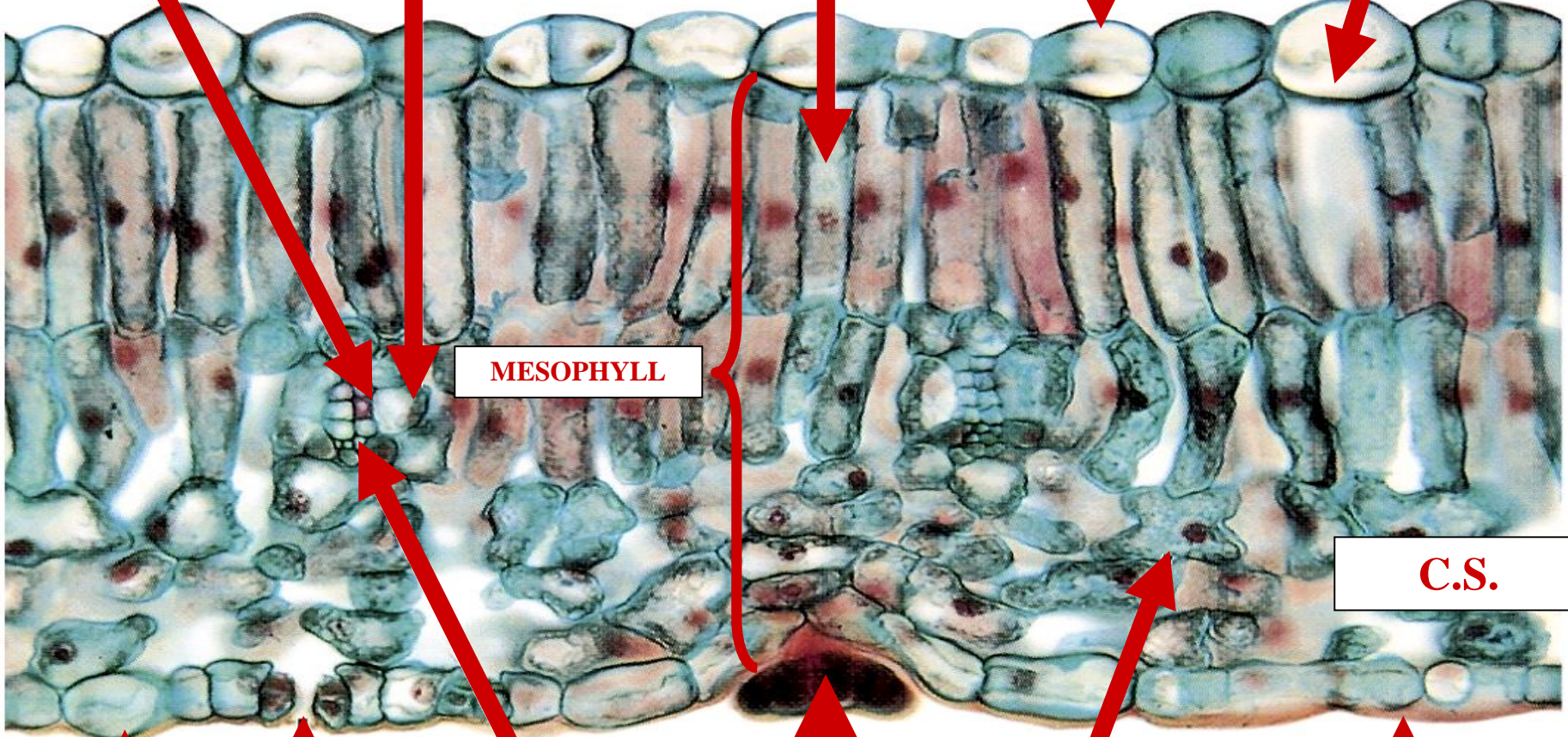
XYLEM

VASCULAR BUNDLE

PALISADE LAYER

MODERATE CUTICLE

STOMATES ABSENT



MESOPHYLL

C.S.

PHLOEM

ABAXIAL EPIDERMIS

STOMATES PRESENT

SPONGY LAYER

MODERATE CUTICLE

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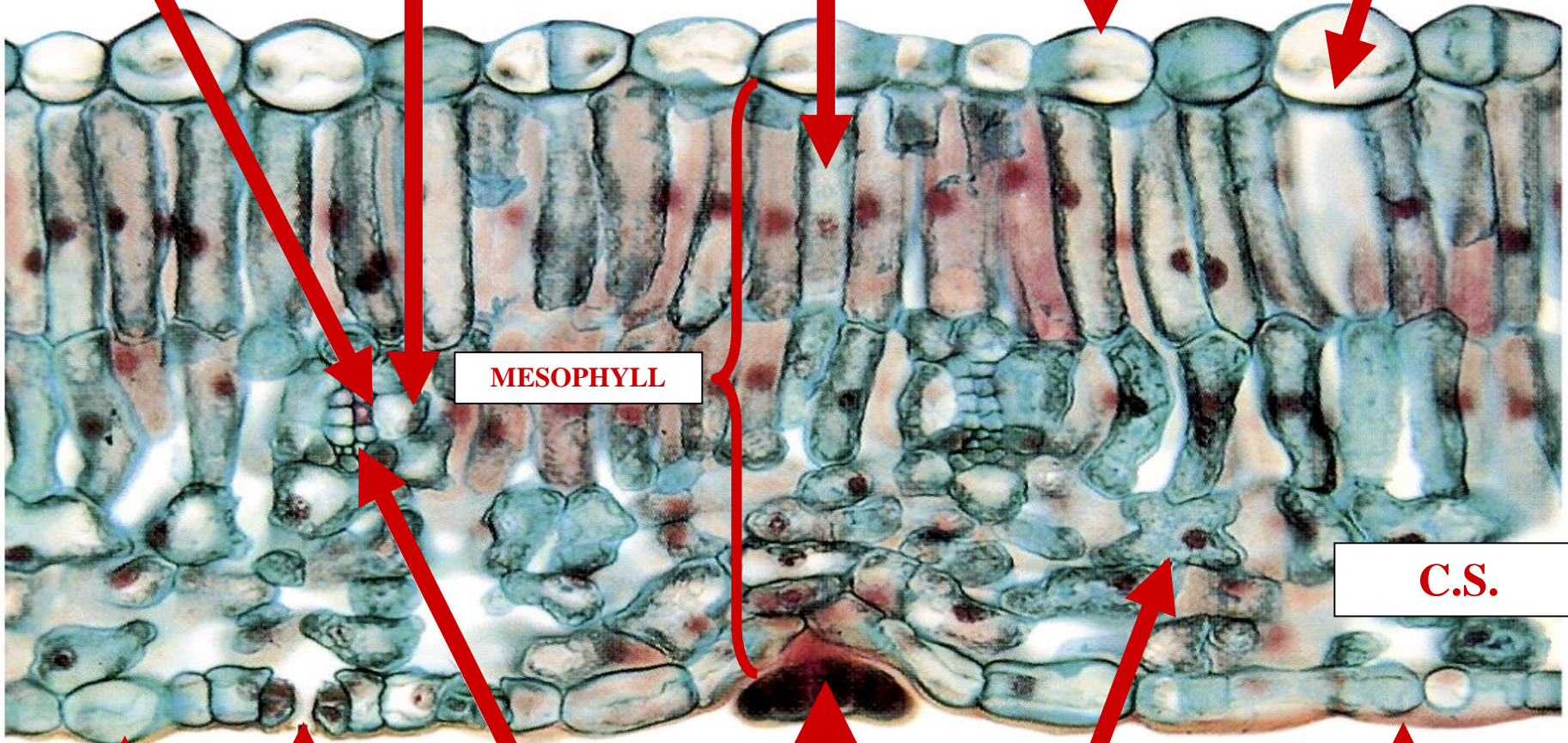
XYLEM

VASCULAR BUNDLE

PALISADE LAYER

MODERATE CUTICLE

STOMATES ABSENT



MESOPHYLL

C.S.

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SPONGY LAYER

MODERATE CUTICLE

ABAXIAL EPIDERMIS

STOMATES PRESENT



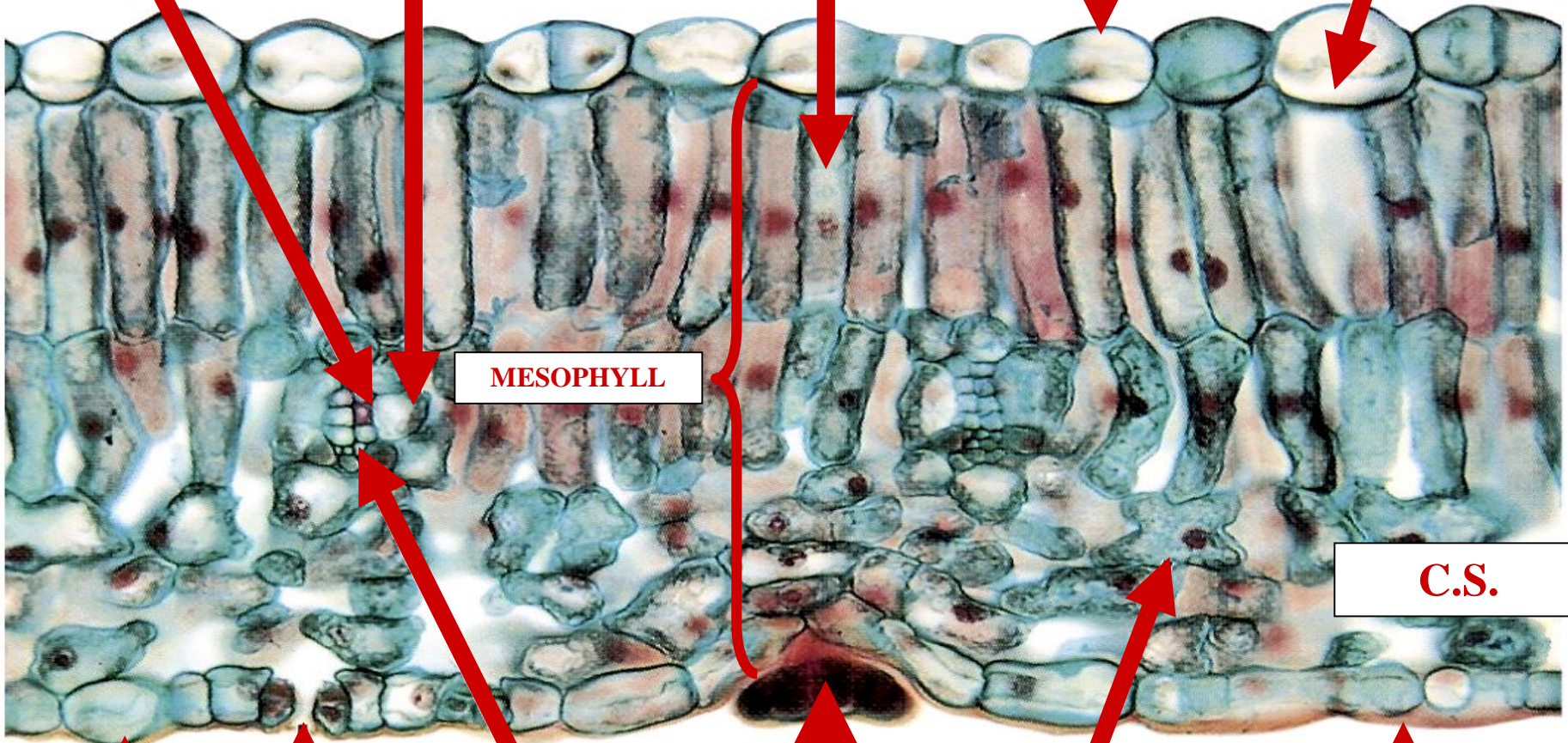
XYLEM

VASCULAR BUNDLE

PALISADE LAYER

MODERATE CUTICLE

STOMATES ABSENT



MESOPHYLL

C.S.

PHLOEM

ABAXIAL EPIDERMIS

STOMATES PRESENT

TRICHOME

SPONGY LAYER

MODERATE CUTICLE

XEROPHYTE LEAF

XEROPHYTE LEAF

DICOT LEAF ANATOMY

XEROPHYTE

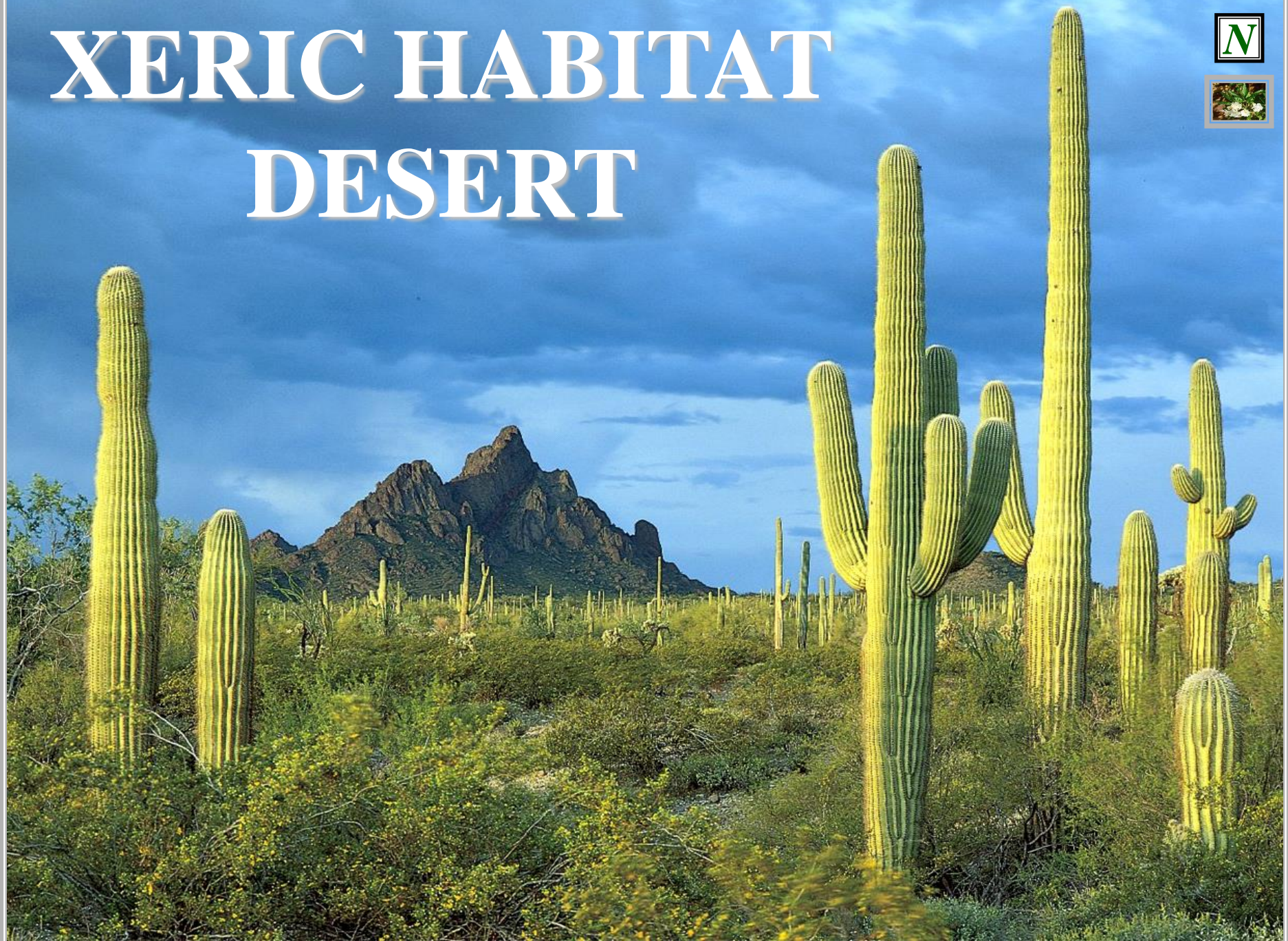


ADAPTED
LOW MOISTURE
HABITAT

DICOT LEAF ANATOMY

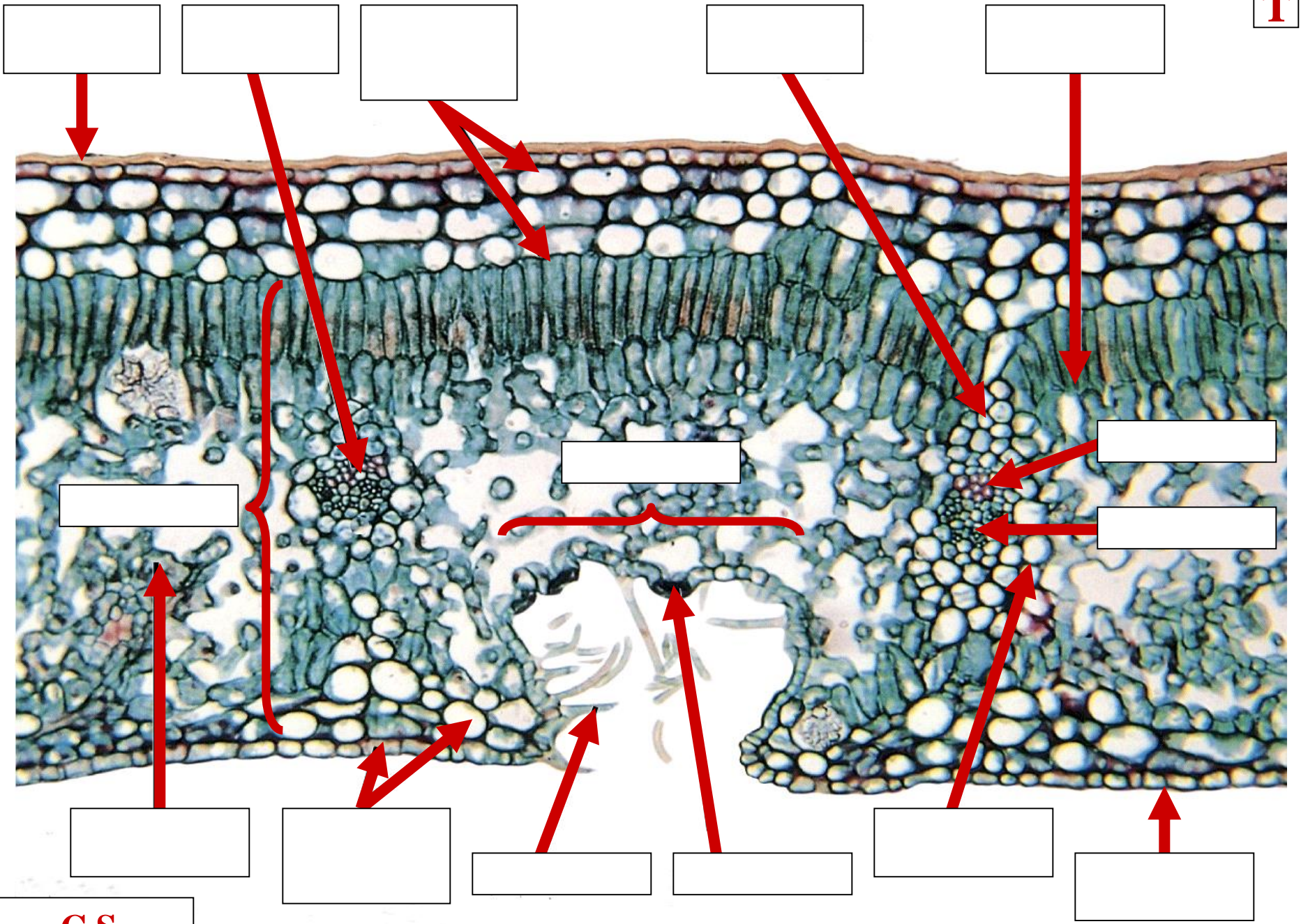
XEROPHYTE

XERIC HABITAT DESERT



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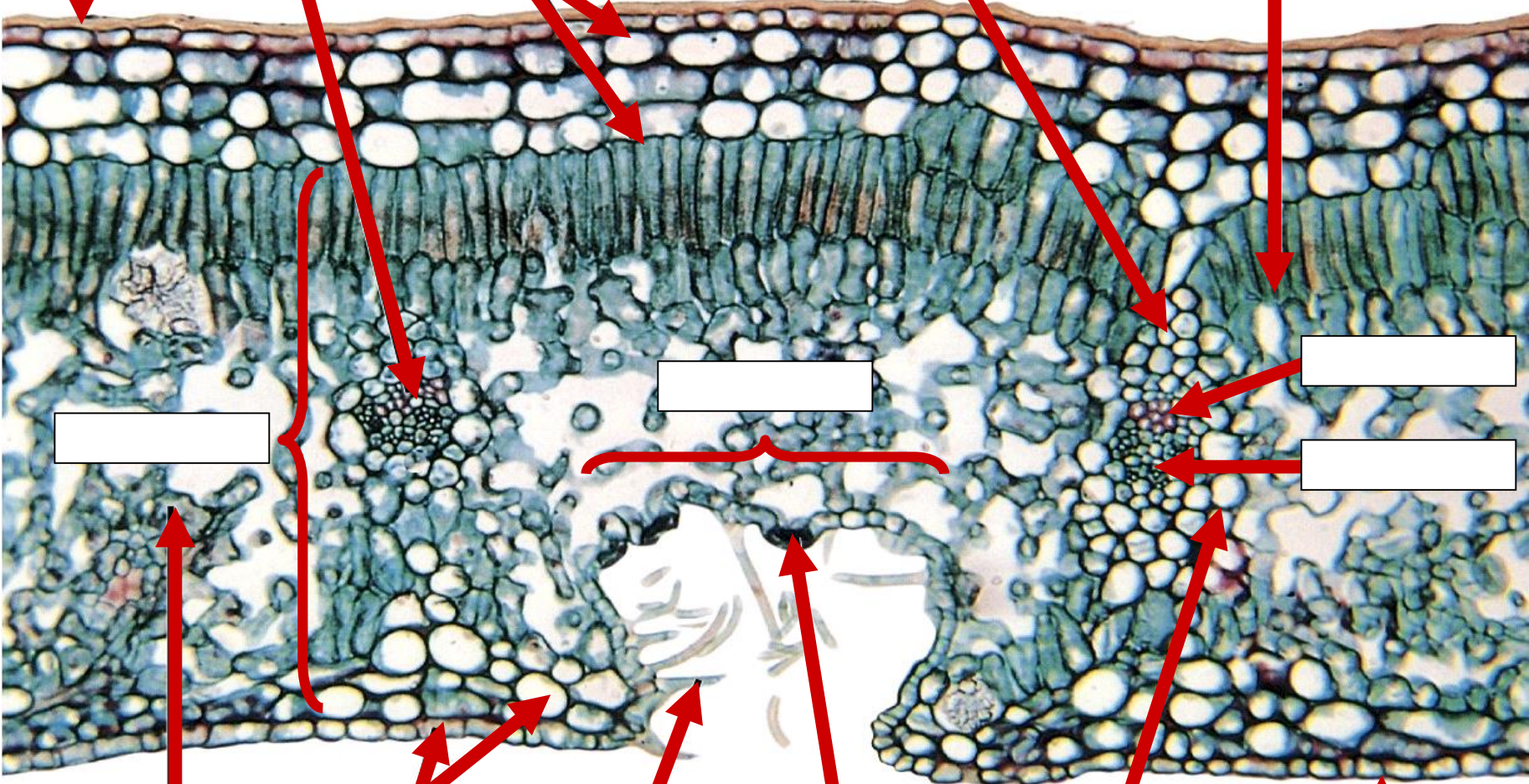
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THICK CUTICLE



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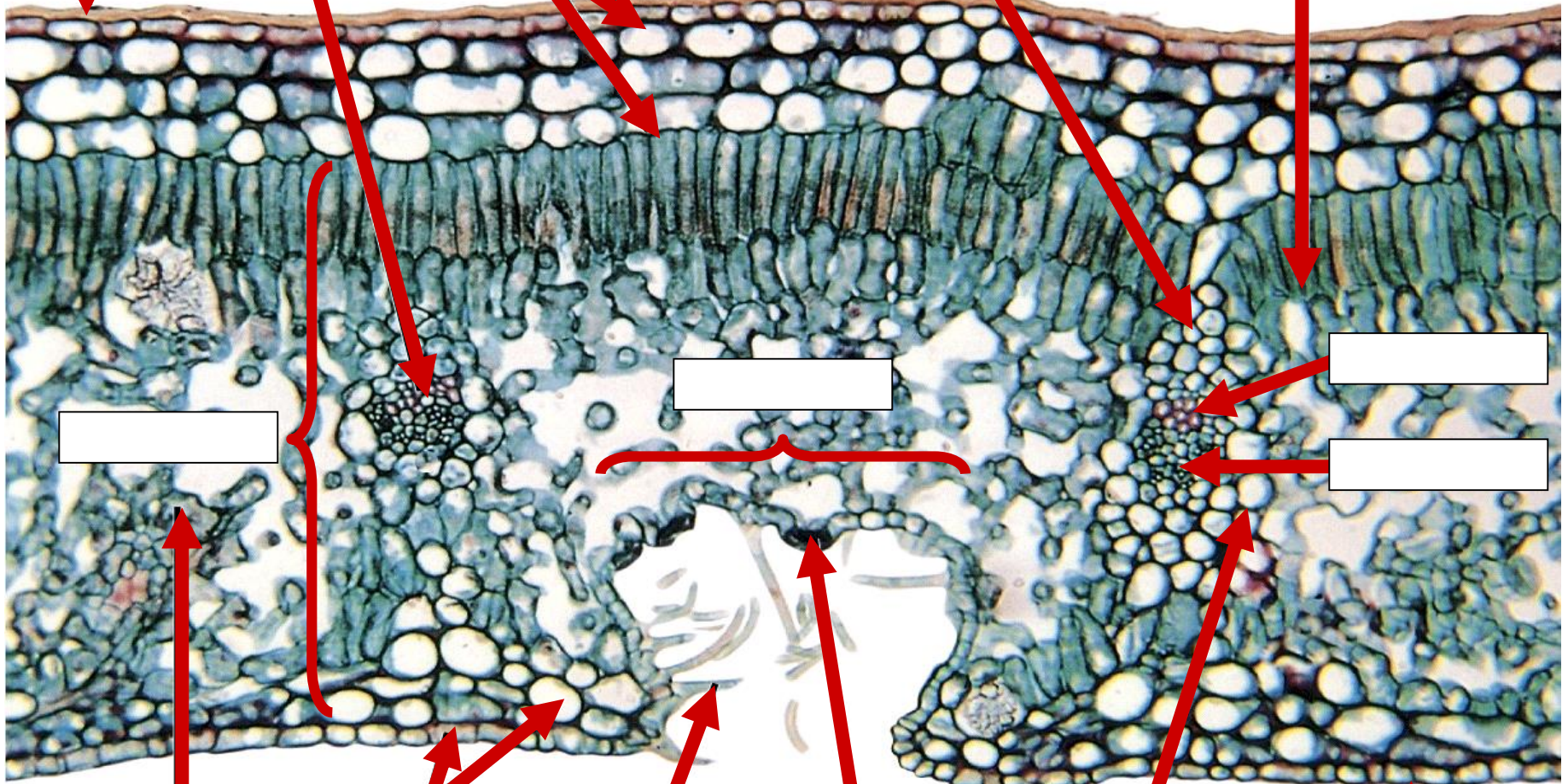
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THICK CUTICLE

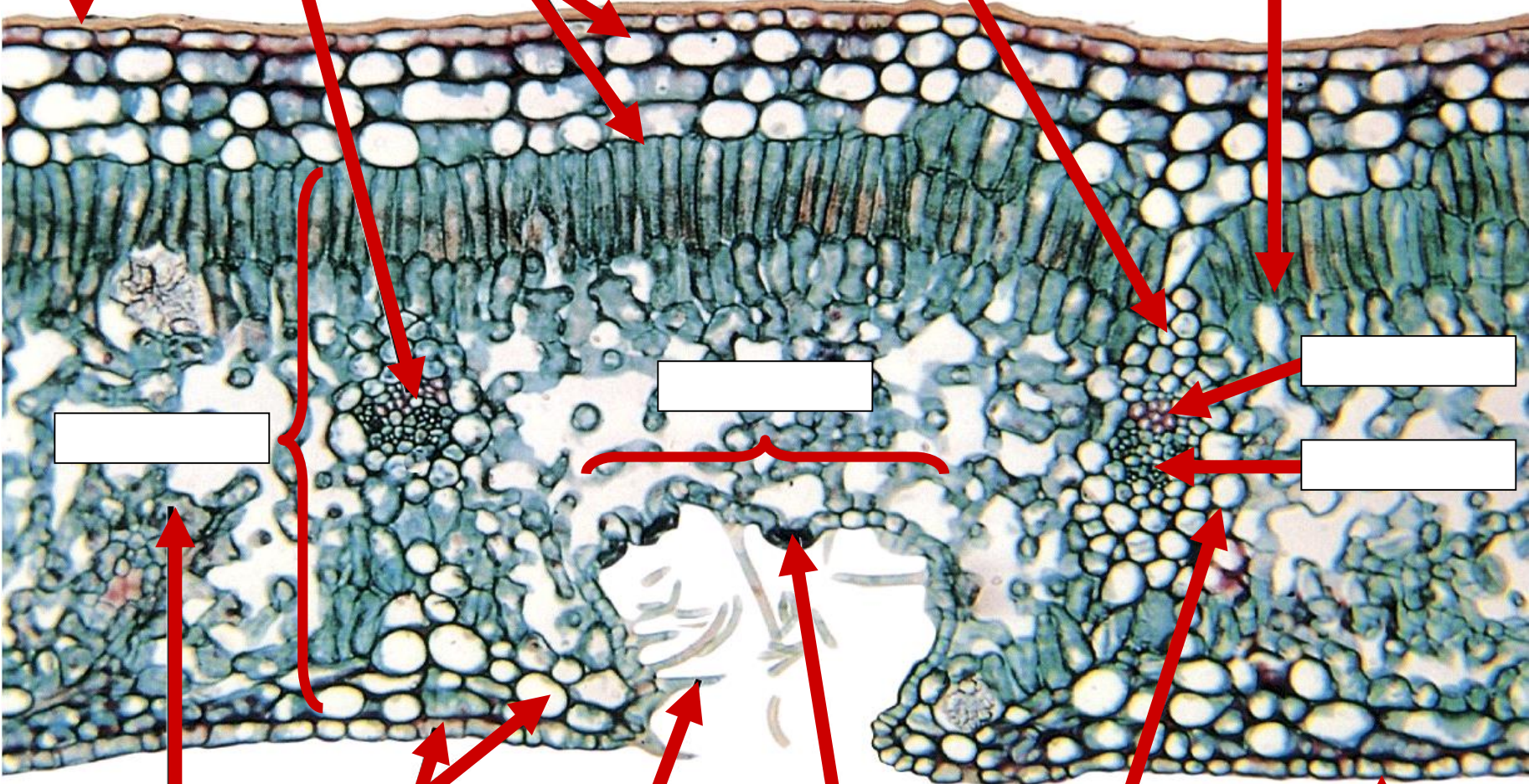
ADAXIAL MULTIPLE EPIDERMIS



C.S.

THICK CUTICLE

STOMATES ABSENT



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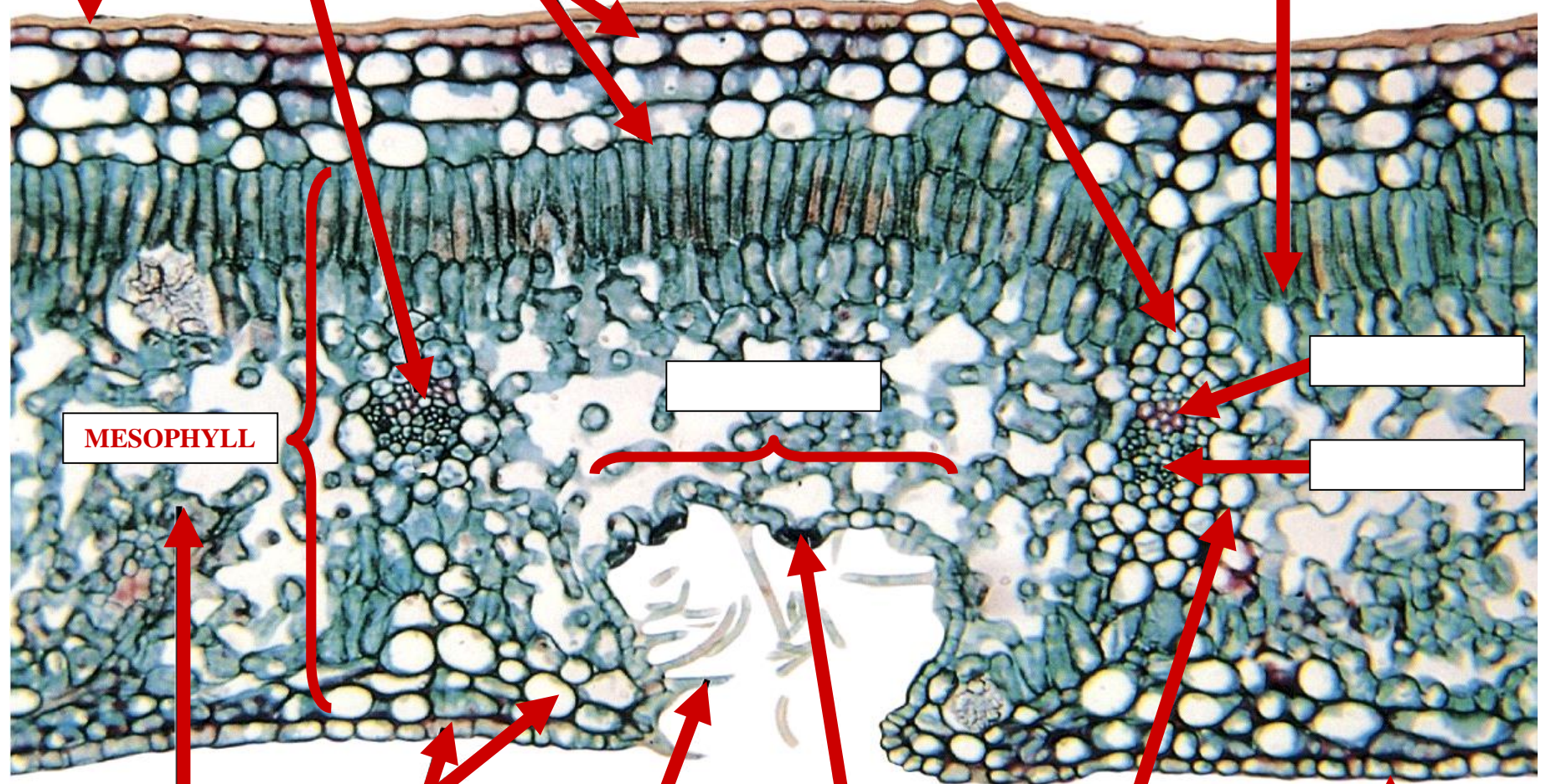
C.S.

THICK CUTICLE

STOMATES ABSENT

MESOPHYLL

C.S.



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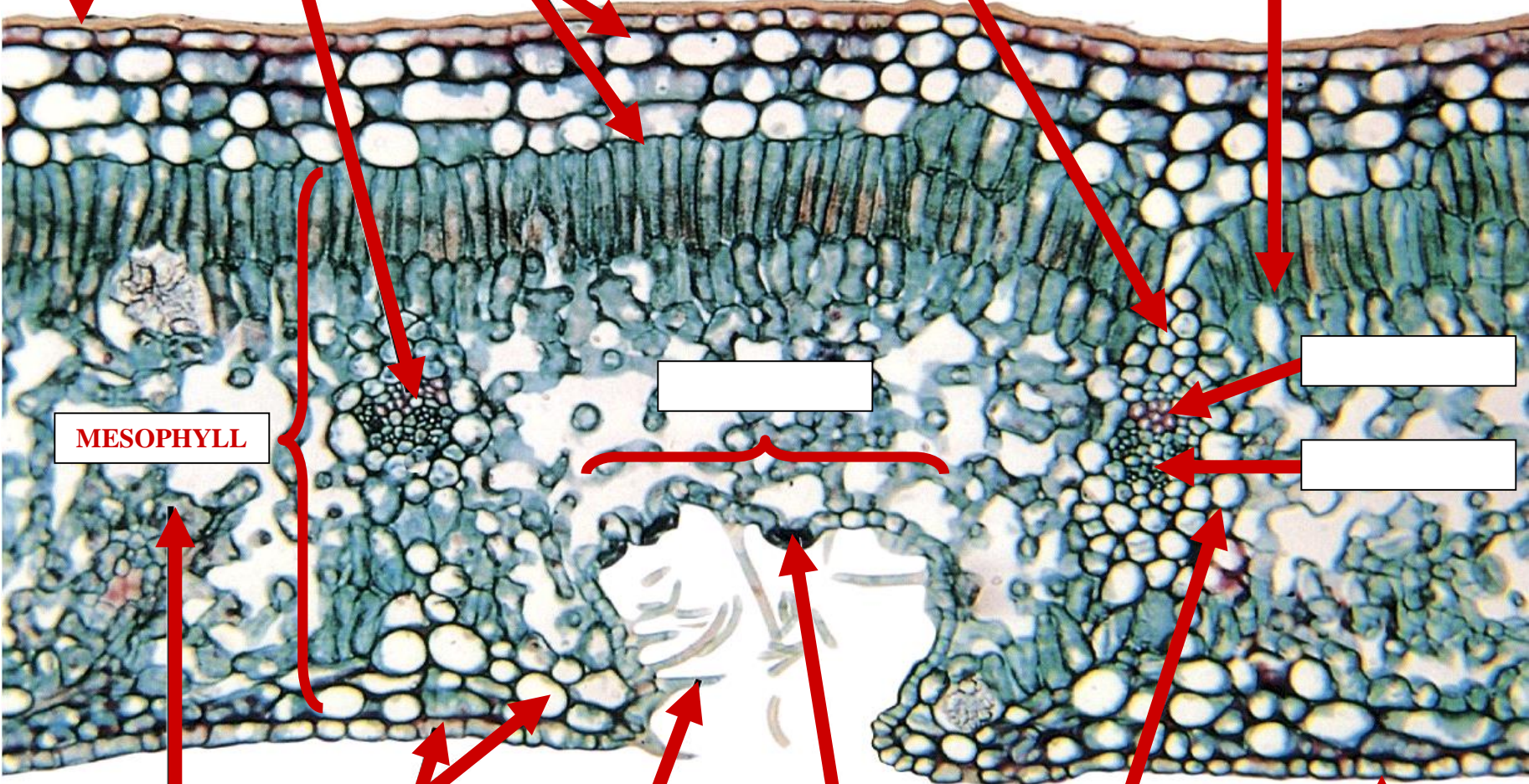
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THICK CUTICLE

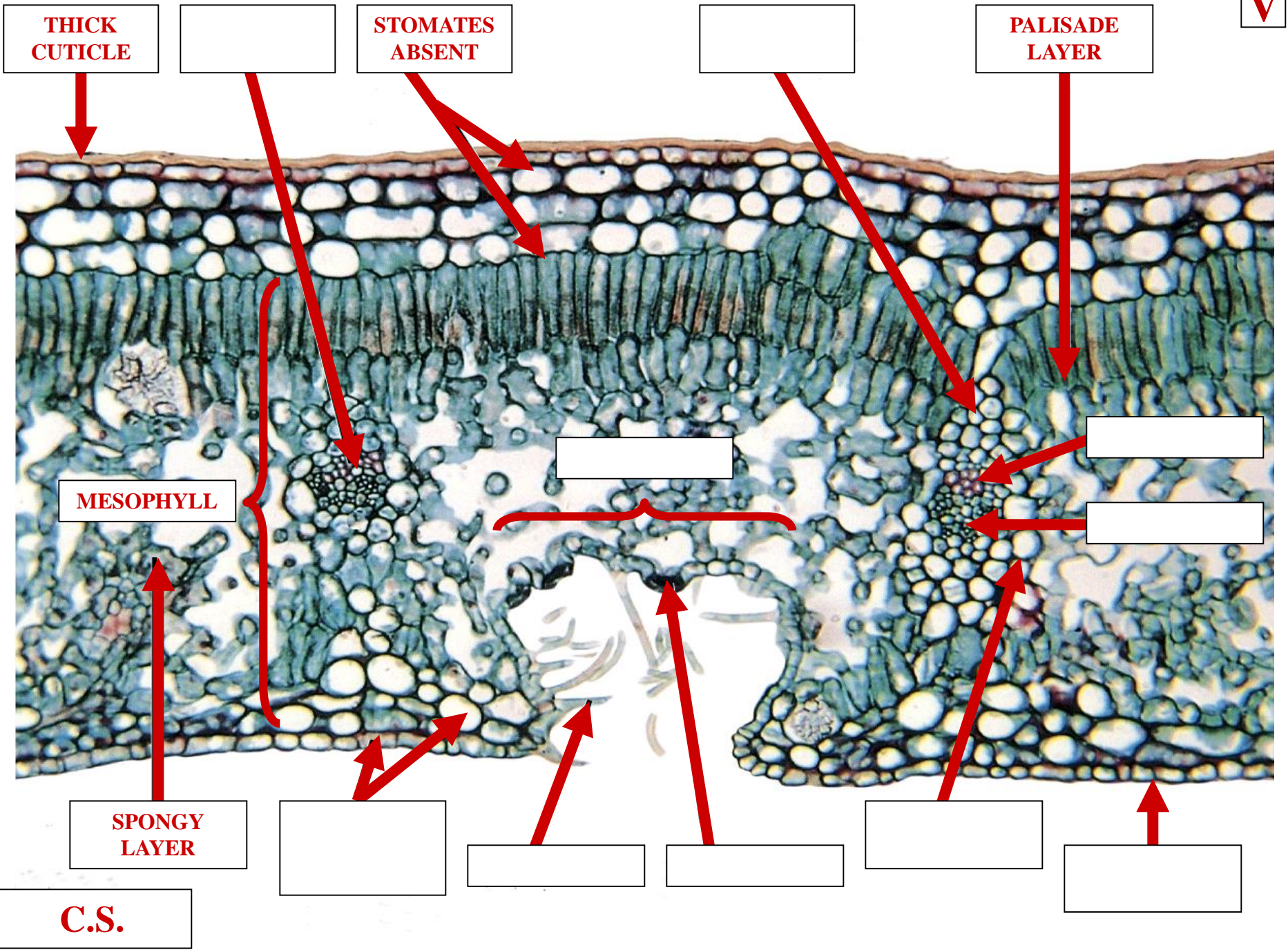
STOMATES ABSENT

PALISADE LAYER



MESOPHYLL

C.S.



THICK CUTICLE

STOMATES ABSENT

PALISADE LAYER

MESOPHYLL

SPONGY LAYER

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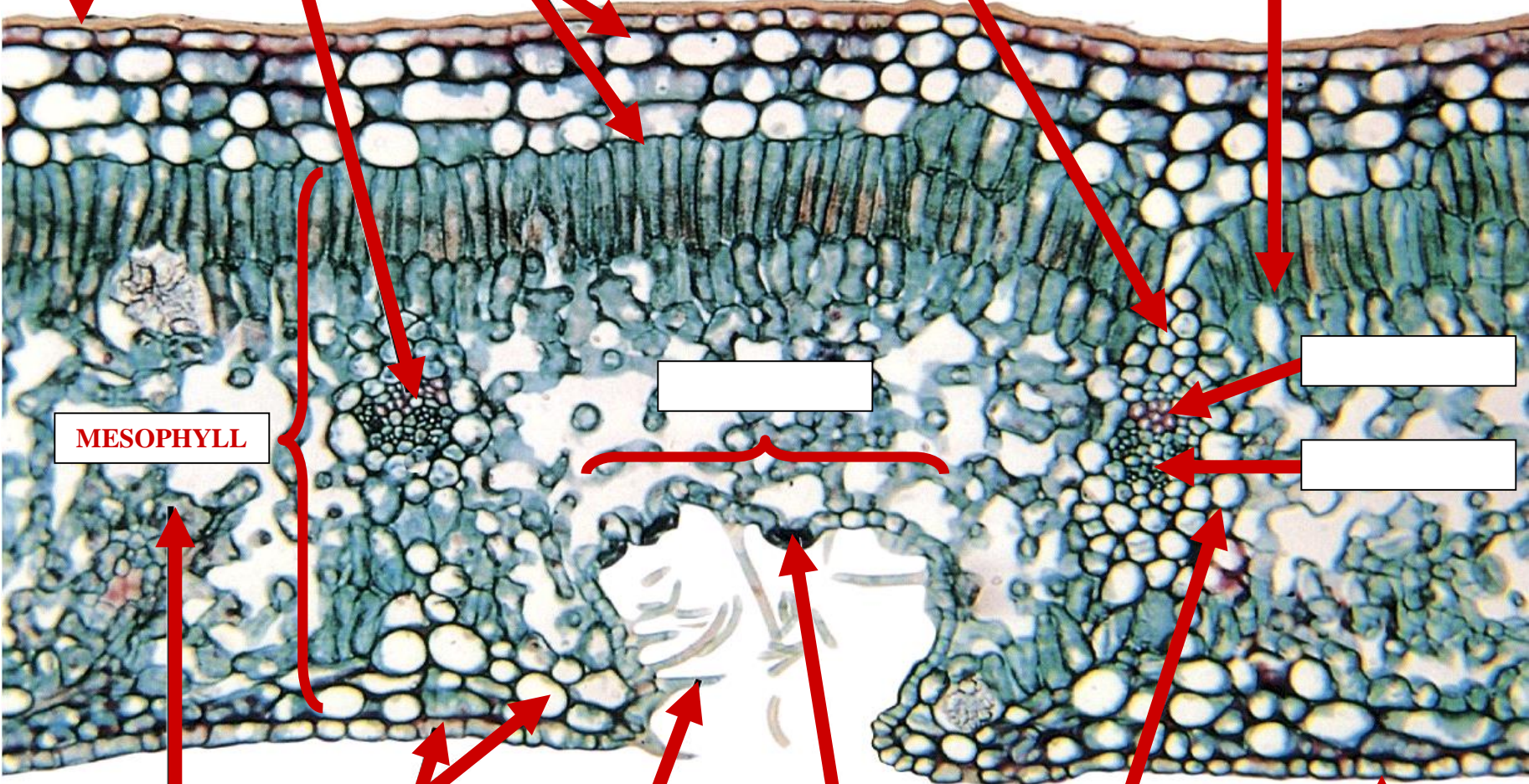
THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER



MESOPHYLL

SPONGY LAYER

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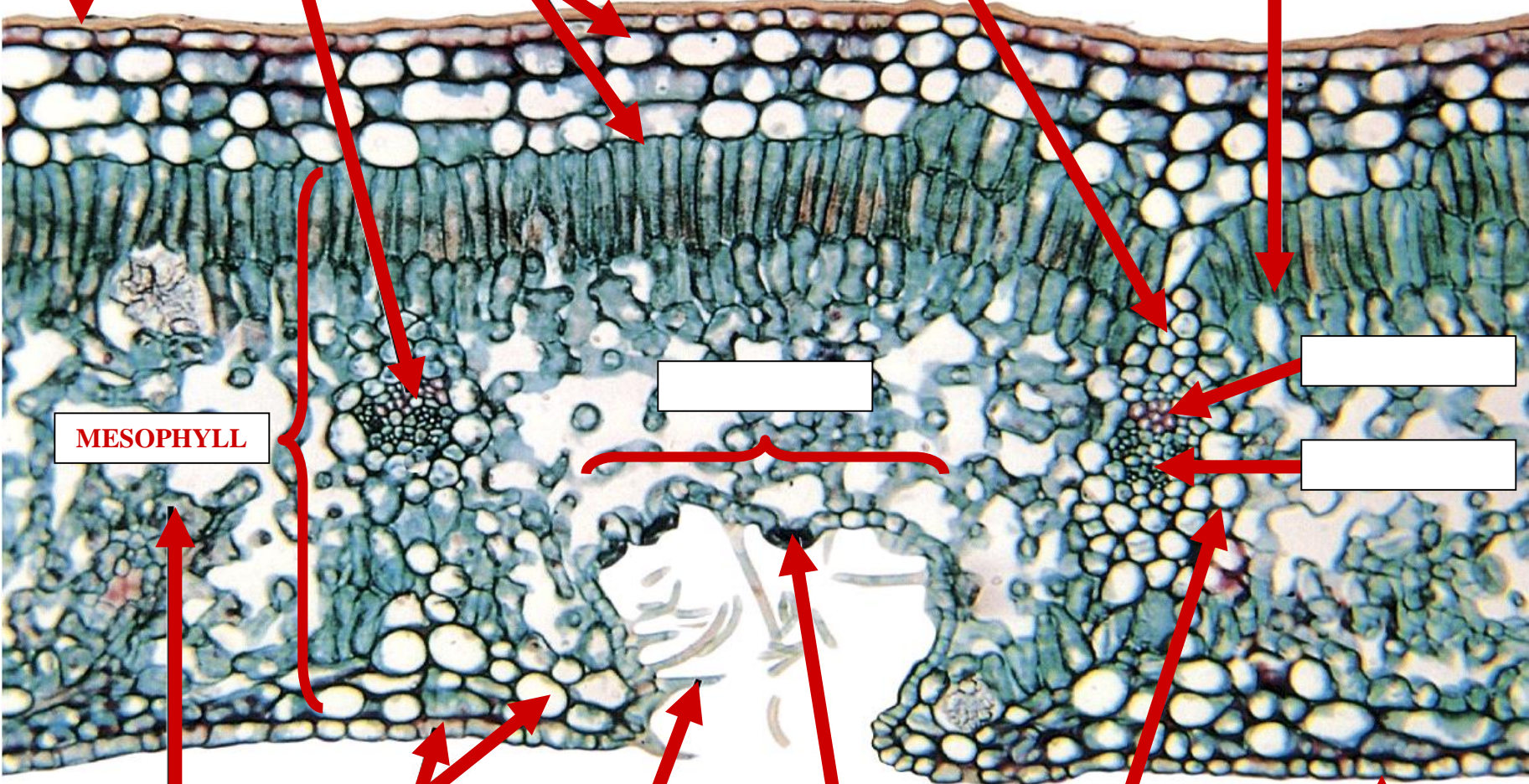
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VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER



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SPONGY LAYER

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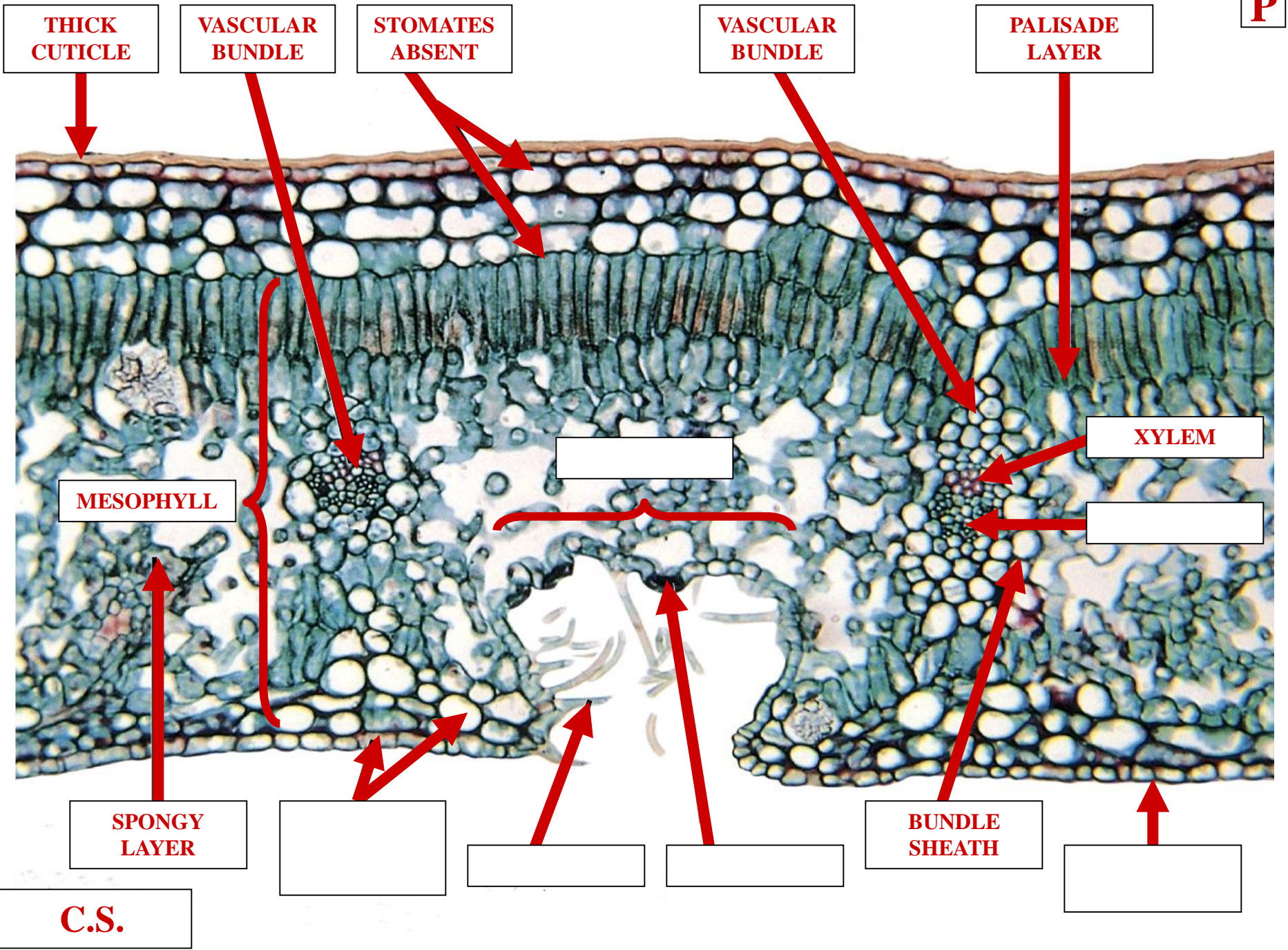
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BUNDLE SHEATH

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C.S.



THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

XYLEM

MESOPHYLL

SPONGY LAYER

C.S.

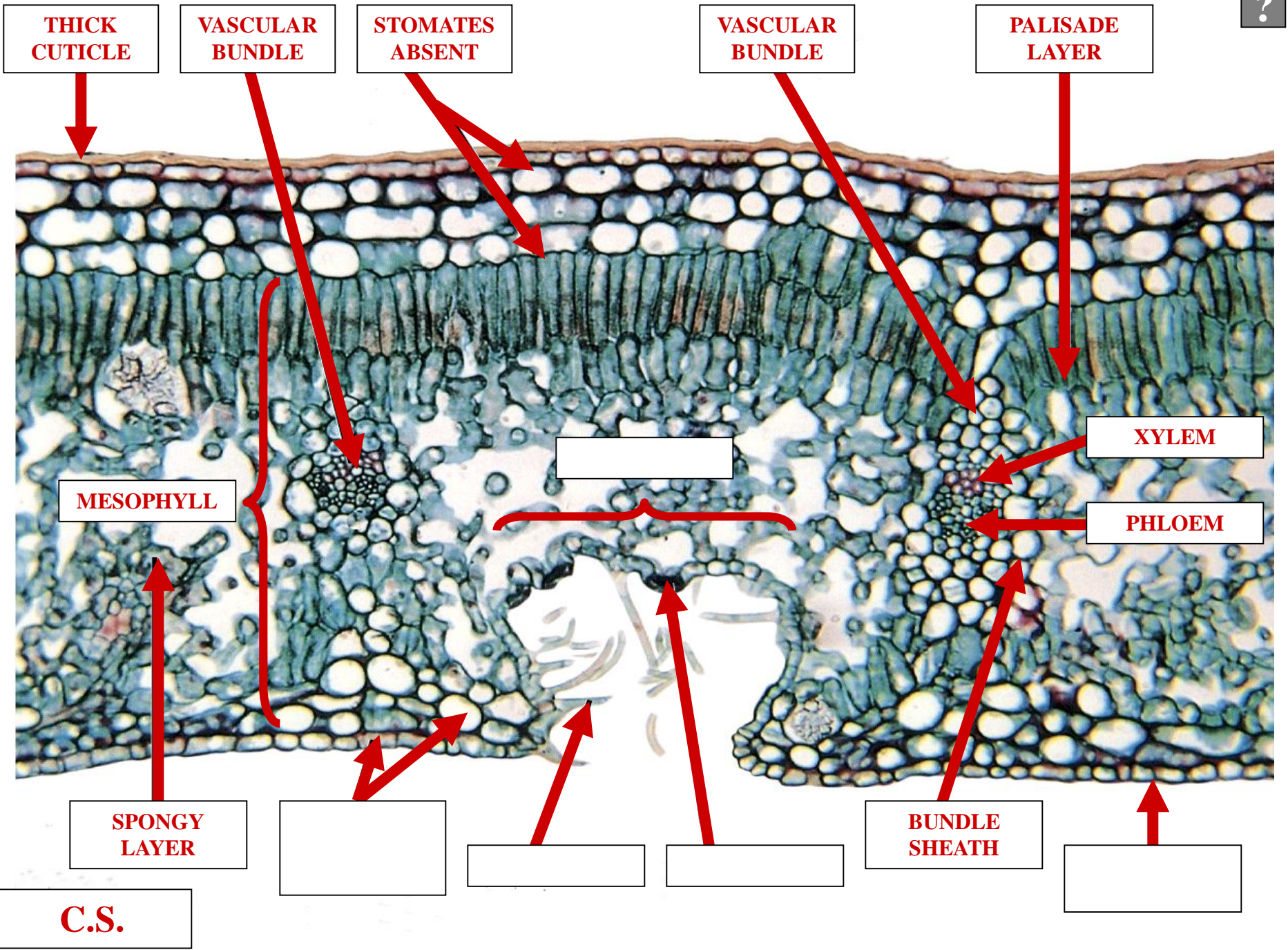
BUNDLE SHEATH

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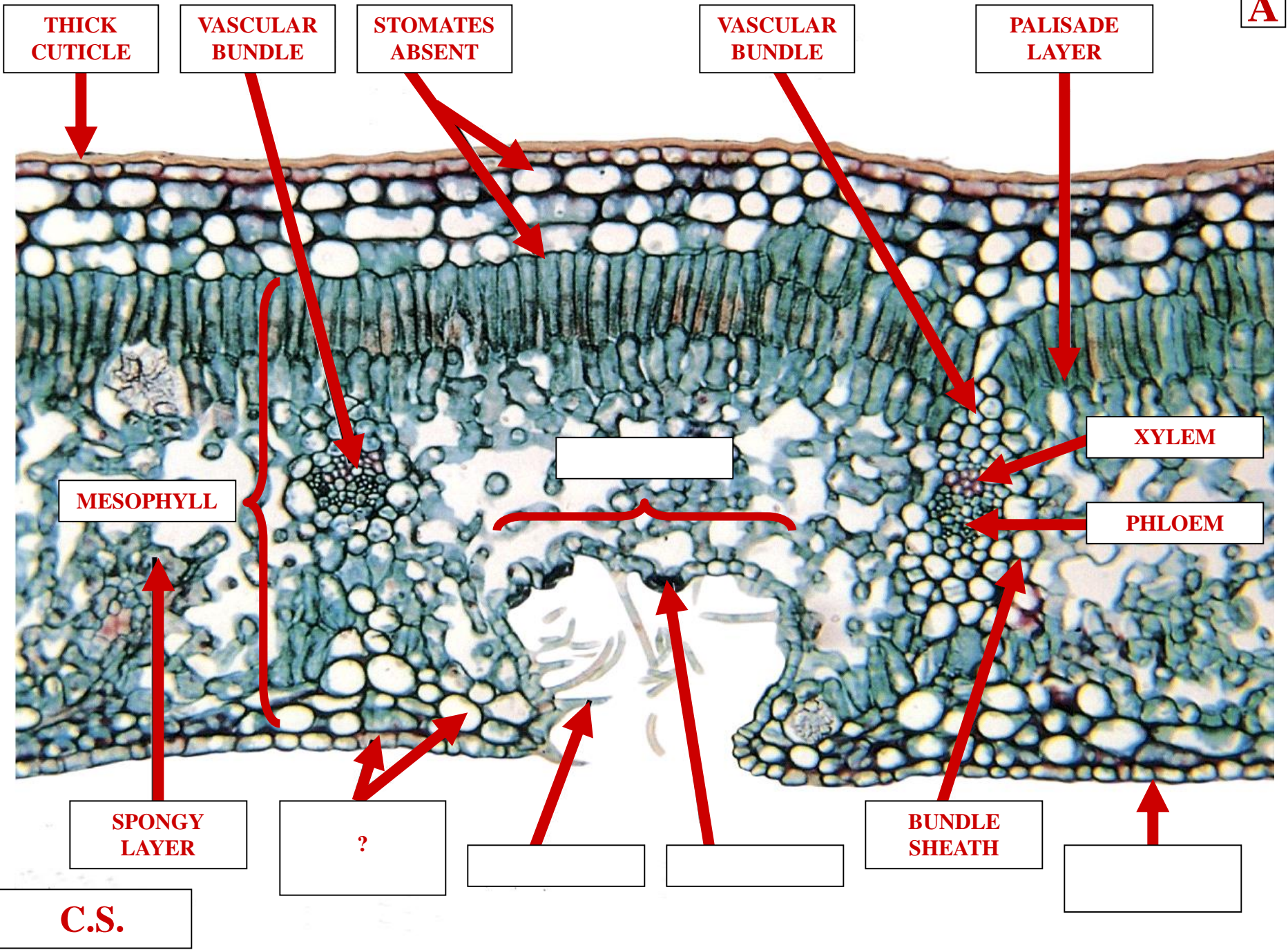
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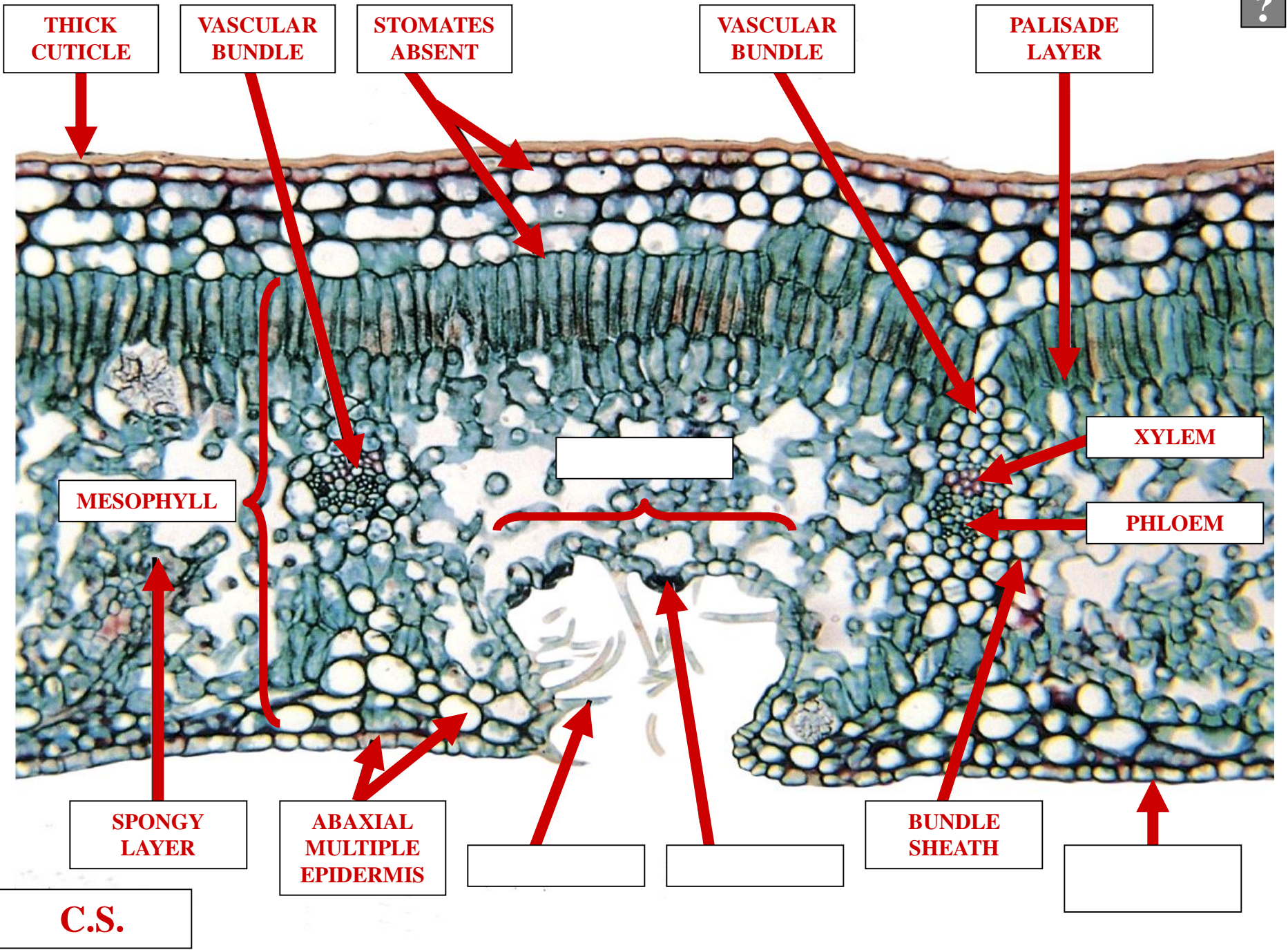
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THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

XYLEM

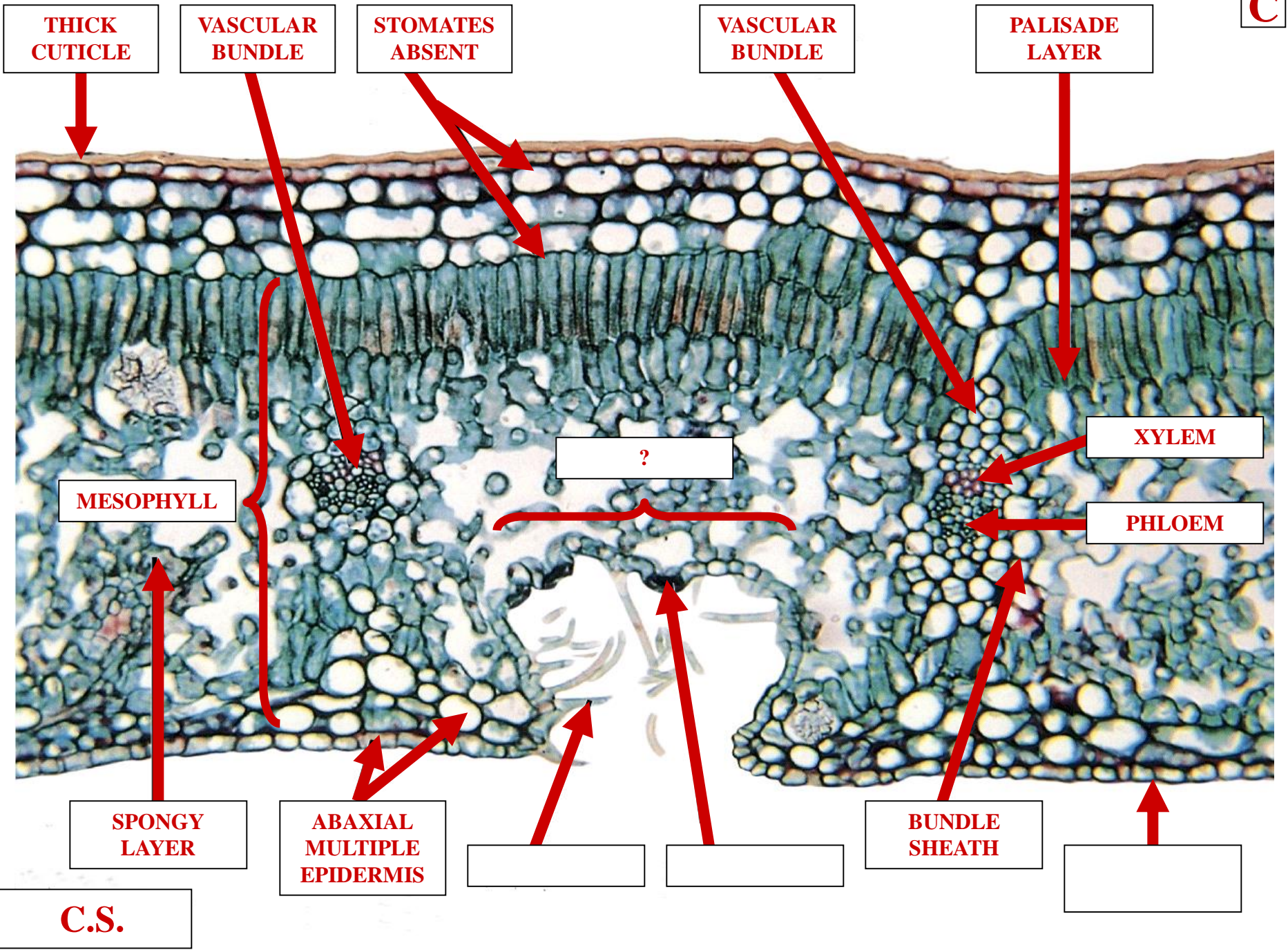
PHLOEM

SPONGY LAYER

ABAXIAL MULTIPLE EPIDERMIS

BUNDLE SHEATH

C.S.



THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

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XYLEM

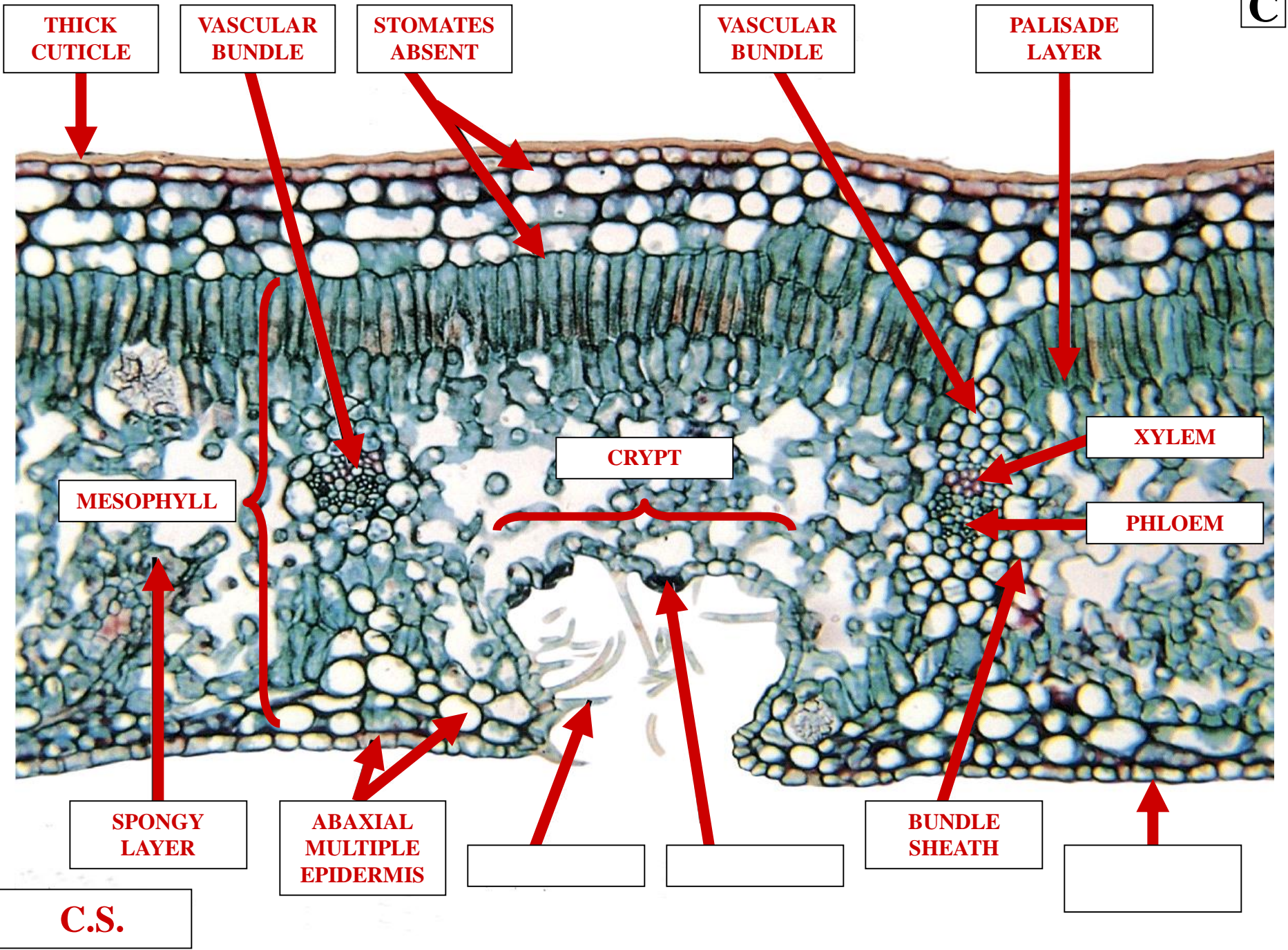
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Spongy Layer

ABAXIAL MULTIPLE EPIDERMIS

BUNDLE SHEATH

C.S.



CRYPT

DICOT LEAF ANATOMY

XEROPHYTE CRYPT

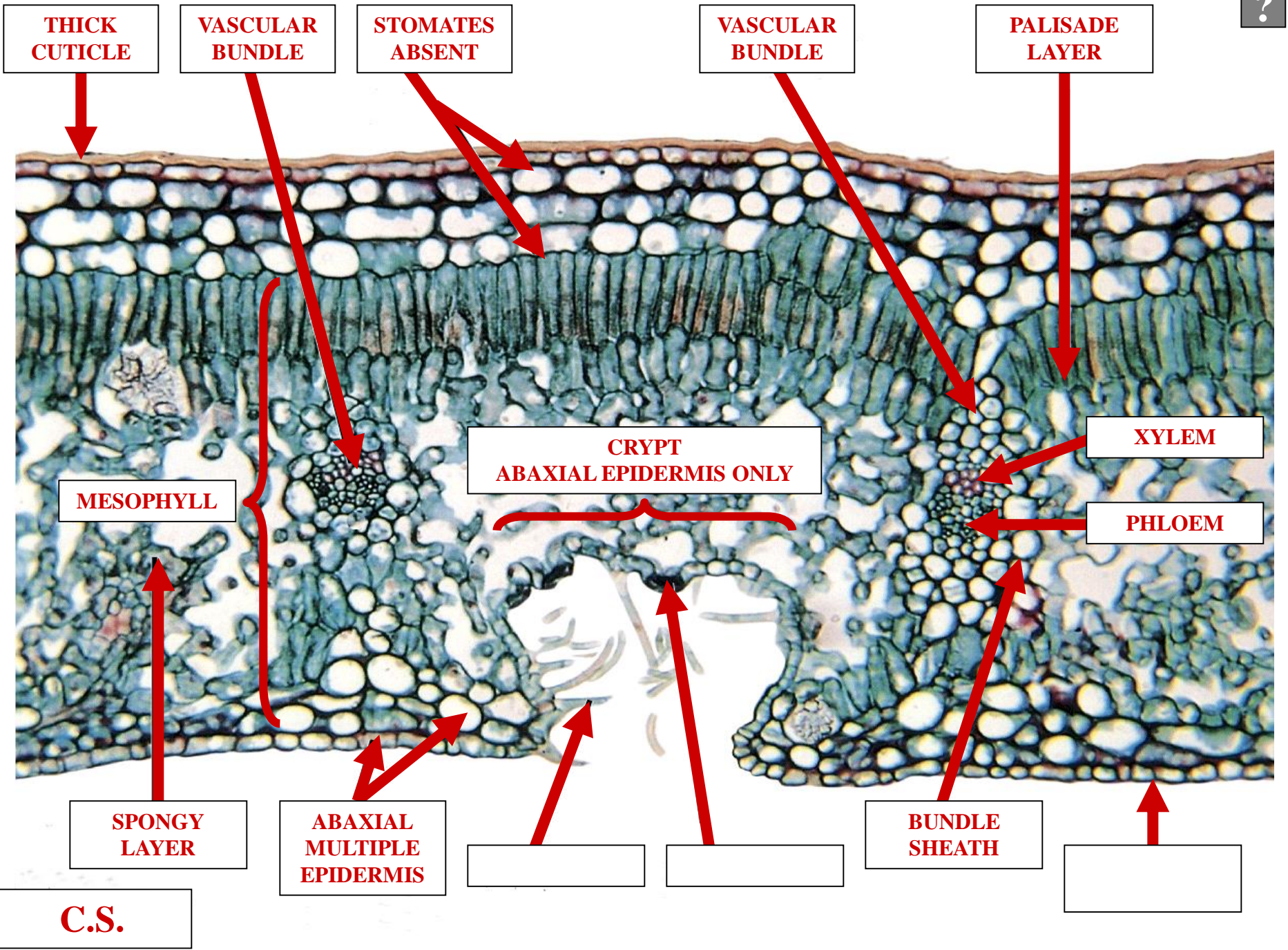


ABAXIAL EPIDERMIS

CAVITY

DICOT LEAF ANATOMY

XEROPHYTE CRYPT



THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

CRYPT
ABAXIAL EPIDERMIS ONLY

XYLEM

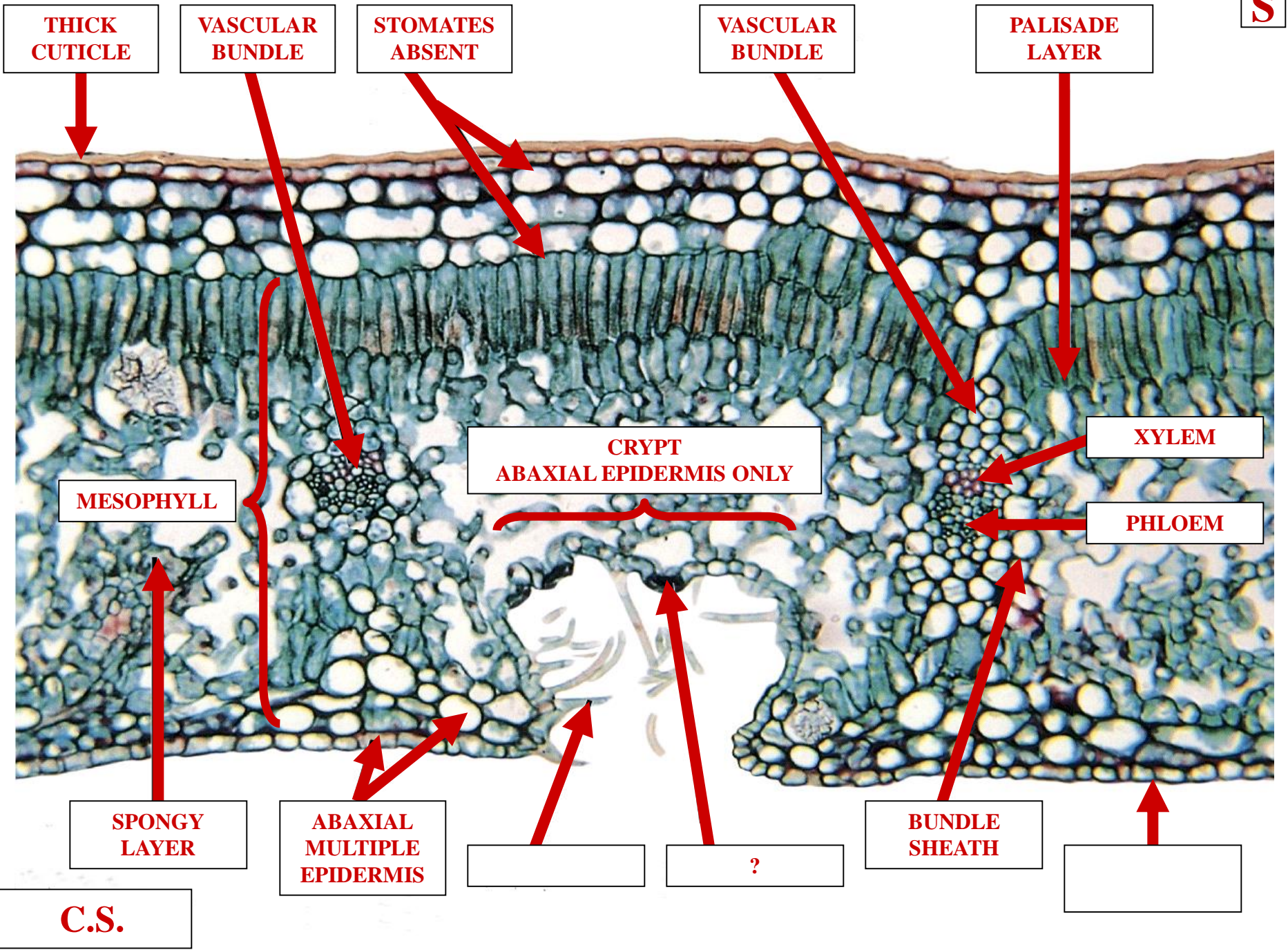
PHLOEM

SPONGY LAYER

ABAXIAL MULTIPLE EPIDERMIS

BUNDLE SHEATH

C.S.



THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

CRYPT
ABAXIAL EPIDERMIS ONLY

XYLEM

PHLOEM

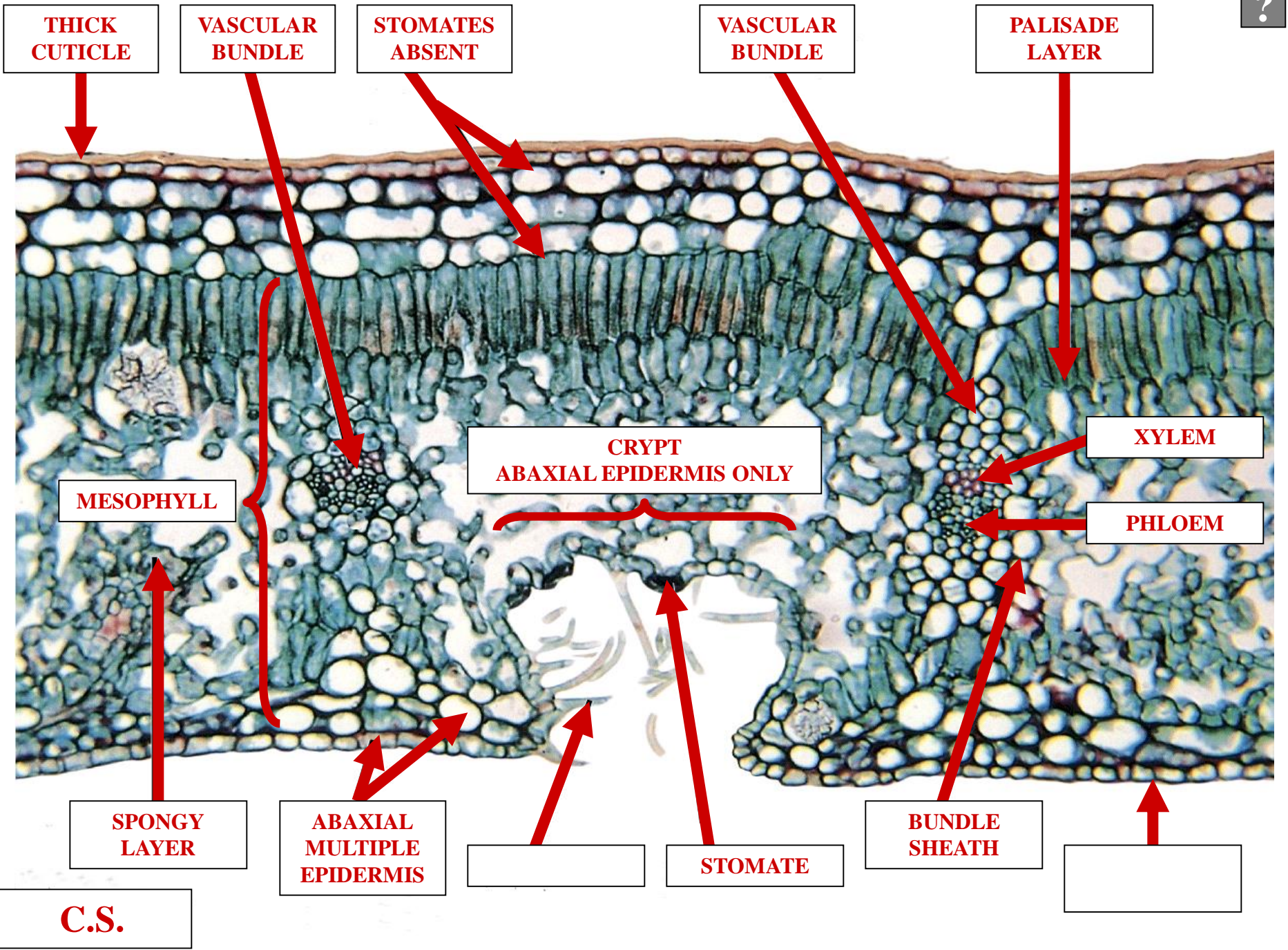
SPONGY LAYER

ABAXIAL MULTIPLE EPIDERMIS

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BUNDLE SHEATH

C.S.



THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

CRYPT
ABAXIAL EPIDERMIS ONLY

XYLEM

PHLOEM

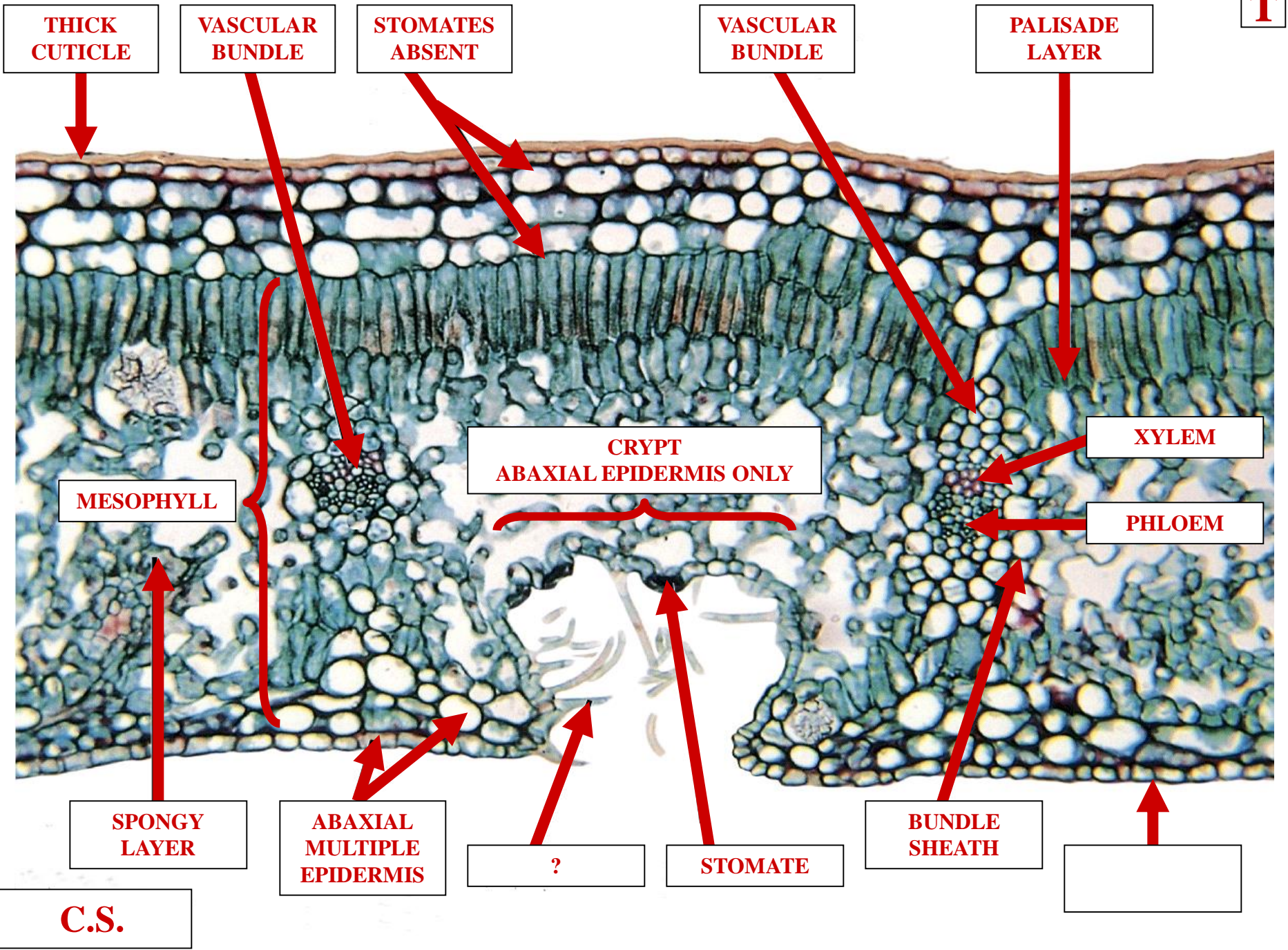
SPONGY LAYER

ABAXIAL MULTIPLE EPIDERMIS

STOMATE

BUNDLE SHEATH

C.S.



THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

CRYPT ABAXIAL EPIDERMIS ONLY

XYLEM

PHLOEM

SPONGY LAYER

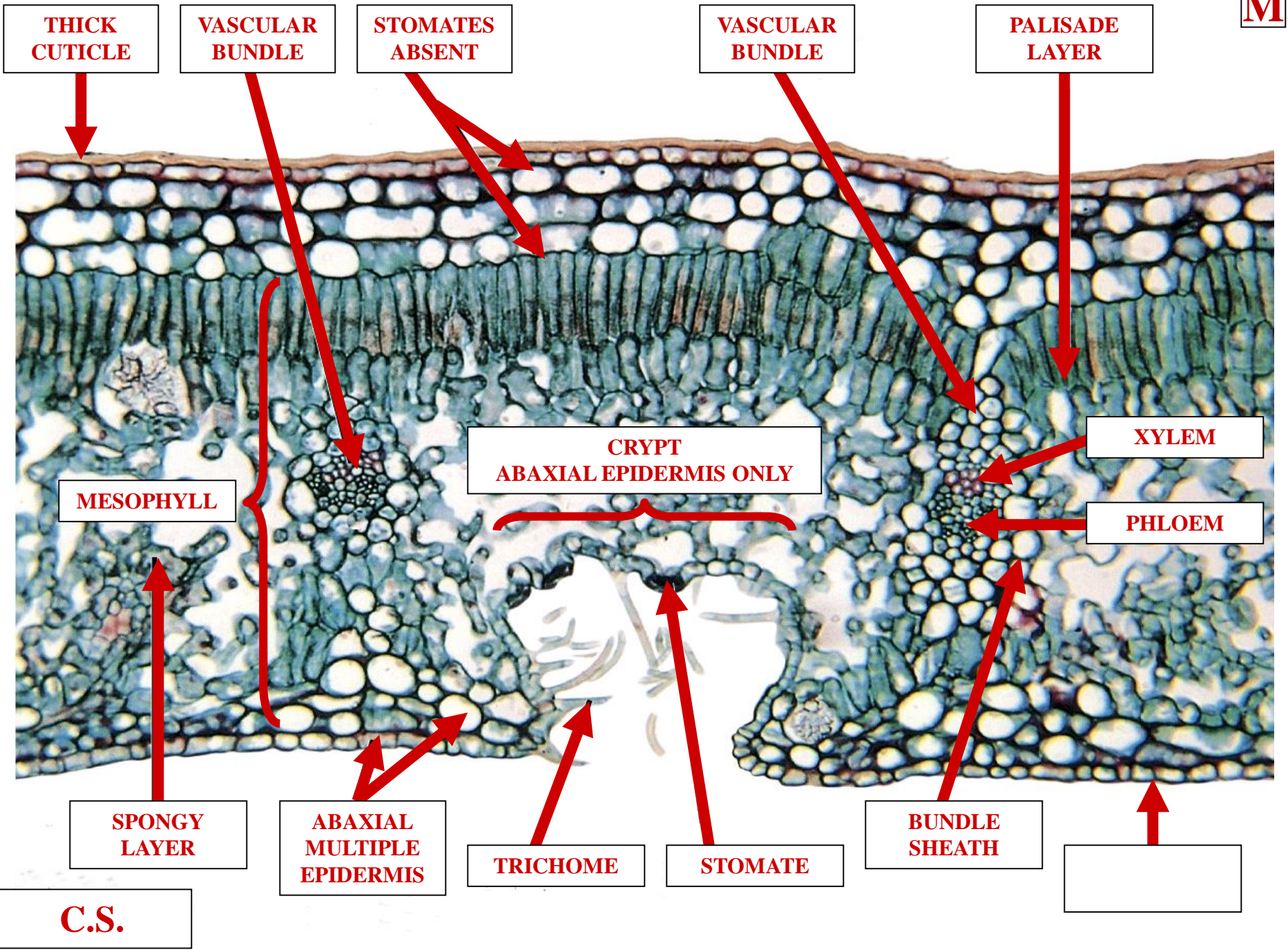
ABAXIAL MULTIPLE EPIDERMIS

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STOMATE

BUNDLE SHEATH

C.S.



THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

CRYPT
ABAXIAL EPIDERMIS ONLY

XYLEM

PHLOEM

SPONGY LAYER

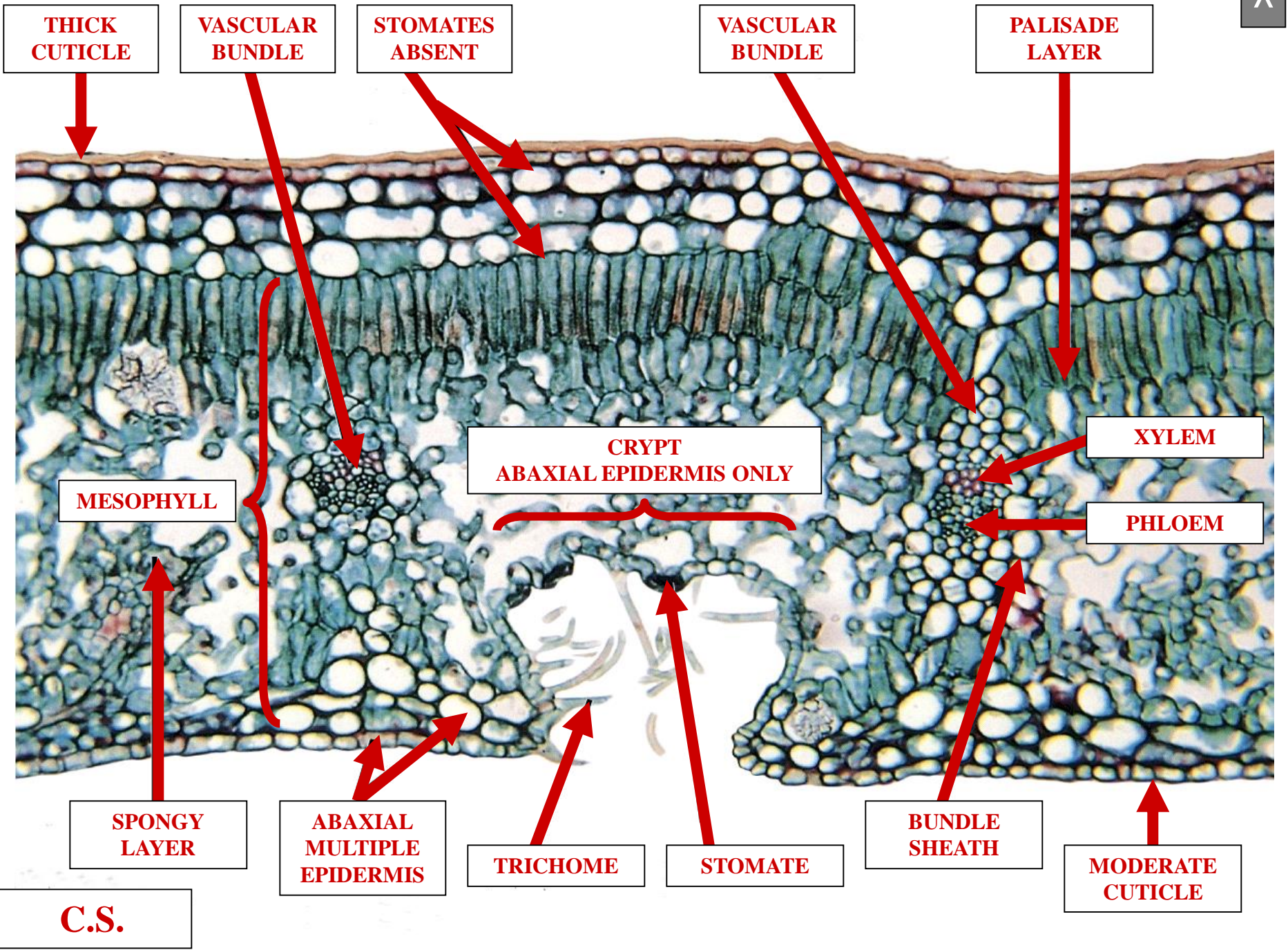
ABAXIAL MULTIPLE EPIDERMIS

TRICHOME

STOMATE

BUNDLE SHEATH

C.S.



THICK CUTICLE

VASCULAR BUNDLE

STOMATES ABSENT

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

**CRYPT
ABAXIAL EPIDERMIS ONLY**

XYLEM

PHLOEM

SPONGY LAYER

**ABAXIAL
MULTIPLE
EPIDERMIS**

TRICHOME

STOMATE

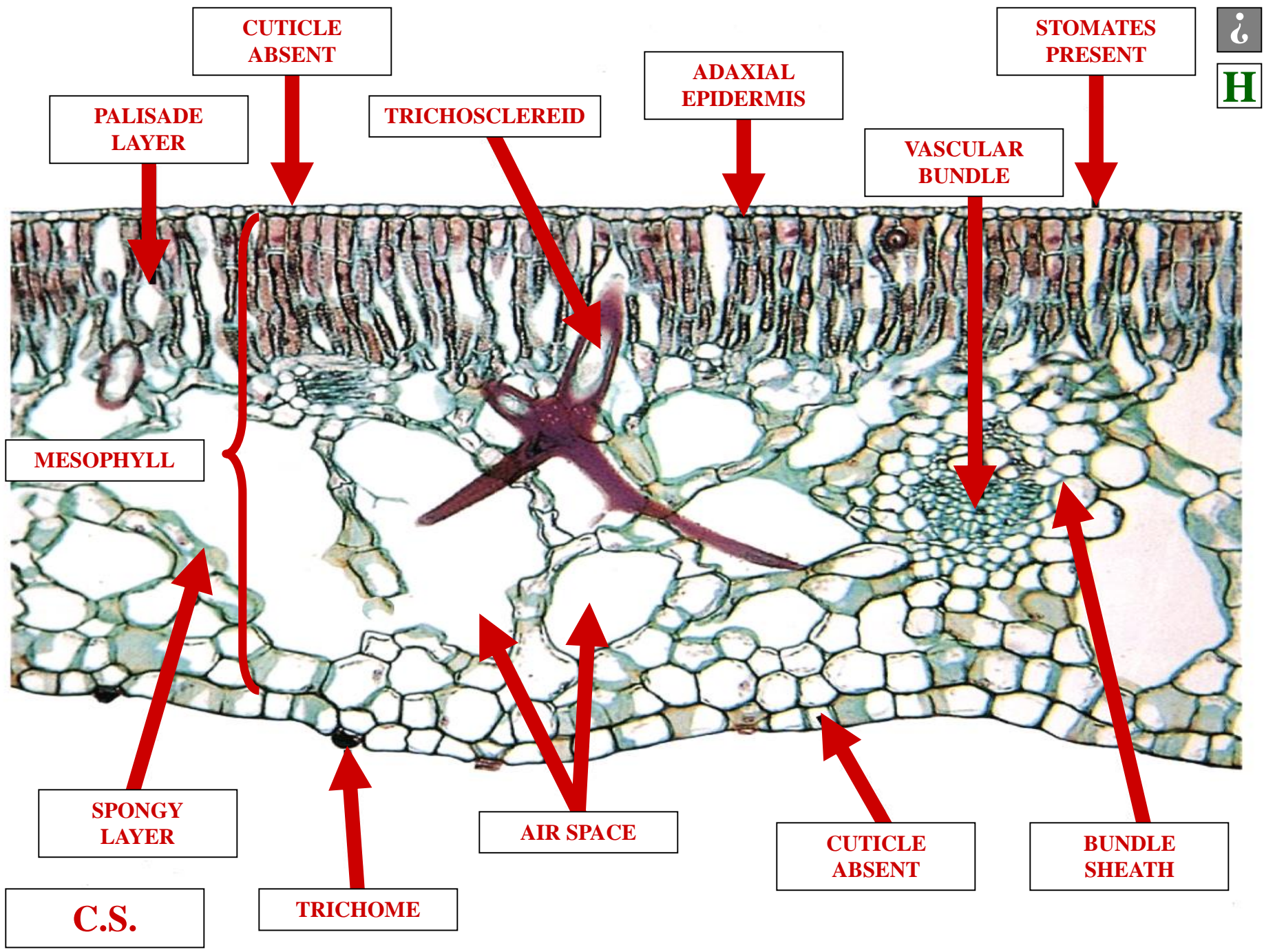
BUNDLE SHEATH

MODERATE CUTICLE

C.S.



DICOT LEAF ANATOMY SUMMARY





CUTICLE
ABSENT

STOMATES
PRESENT

PALISADE
LAYER

TRICHOSCLEREID

ADAXIAL
EPIDERMIS

VASCULAR
BUNDLE



HYDROPHYTE

MESO

SPONGY
LAYER

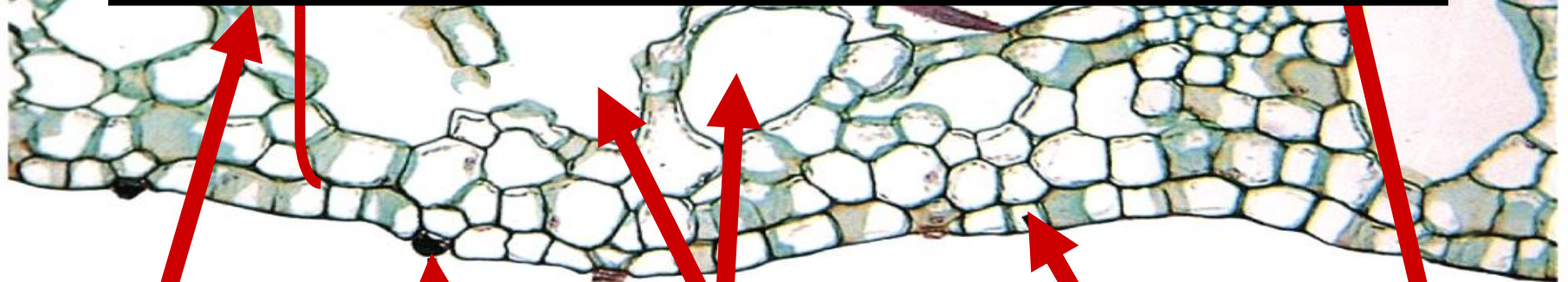
AIR SPACE

CUTICLE
ABSENT

BUNDLE
SHEATH

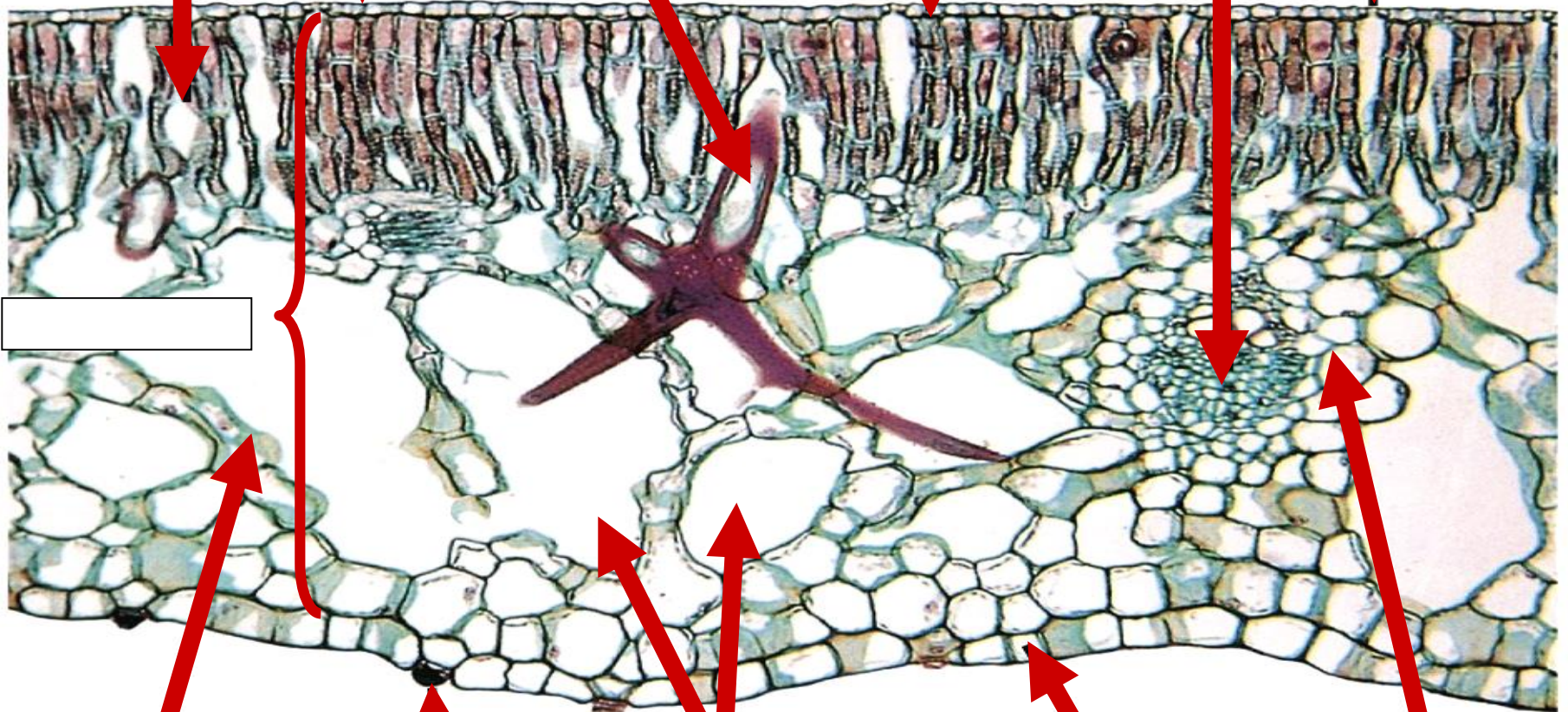
C.S.

TRICHOME



CUTICLE
ABSENT

ADAXIAL
STOMATES



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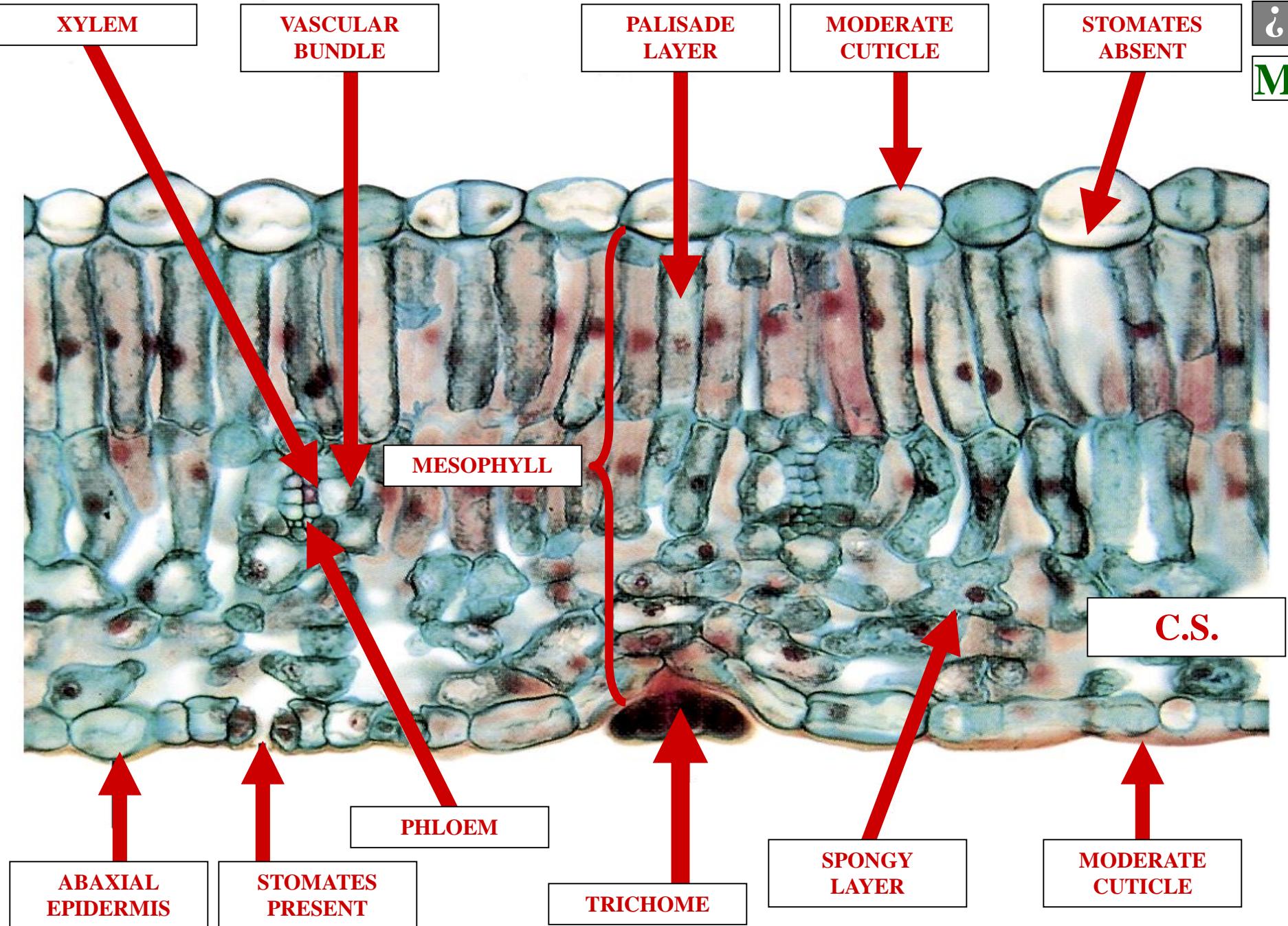
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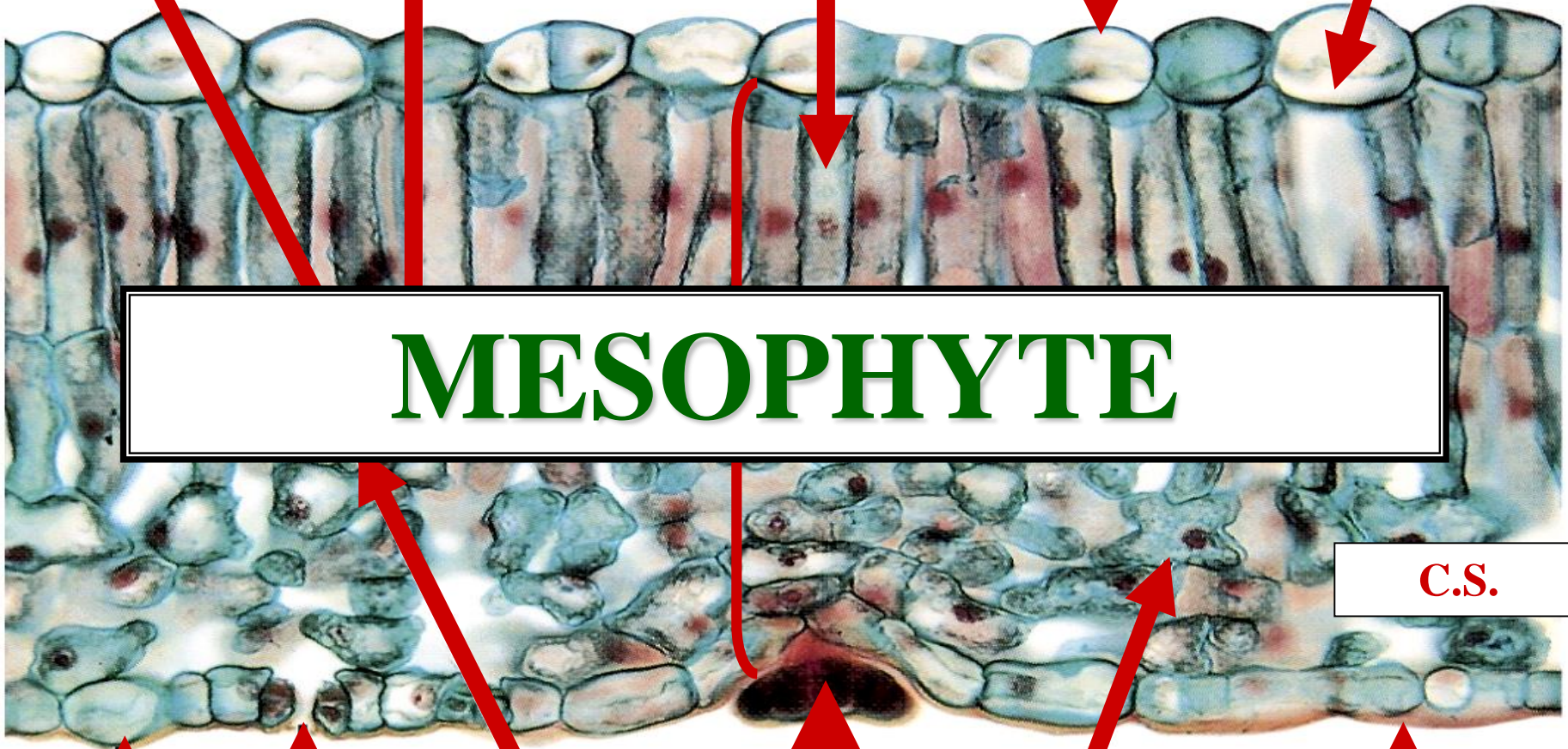
XYLEM

**VASCULAR
BUNDLE**

**PALISADE
LAYER**

**MODERATE
CUTICLE**

**STOMATES
ABSENT**



MESOPHYTE

C.S.

PHLOEM

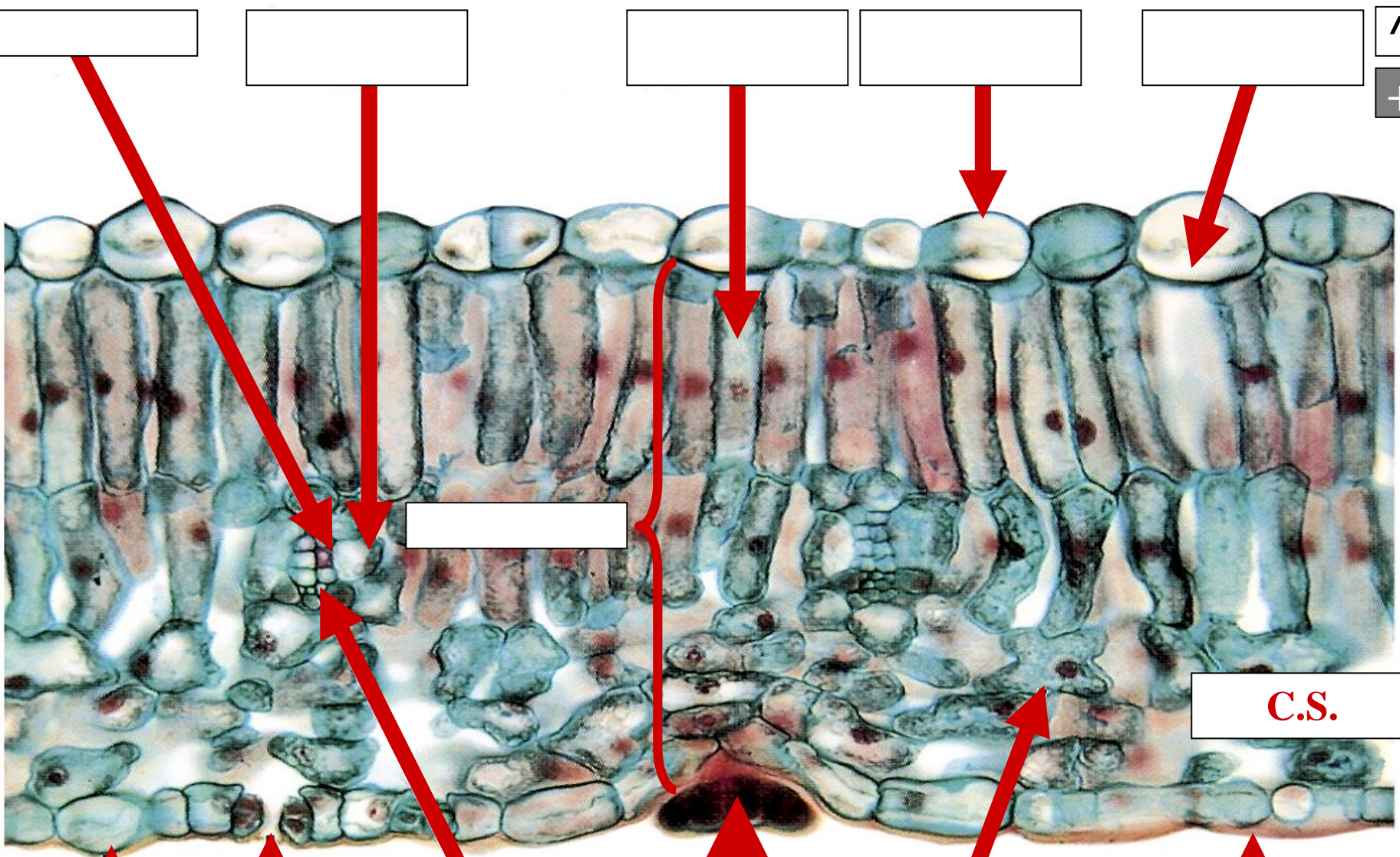
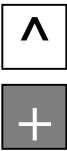
**ABAXIAL
EPIDERMIS**

**STOMATES
PRESENT**

TRICHOME

**SPONGY
LAYER**

**MODERATE
CUTICLE**



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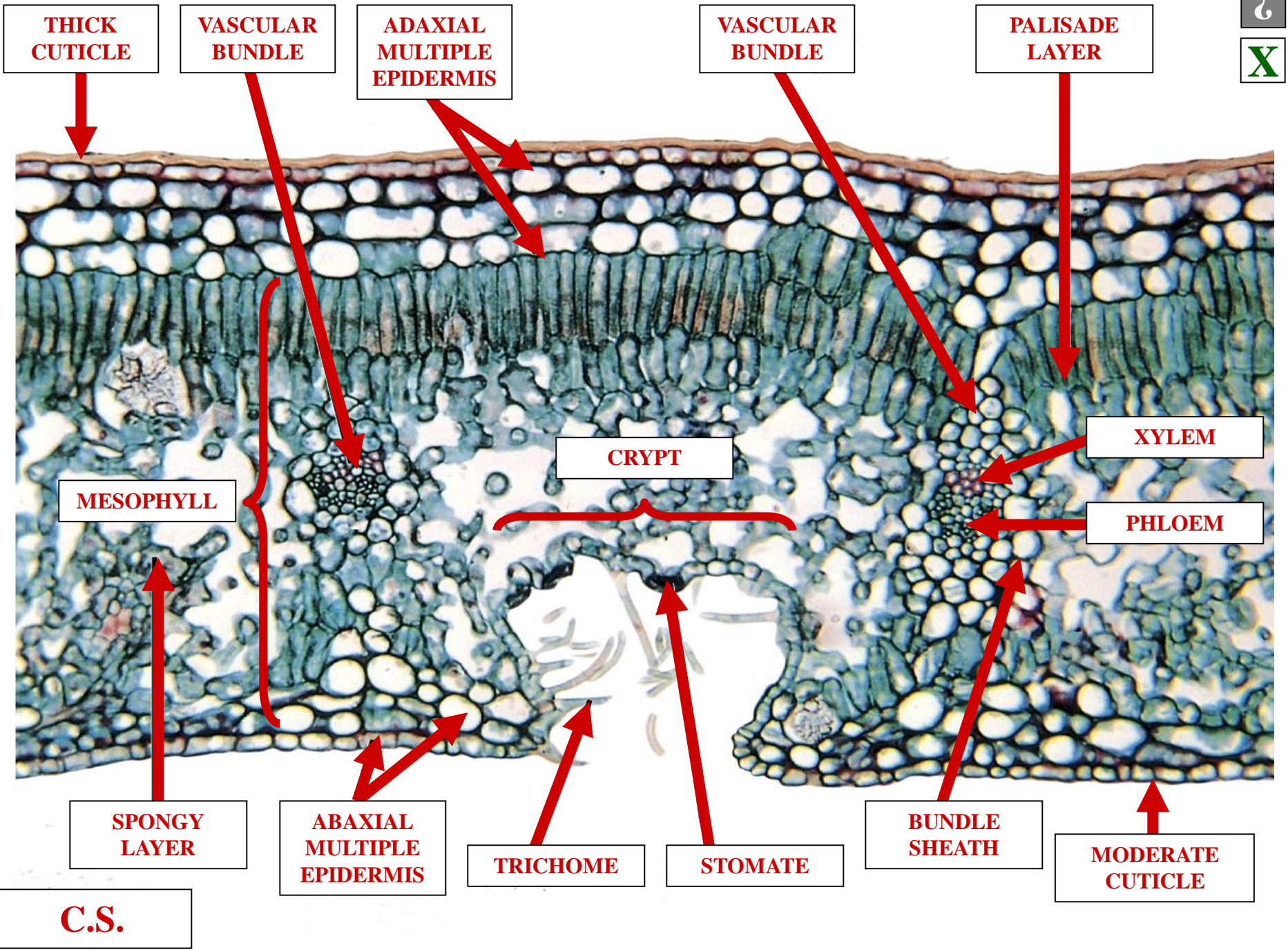
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ABAXIAL
STOMATES

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MODERATE
CUTICLE



THICK CUTICLE

VASCULAR BUNDLE

ADAXIAL MULTIPLE EPIDERMIS

VASCULAR BUNDLE

PALISADE LAYER

MESOPHYLL

CRYPT

XYLEM

PHLOEM

SPONGY LAYER

ABAXIAL MULTIPLE EPIDERMIS

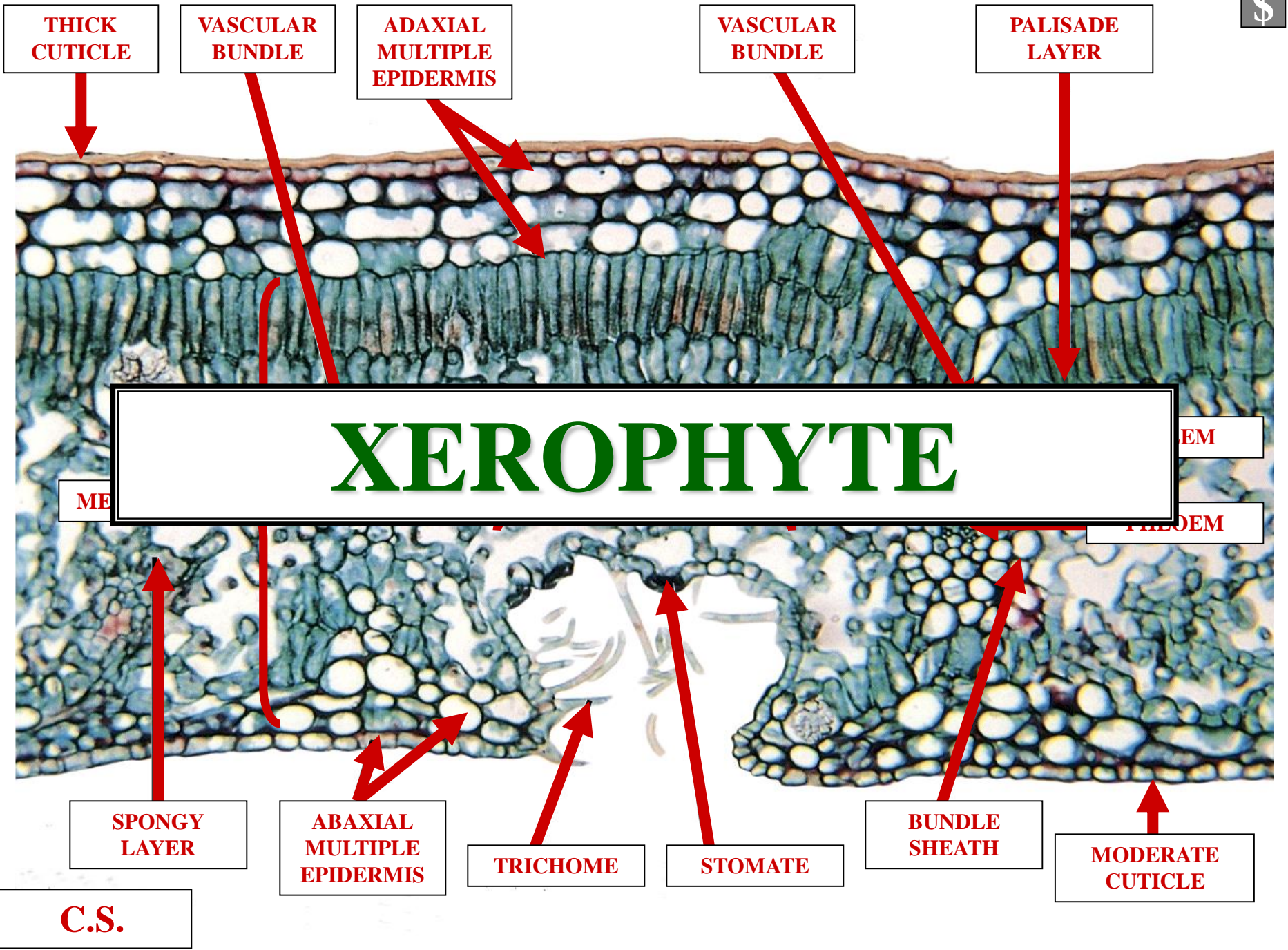
TRICHOME

STOMATE

BUNDLE SHEATH

MODERATE CUTICLE

C.S.



THICK CUTICLE

VASCULAR BUNDLE

ADAXIAL MULTIPLE EPIDERMIS

VASCULAR BUNDLE

PALISADE LAYER

XEROPHYTE

ME

EM

PHLOEM

SPONGY LAYER

ABAXIAL MULTIPLE EPIDERMIS

TRICHOME

STOMATE

BUNDLE SHEATH

MODERATE CUTICLE

C.S.



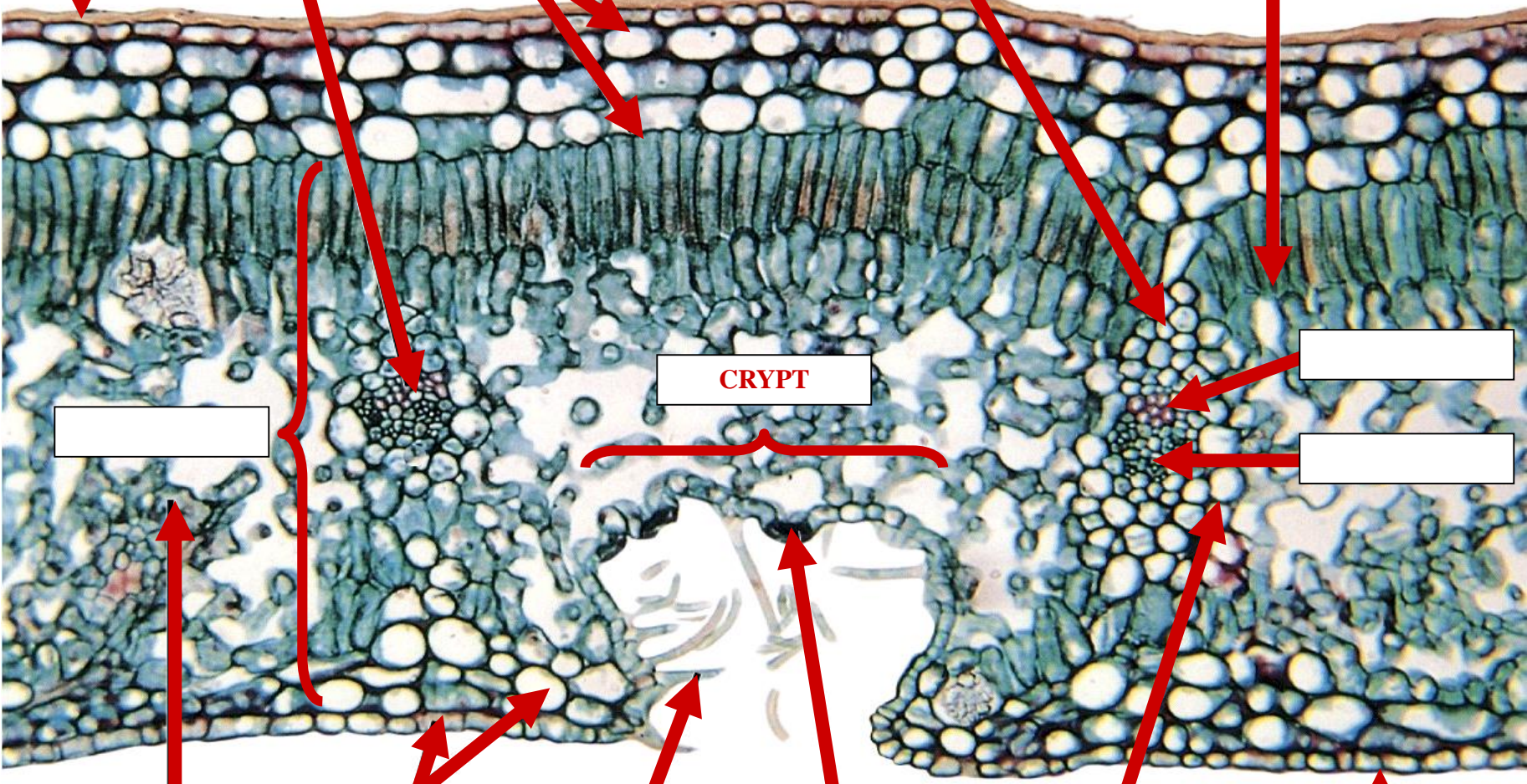
THICK CUTICLE

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ADAXIAL MULTIPLE EPIDERMIS

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ABAXIAL MULTIPLE EPIDERMIS

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STOMATE

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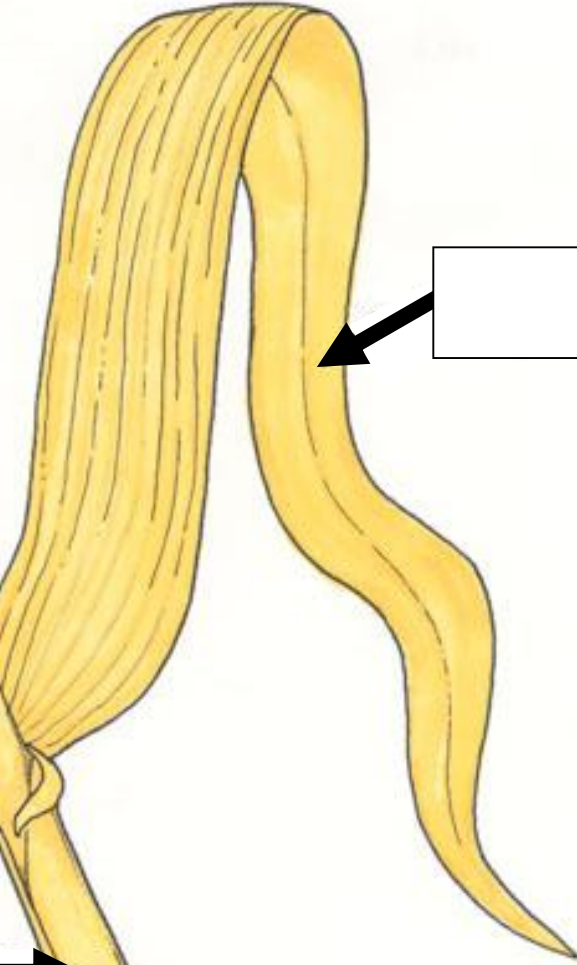
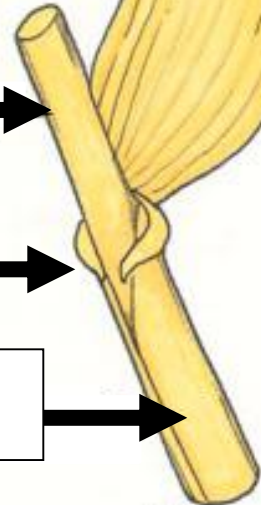
MONOCOT LEAF MORPHOLOGY



ZEA



STEM

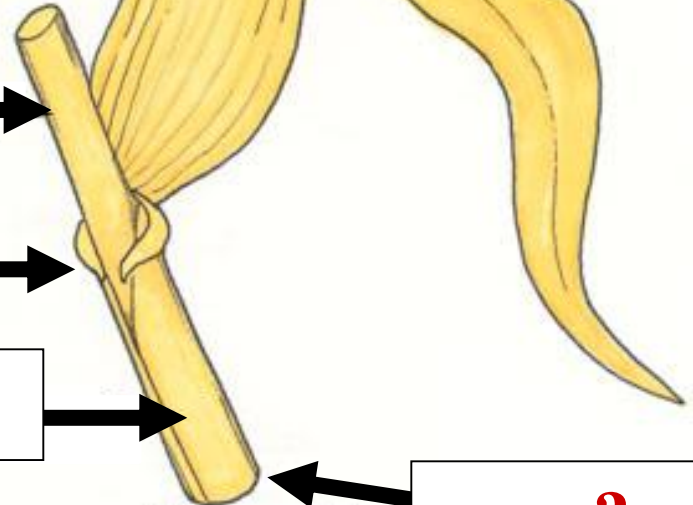


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MONOCOT LEAF MORPHOLOGY



STEM



ZEA

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MONOCOT LEAF MORPHOLOGY

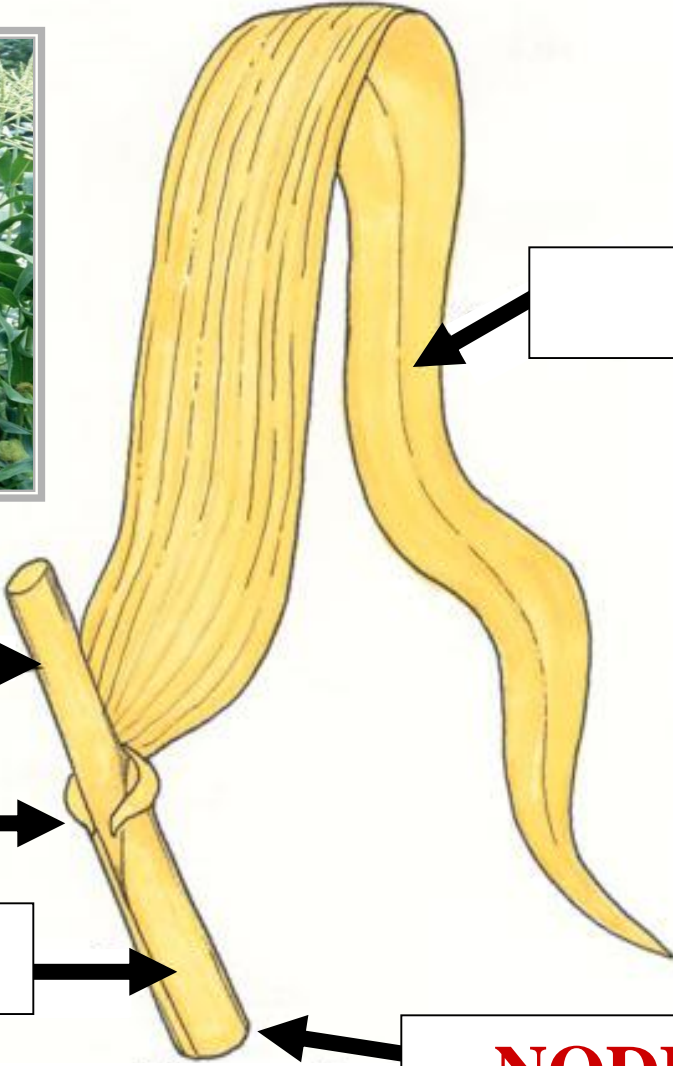


STEM

ZEA

NODE

MONOCOT LEAF MORPHOLOGY

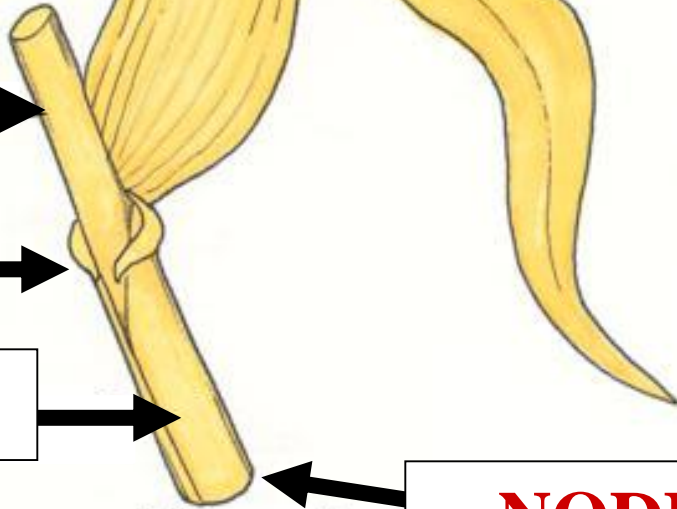




STEM



SHEATH



ZEA

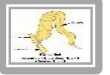
NODE

MONOCOT LEAF MORPHOLOGY

SHEATH

MONOCOT LEAF MORPHOLOGY

SHEATH



ENCIRCLES STEM

MONOCOT LEAF MORPHOLOGY

SHEATH



STEM

SHEATH



ZEA

NODE

MONOCOT LEAF MORPHOLOGY



STEM

LIGULE

SHEATH



ZEA

NODE

MONOCOT LEAF MORPHOLOGY

LIGULE

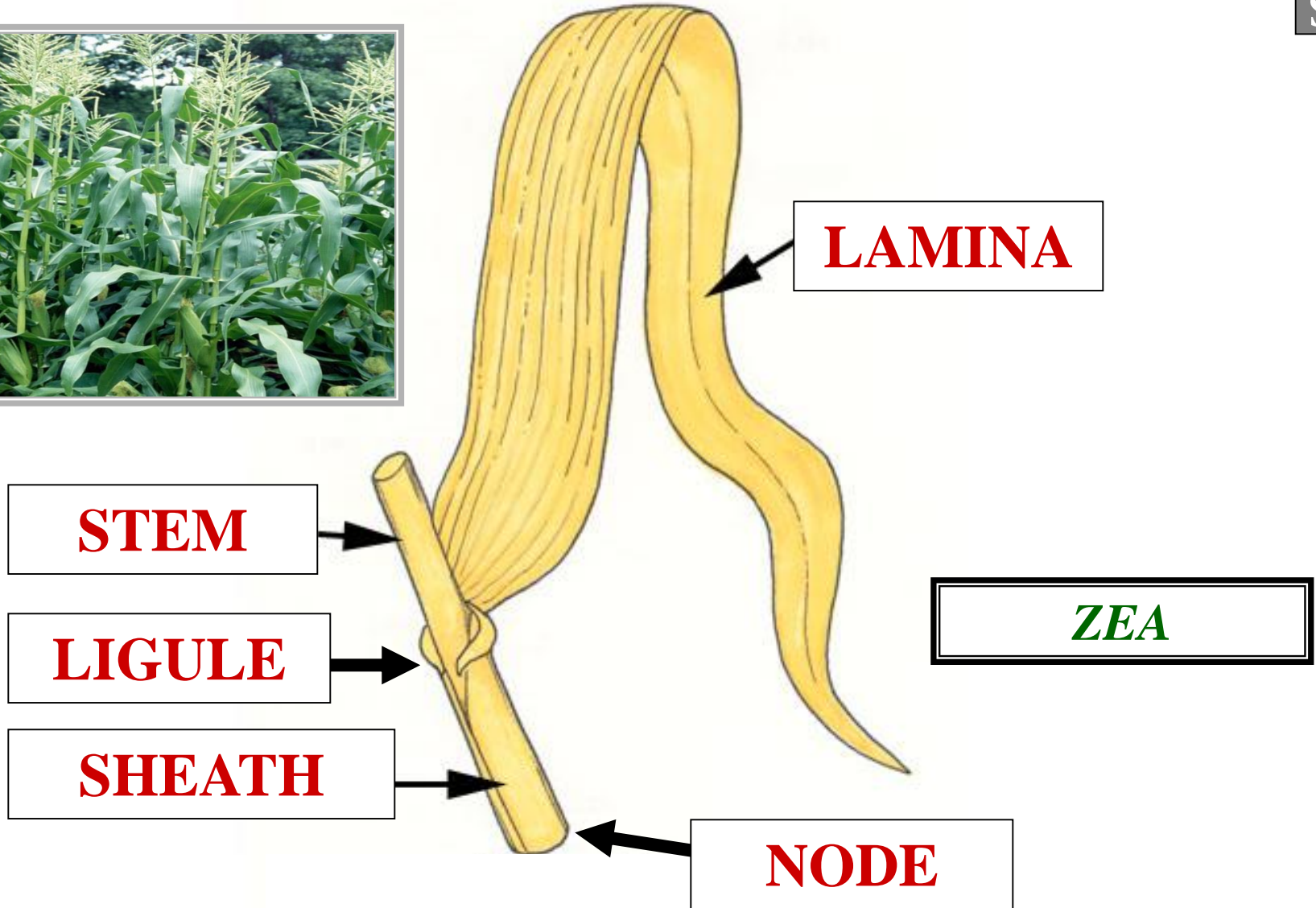
MONOCOT LEAF MORPHOLOGY

LIGULE



**JUNCTION POINT
BETWEEN
SHEATH & LAMINA**

MONOCOT LEAF MORPHOLOGY
LIGULE

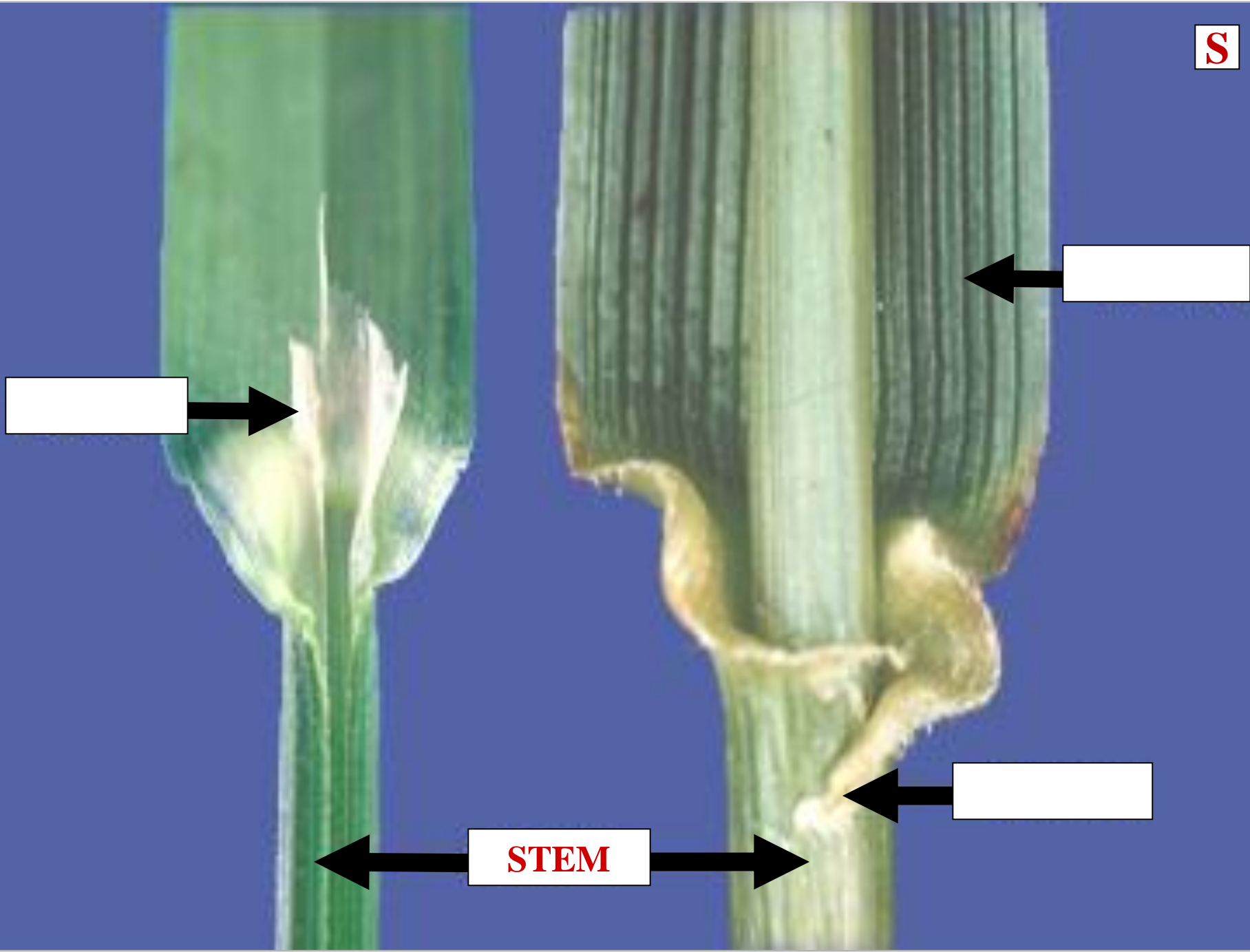


MONOCOT LEAF MORPHOLOGY



MONOCOT LEAF MORPHOLOGY SUMMARY

S



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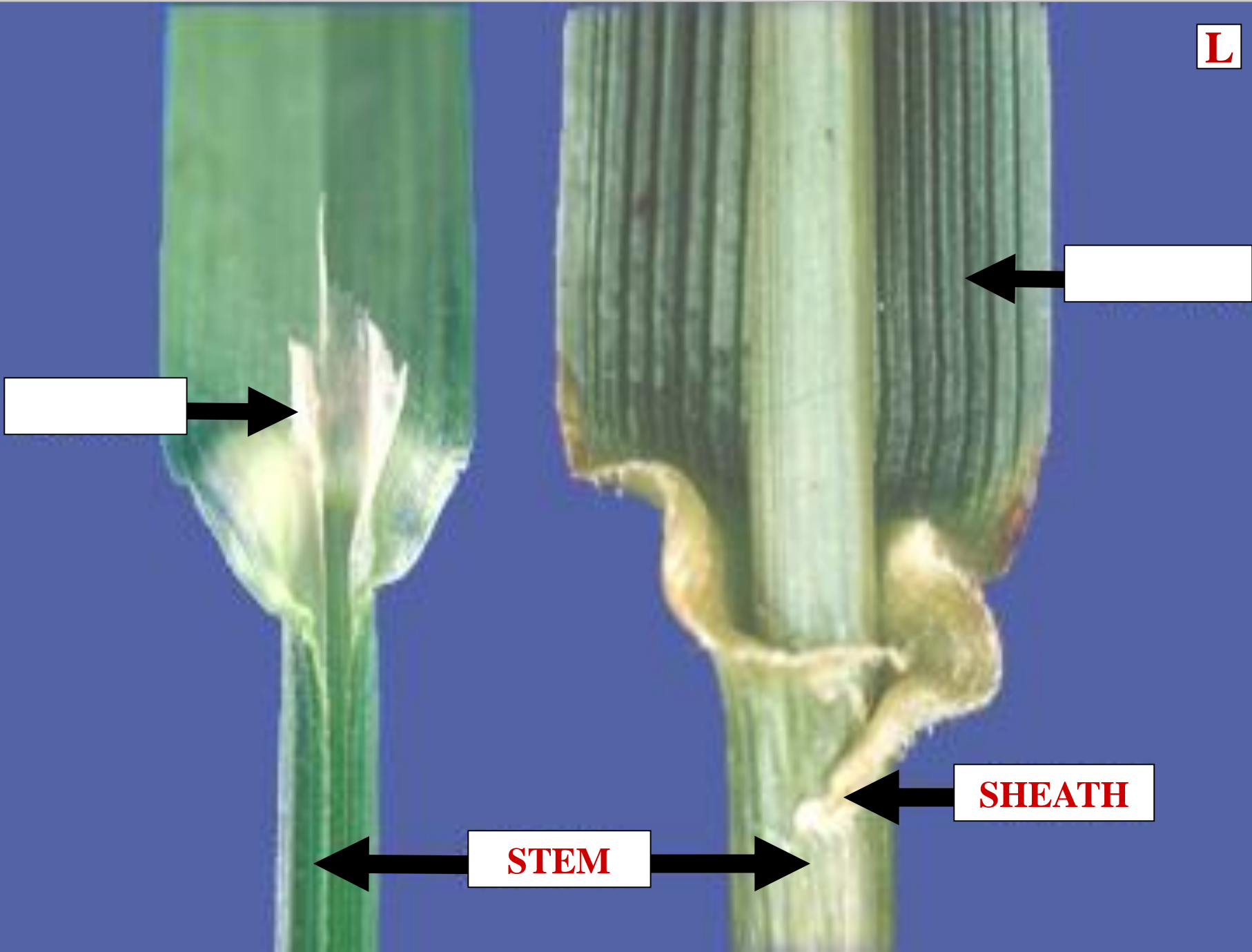
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STEM



L



STEM

SHEATH

L

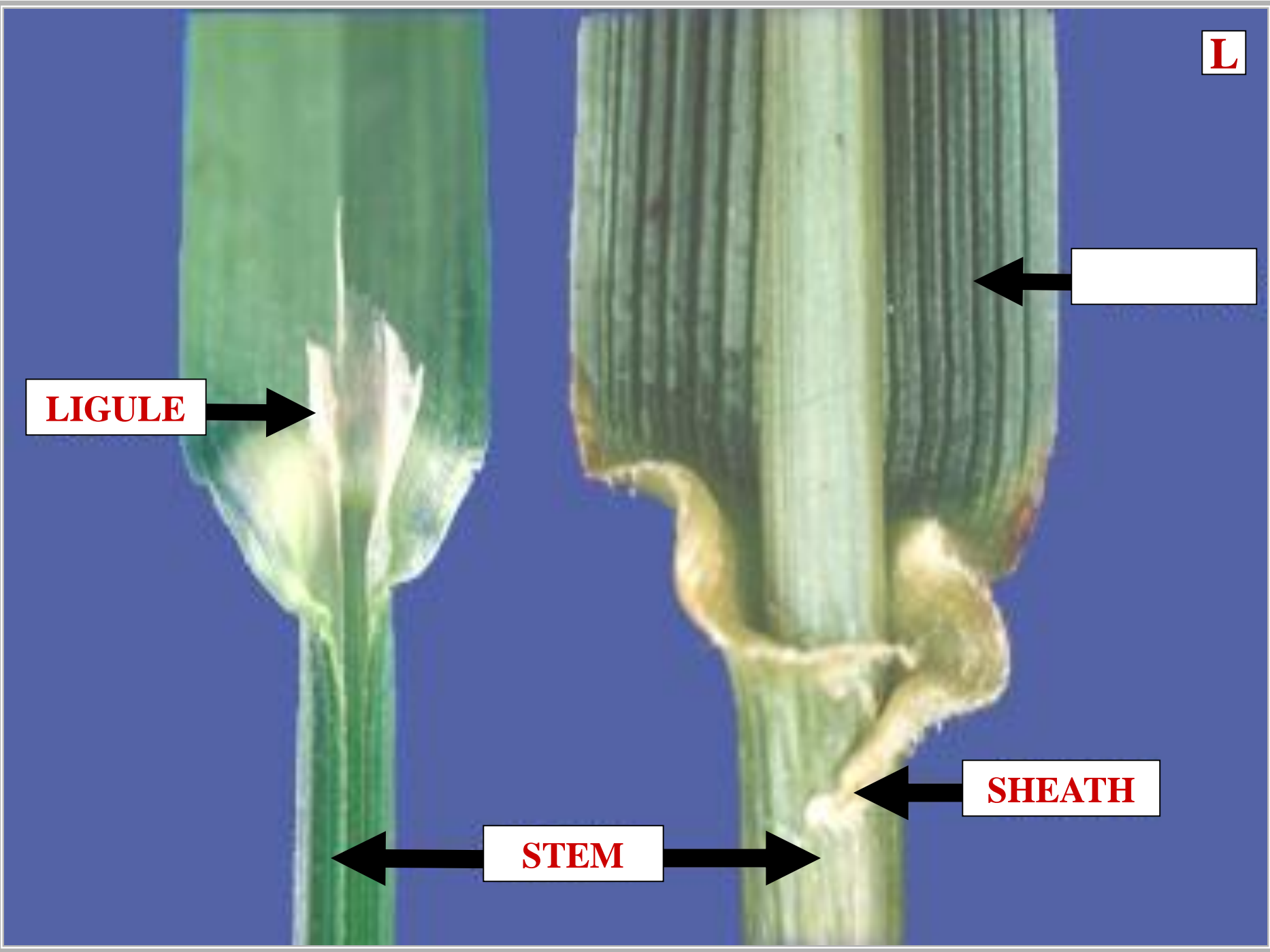
LIGULE



SHEATH



STEM





LIGULE



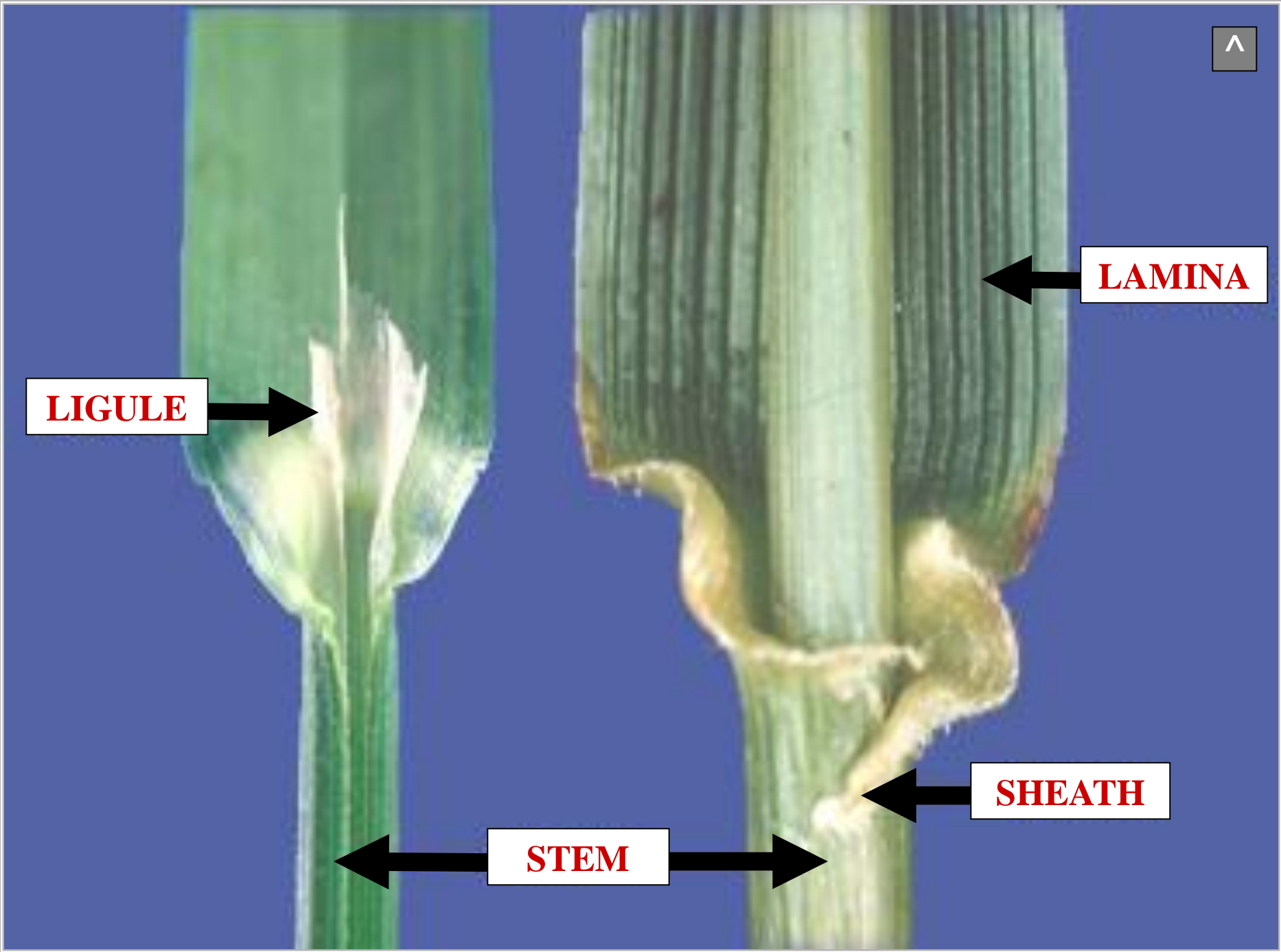
LAMINA



SHEATH

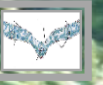


STEM

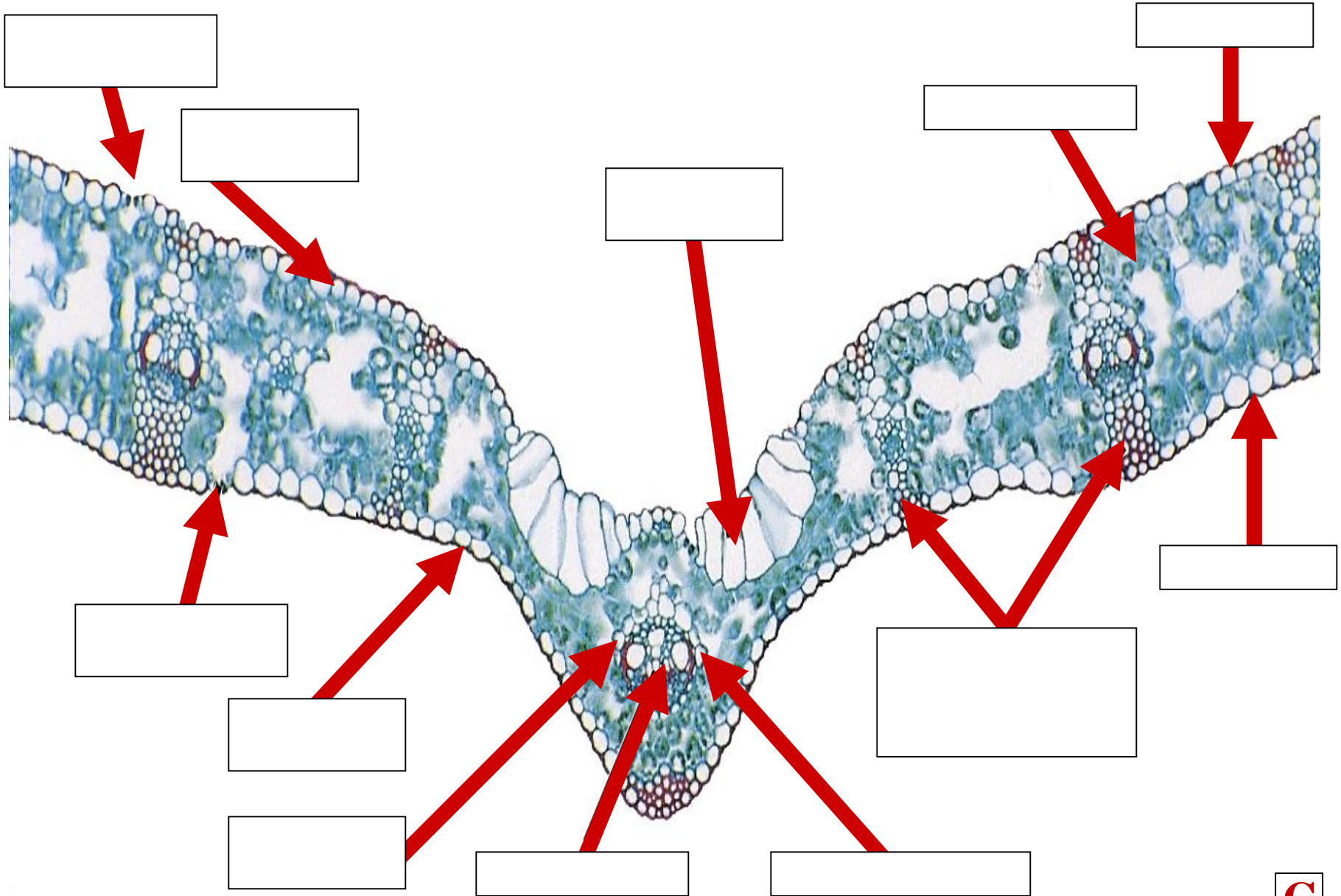




MONOCOT LEAF ANATOMY



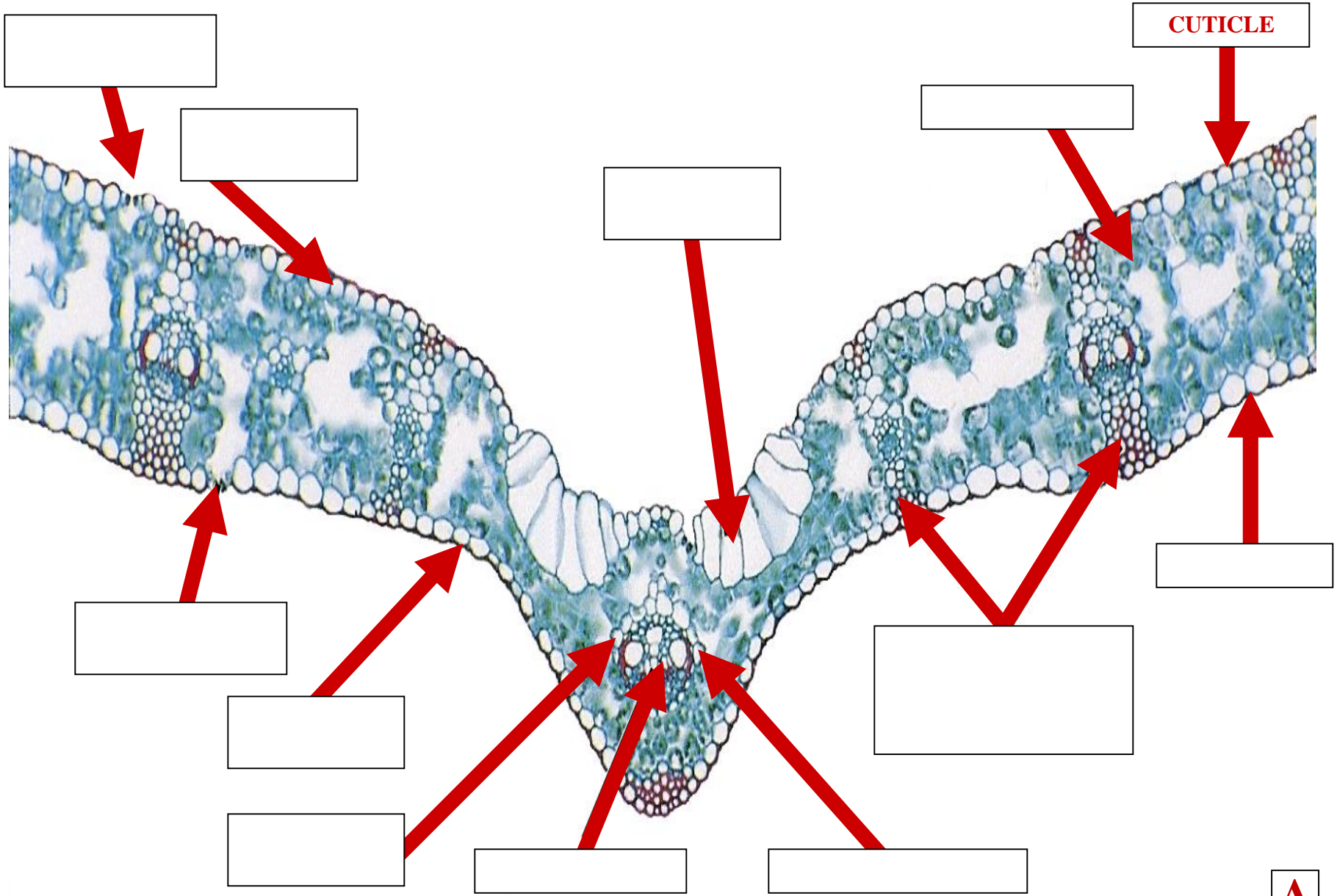
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ZEA

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C



CUTICLE

ZEA

C.S.

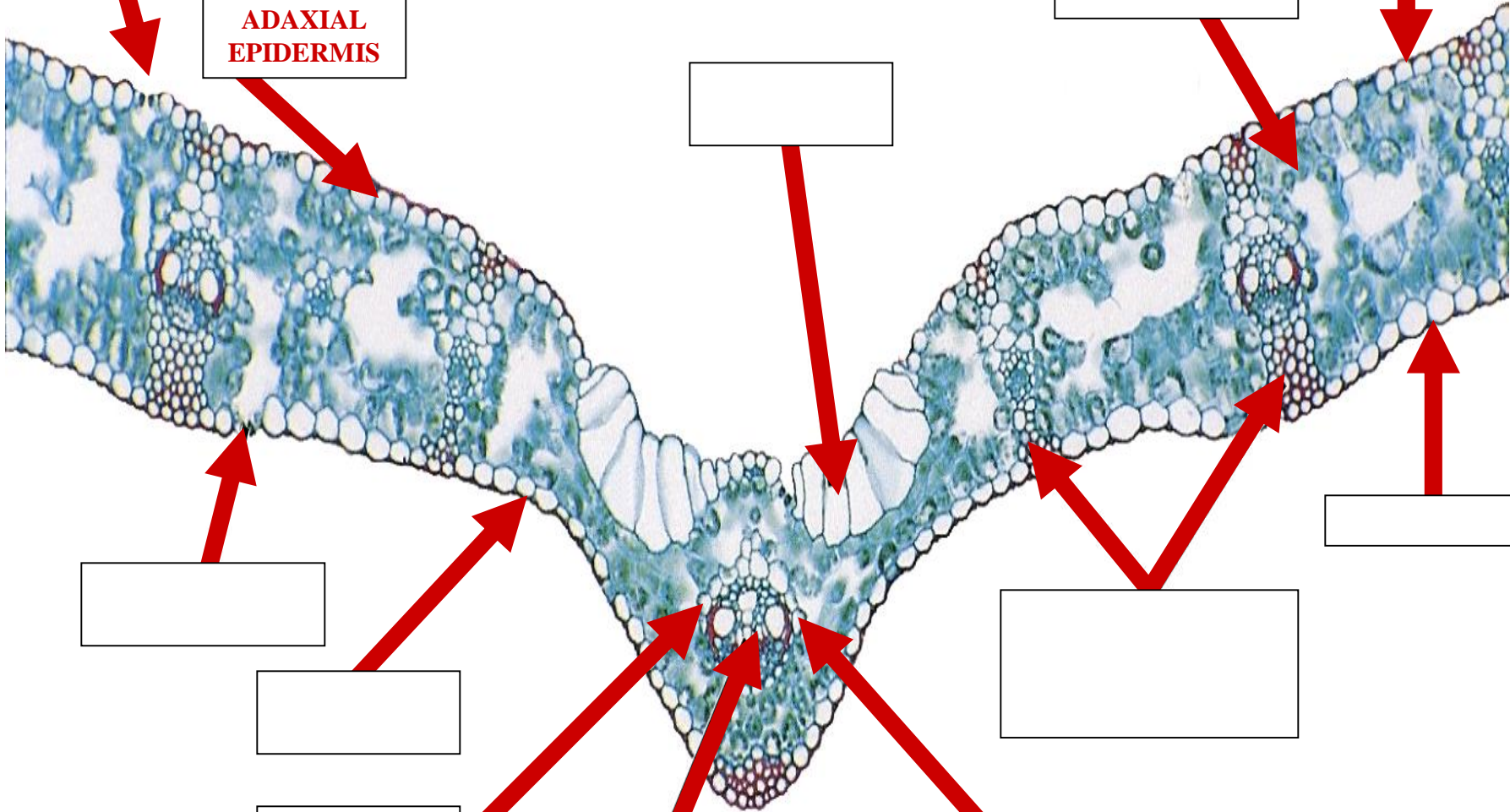
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CUTICLE

ADAXIAL EPIDERMIS

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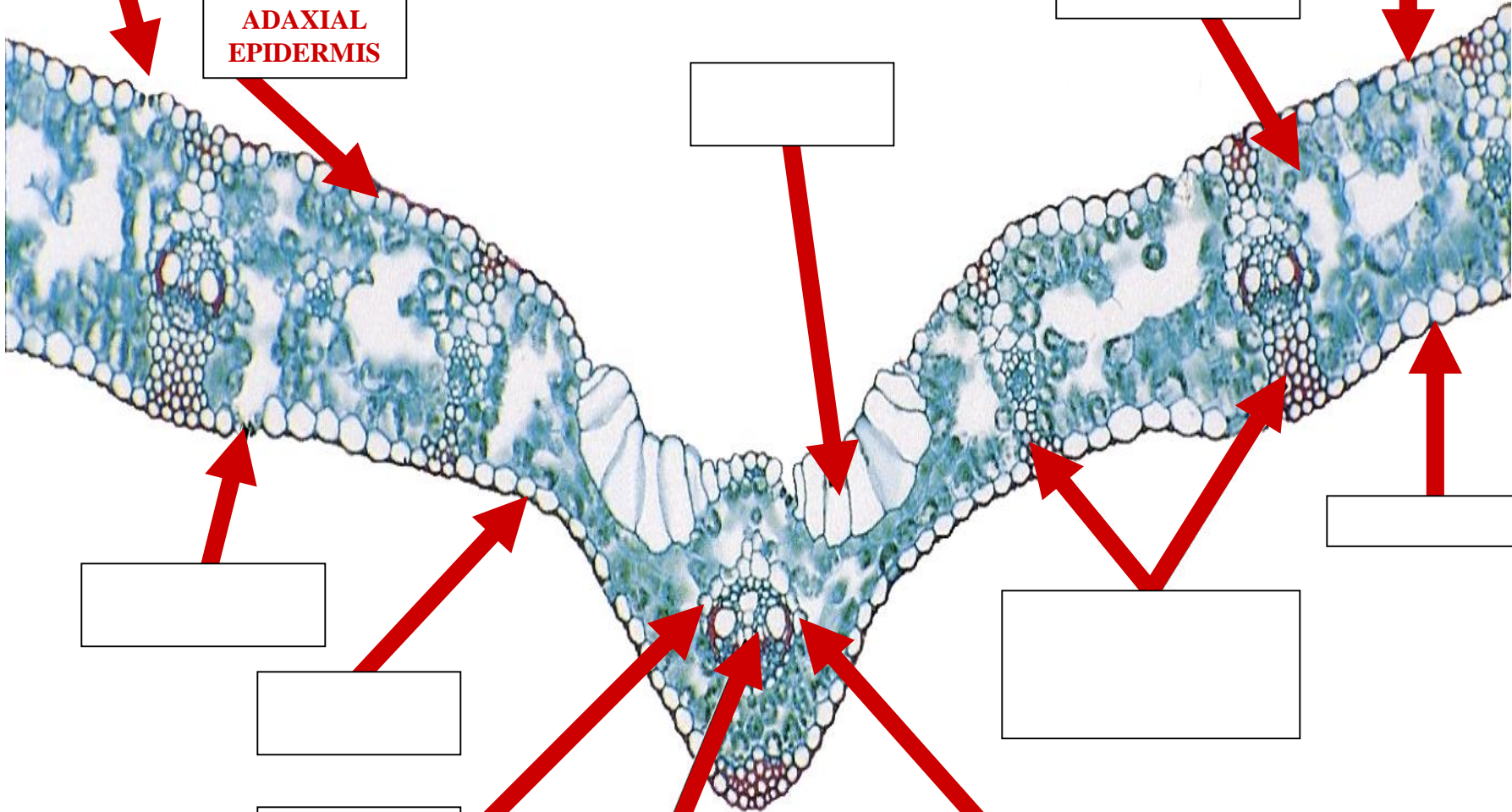
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**STOMATES
PRESENT**

**ADAXIAL
EPIDERMIS**

CUTICLE



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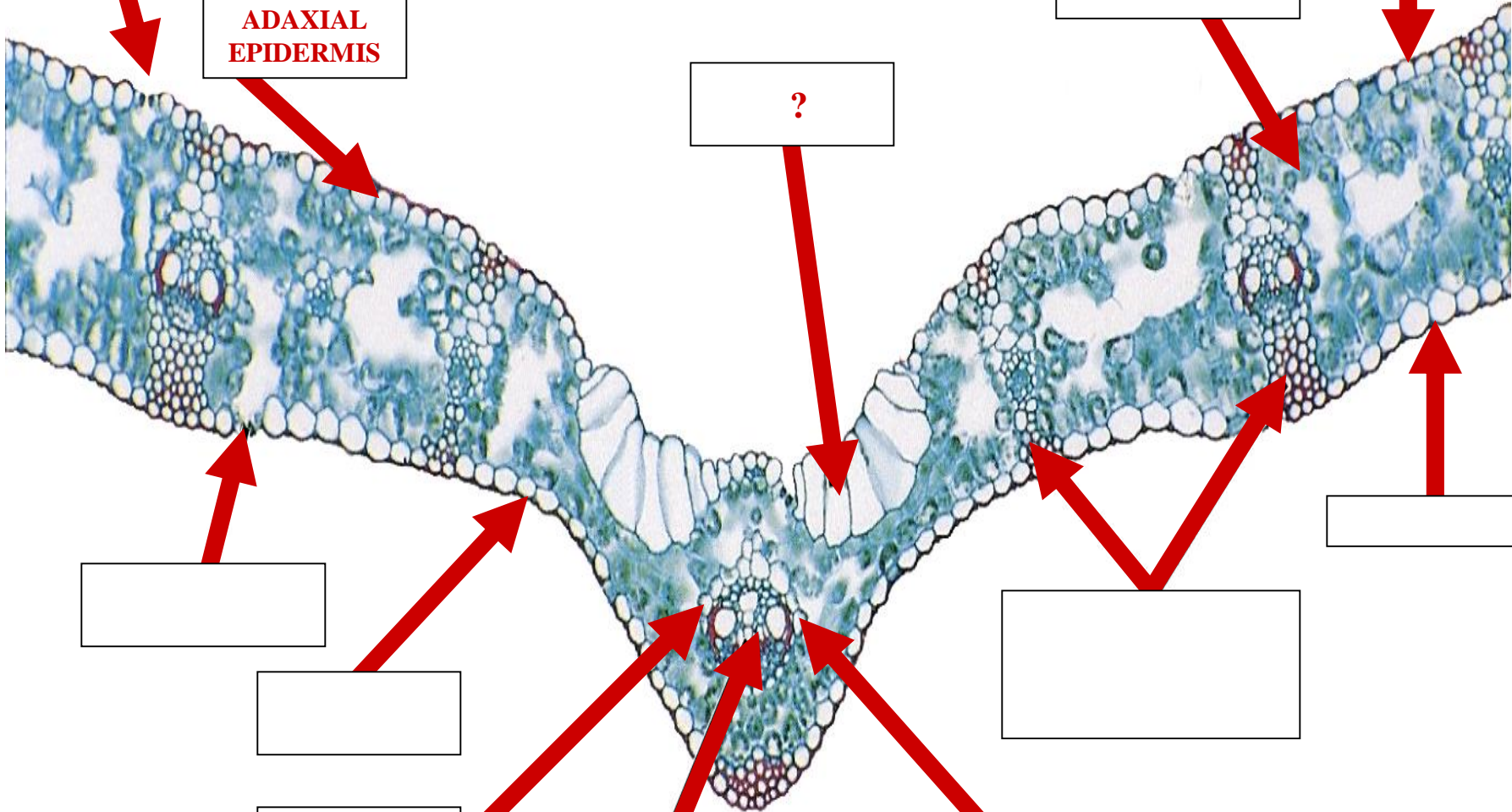
C.S.

**STOMATES
PRESENT**

**ADAXIAL
EPIDERMIS**

CUTICLE

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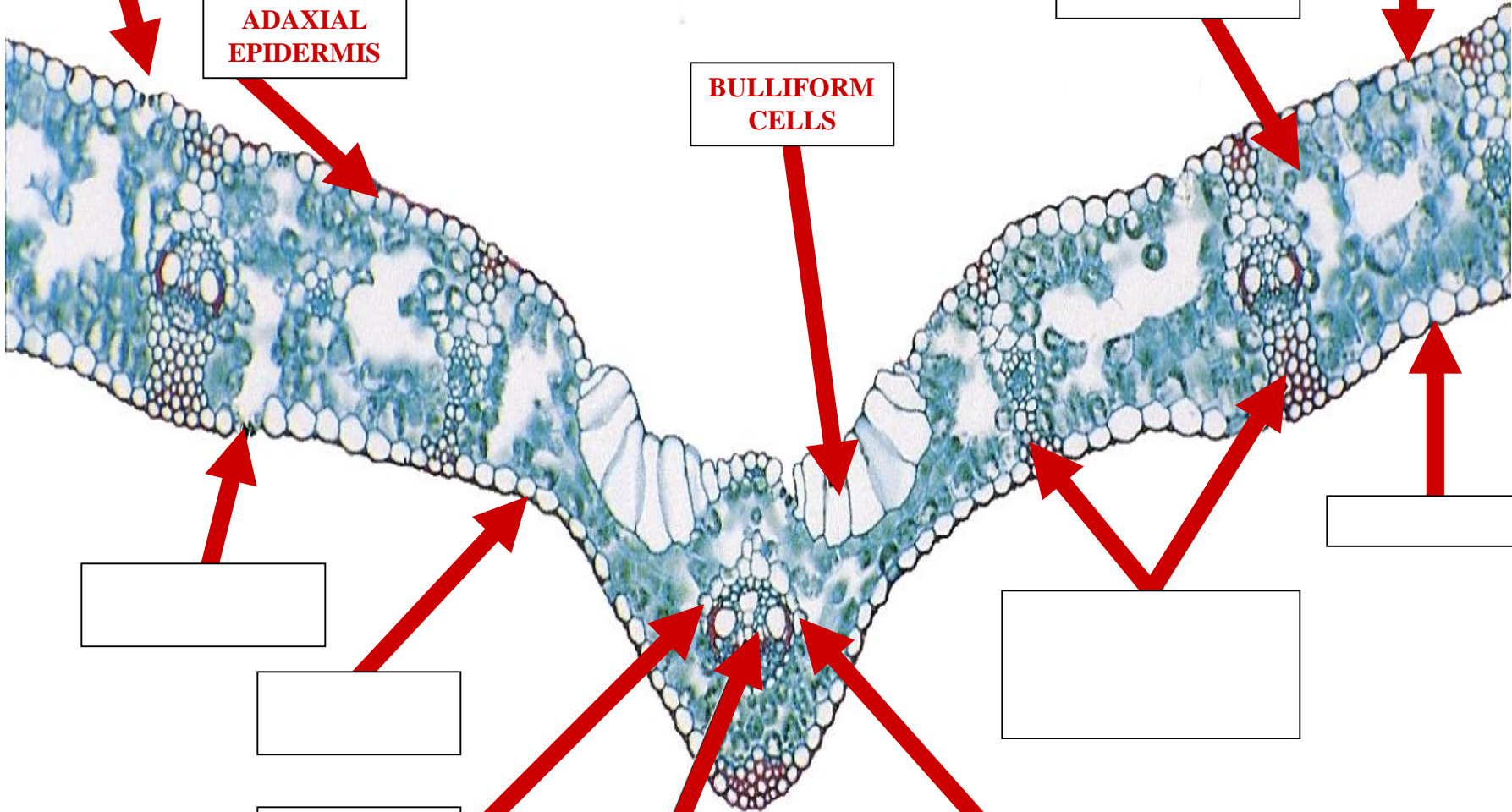
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**STOMATES
PRESENT**

**ADAXIAL
EPIDERMIS**

**BULLIFORM
CELLS**

CUTICLE



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BULLIFORM CELLS

MONOCOT LEAF ANATOMY

BULLIFORM CELLS



EPIDERMIS CELLS

MONOCOT LEAF ANATOMY

BULLIFORM CELLS

MONOCOT LEAF ANATOMY

BULLIFORM CELLS

EPIDERMIS CELLS

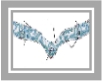
CONTRACT WITH WATER LOSS

MONOCOT LEAF ANATOMY

BULLIFORM CELLS

MONOCOT LEAF ANATOMY

BULLIFORM CELLS



EPIDERMIS CELLS

CONTRACT WITH WATER LOSS

REDUCE LEAF SURFACE AREA

MONOCOT LEAF ANATOMY

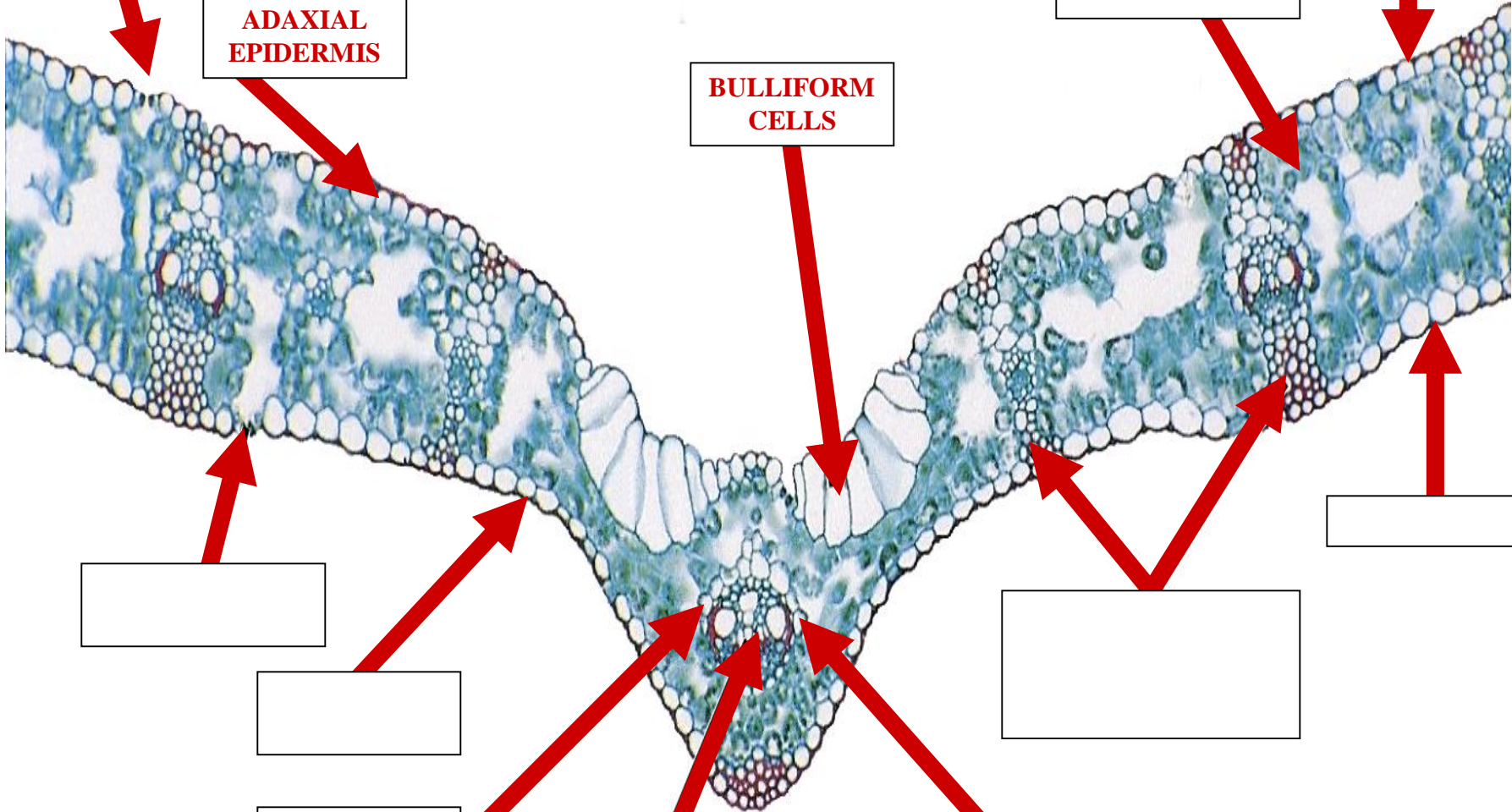
BULLIFORM CELLS

**STOMATES
PRESENT**

**ADAXIAL
EPIDERMIS**

**BULLIFORM
CELLS**

CUTICLE



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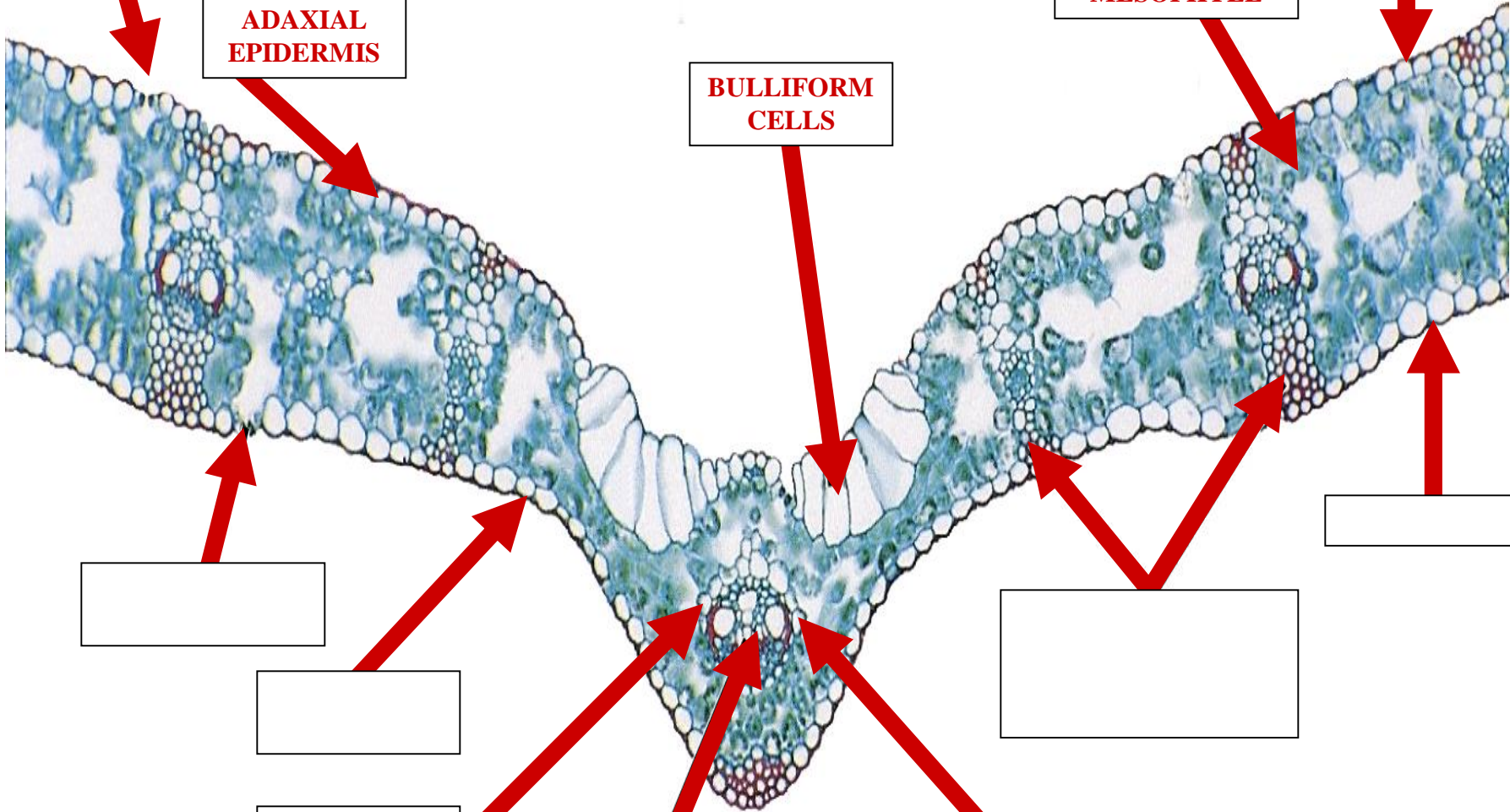
**STOMATES
PRESENT**

**ADAXIAL
EPIDERMIS**

**BULLIFORM
CELLS**

MESOPHYLL

CUTICLE



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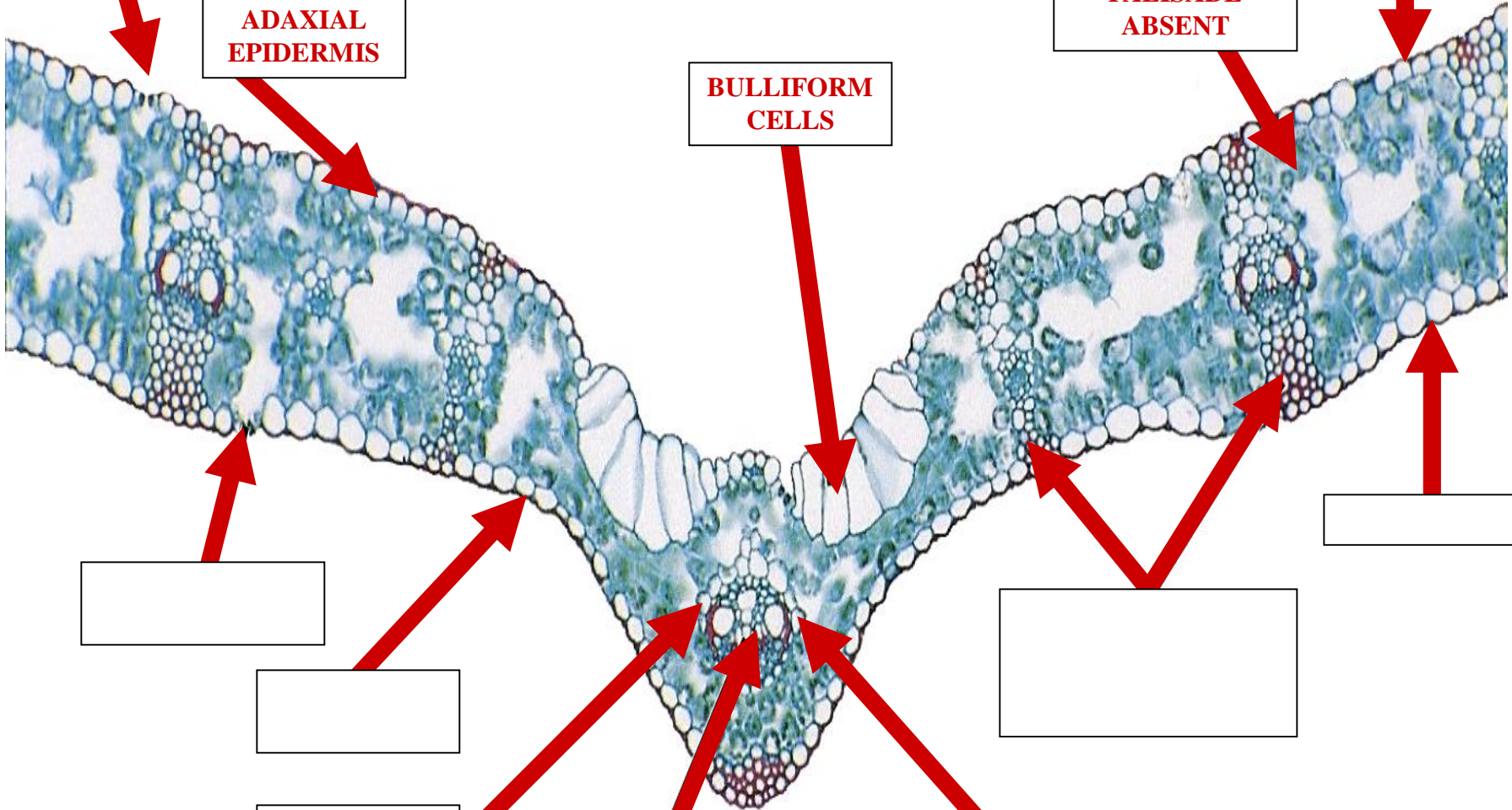
**STOMATES
PRESENT**

**ADAXIAL
EPIDERMIS**

**BULLIFORM
CELLS**

**PALISADE
ABSENT**

CUTICLE



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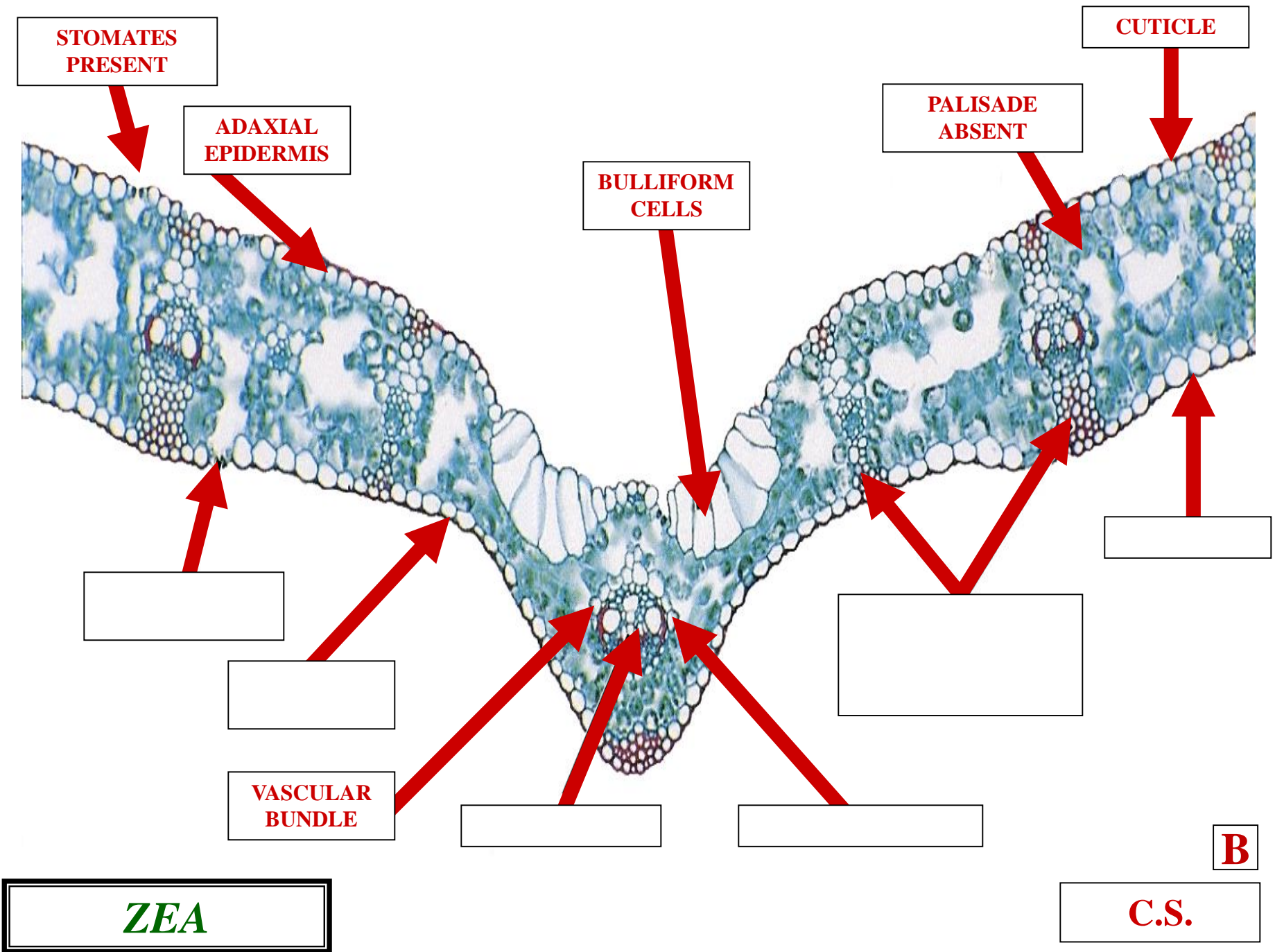
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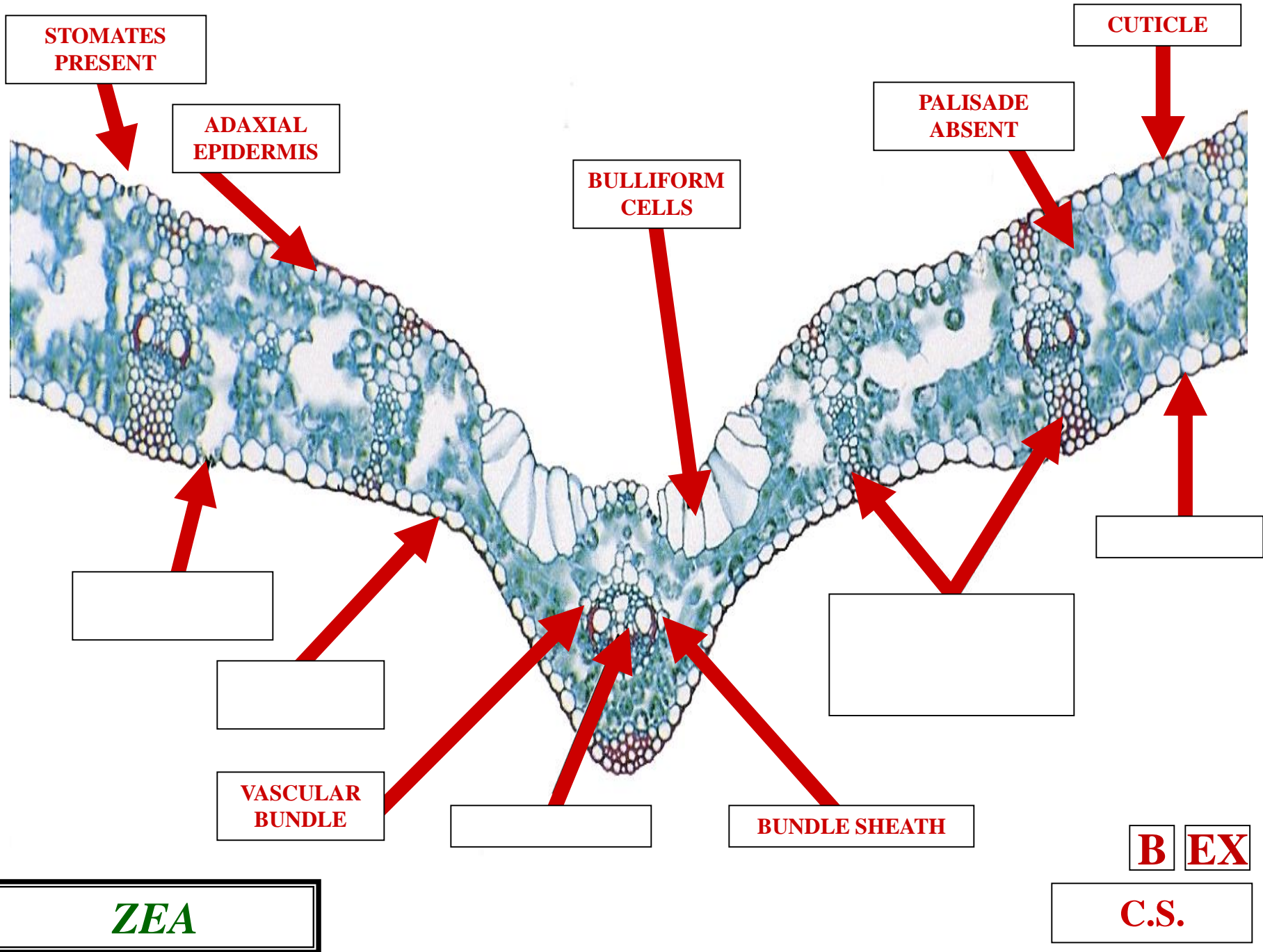
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**STOMATES
PRESENT**

**ADAXIAL
EPIDERMIS**

**BULLIFORM
CELLS**

**PALISADE
ABSENT**

CUTICLE

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**VASCULAR
BUNDLE**

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BUNDLE SHEATH

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