Plant Histology

Prof. Dr. N. Münevver Pınar

(7)

Complex Tissue

Complex tissues are made up of different cells. Hence, complex tissue show heterogeneous

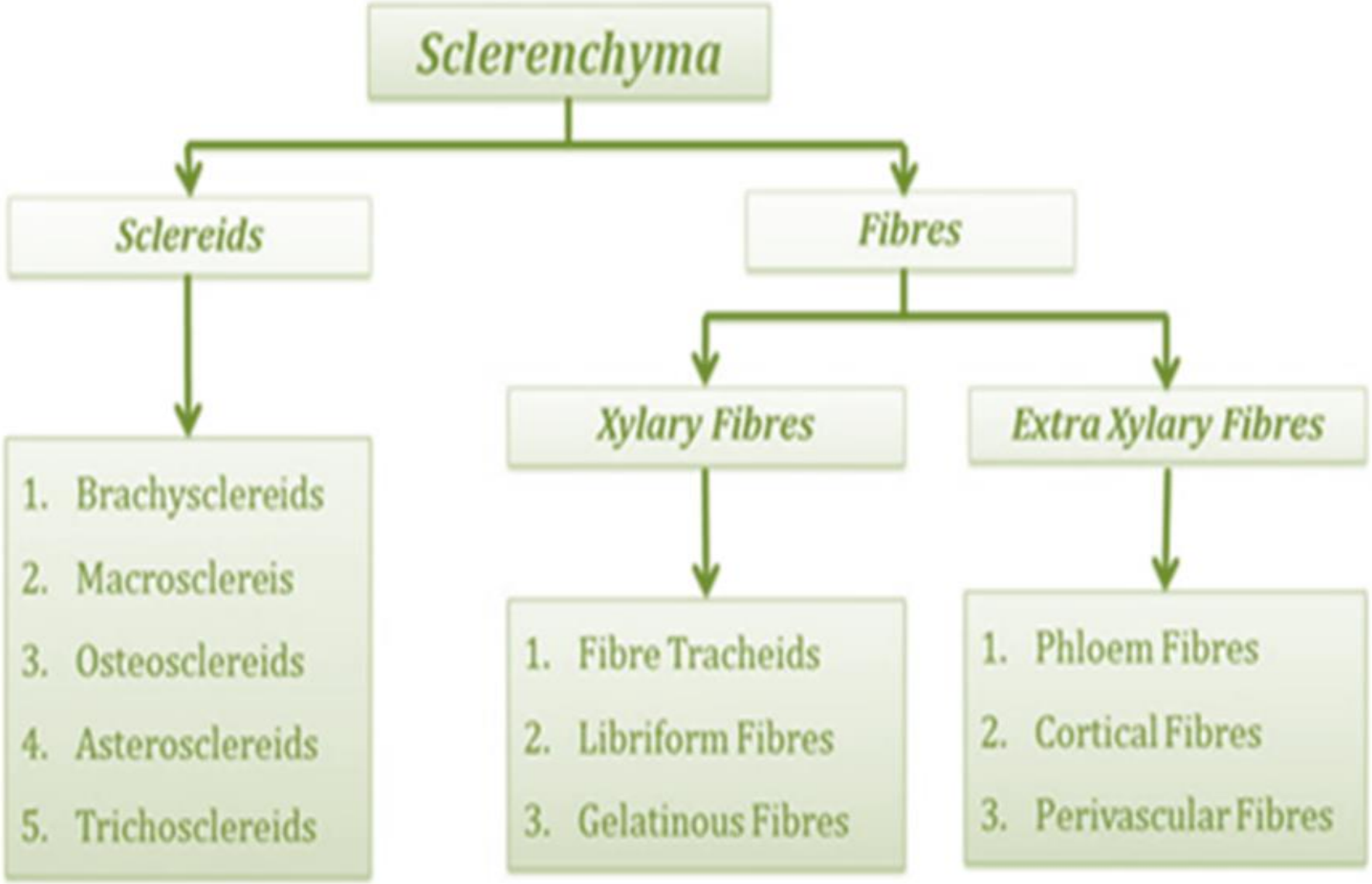
Difference between Simple and Complex Tissue

- Simple tissue consist of one same type of cells while complex tissue have different type of cells.
- Simple tissue consist of parenchyma and collenchyma. While complex tissue consist of protection, sclerenchyma, xylem and phloem.
- Simple tissue occur in all parts of plant and complex tissue only occur in all parts of plant and in vascular region.
- Complex tissue carries out function of conduction or transportation and protection.
- Simple tissues perform wide range of functions. For example, The function of simple tissue is storage of food.

SCLERENCHYMA

The term *Sclerenchyma* is derived from the Greek word ‘skleros’ means ‘hard’ and ‘enchyma’, an ‘infusion’. Cells are dead. They have thick secondary cell wall and bordered pit. Main sclerenchyma is classificated into *sclereids* and *fibres* based on size and shape.

CLASSIFICATION OF SCLERENCHYMA



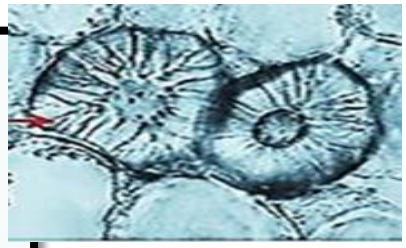
A. Sclereids

The term *sclereid* was coined by Tschierch in 1885. Sclereid protects soft plant tissue from herbivores or mechanical damage. They are dead. They have secondary wall and simple pit.

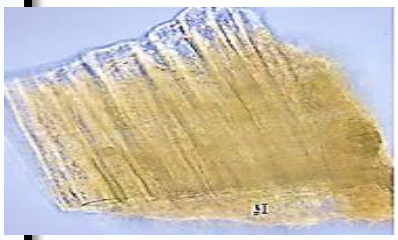
Classification of sclereids

There are five types ofsclereids based on the shape

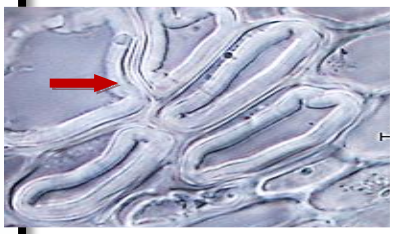
1. *Brachysclereids*



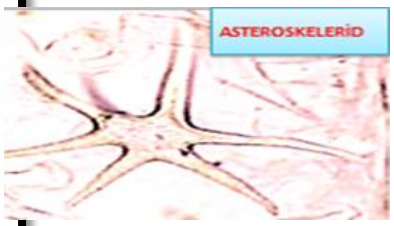
2. *Macrosclereids*



3. *Osteosclereids*



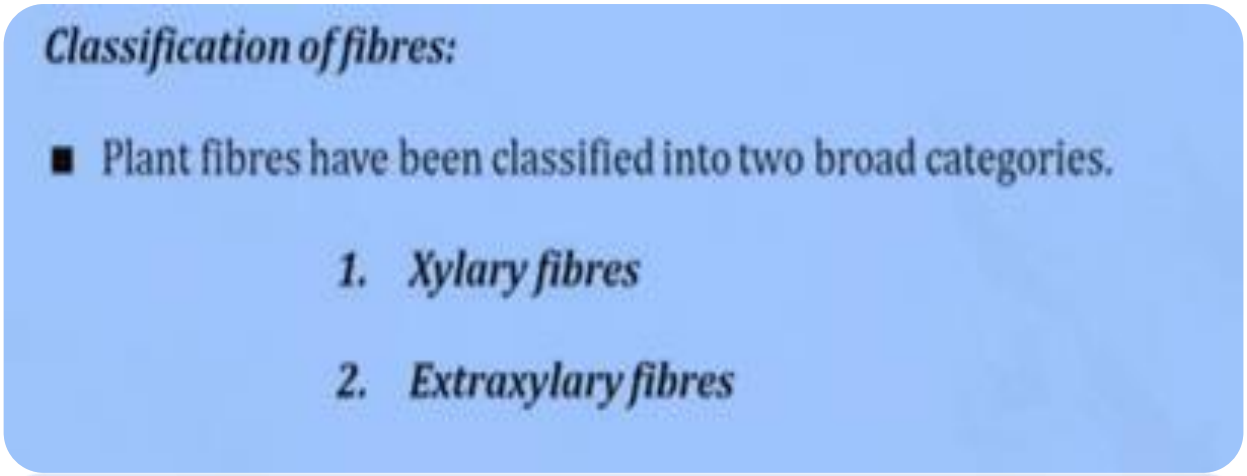
4. *Asterosclereids*



5. *Trichosclereids*

B. Fibres

- Fibres are long, spindle shaped cells with thick secondary wall and occur as strands in plant. They are dead. They have simple pit.



1. Xylar Fibres

- *Xylar Fibres* located in the xylem. There are three types of xylary fibres.

a) *Fibre Tracheids*

b) *Libriform Fibres*

c) *Gelatinous Fibres*

2. Extraxylar Fibres

- Fibres located external to the xylem. There are three types of extraxylary fibres.

a) Phloem Fibres

b) Cortical Fibres

c) Perivascular Fibres