2019-2020
PLANT MORPHOLOGY LAB.

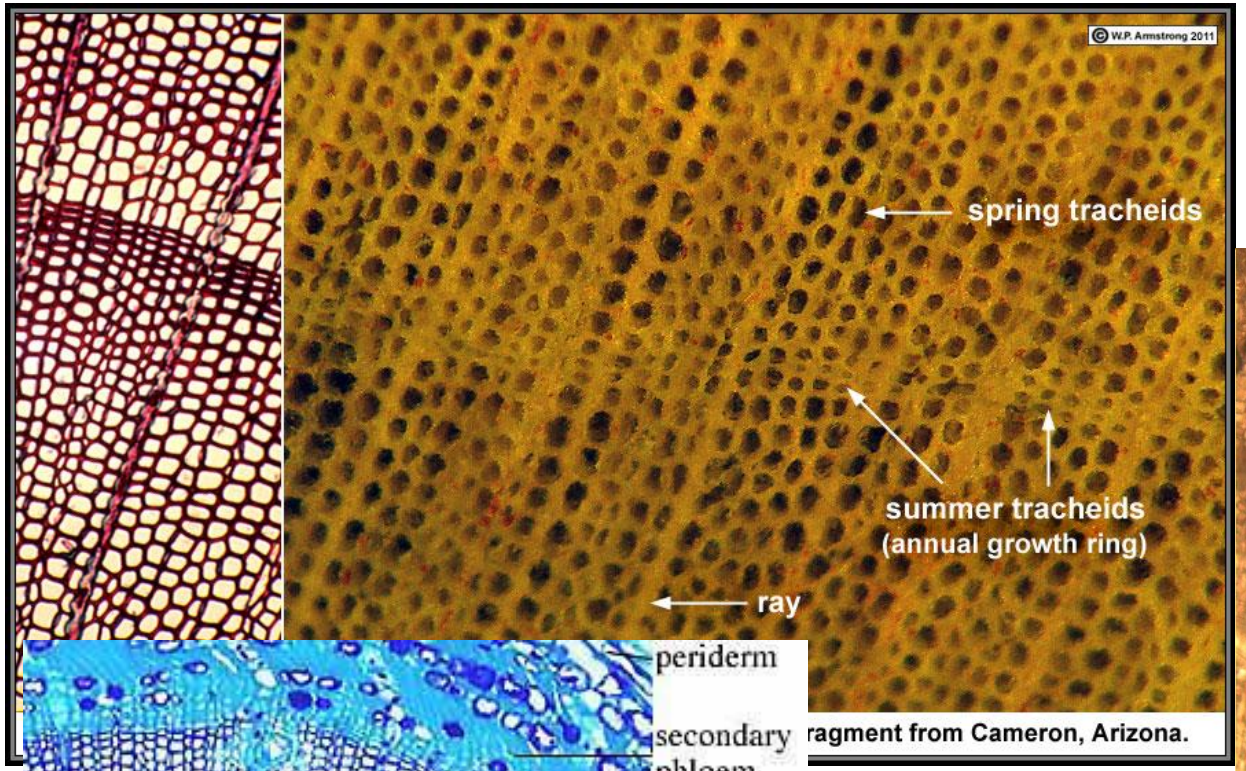
Dr. Aydan ACAR ŞAHİN

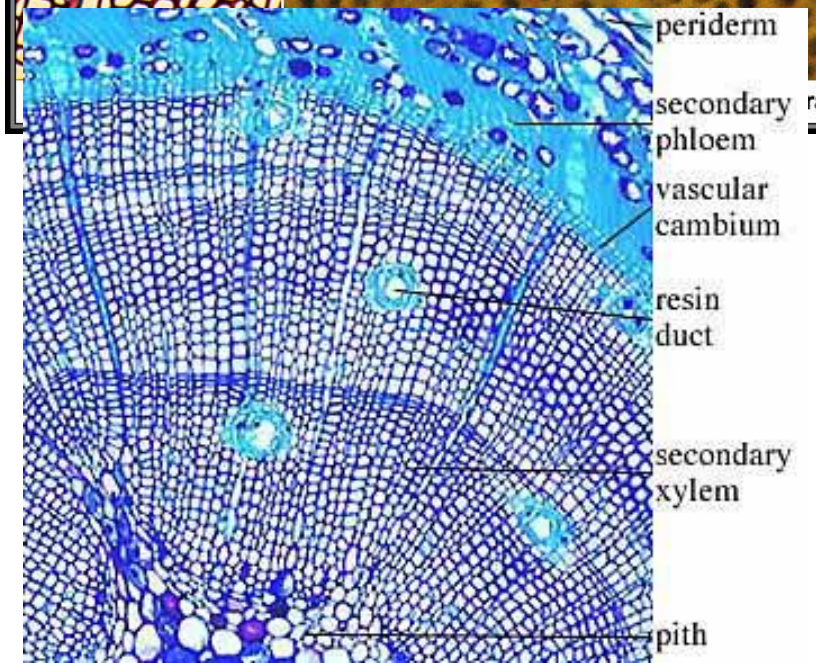
5th week

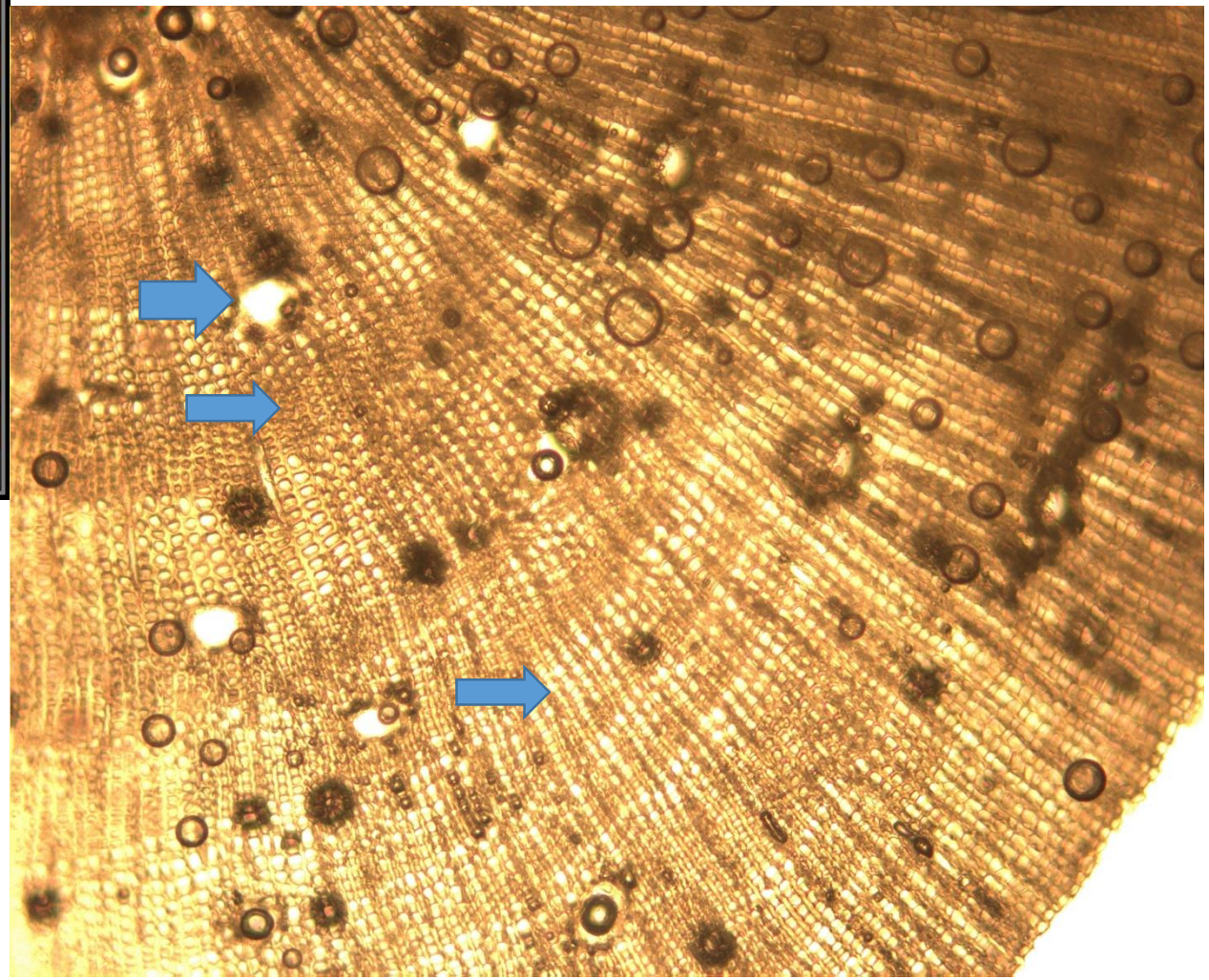
GYMNOSPERM WOOD

- **The cross-section** of the gymnosperm wood has even rings of the year seen with the naked eye. Seasonal differences have a large impact on plant life activities. Spring is the most active plant. The plant needs large amounts of water in spring. Therefore, the diameter of the tracheids occurring in the spring is wide and the walls are thin. The light colored ring formed by this type of tracheids in the wood is called spring wood.
- With the start of summer, the amount of water in the environment decreases and a decrease in the activity of the plant is seen. In this circuit, smaller diameter and thick-walled tracheids are formed from cambium. The dark ring they create is called summer wood. Wood formation ends in autumn. The large tracheid wood, formed in the following spring, appears light colored on dark colored and small diameter cells of autumn.
- Thus, a light colored ring followed by a dark ring forms a year ring. Self-arms of gymnosperm are quite common.
- Nutrients are stored in their own arms. This nutrient is often starch.

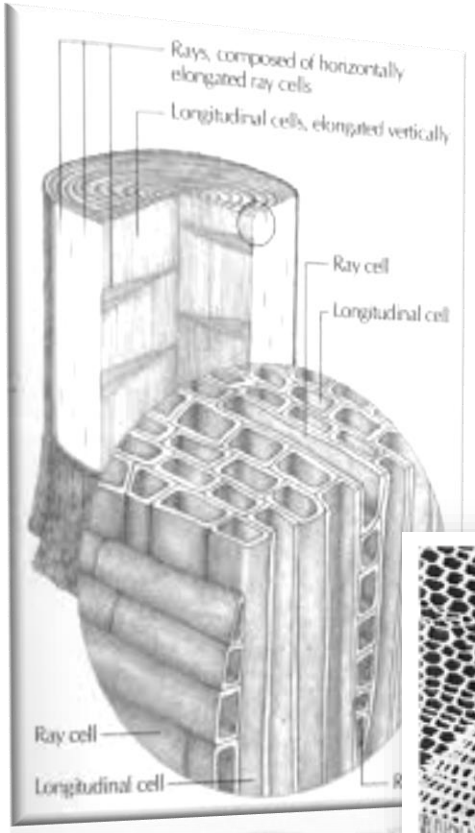
Transversal:



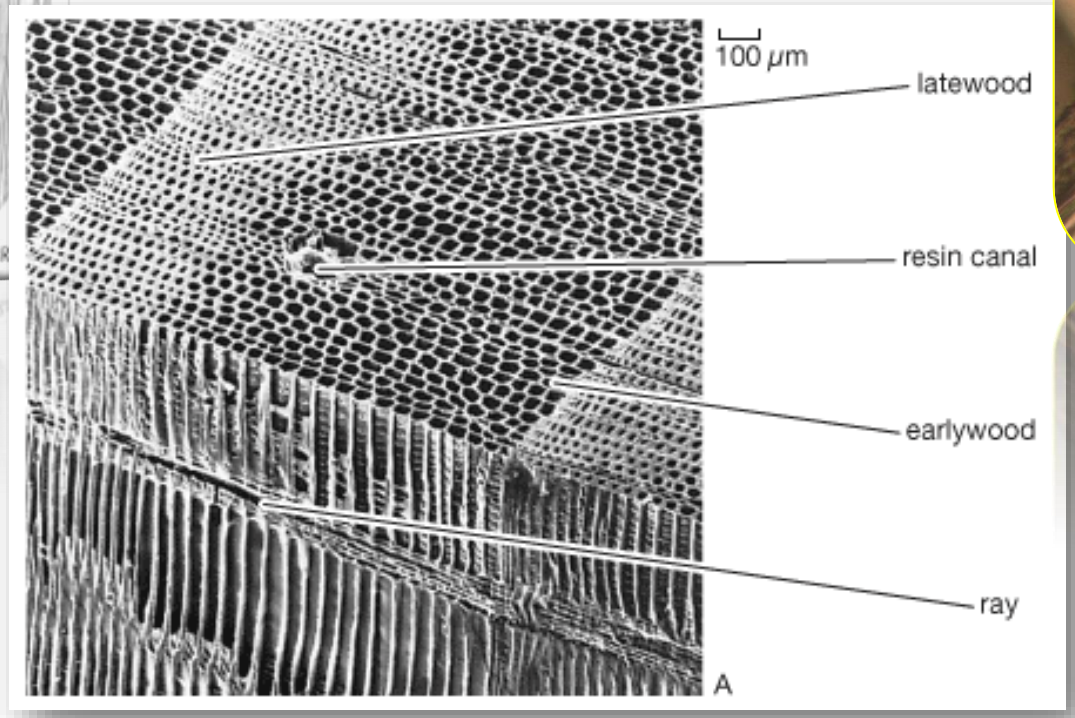


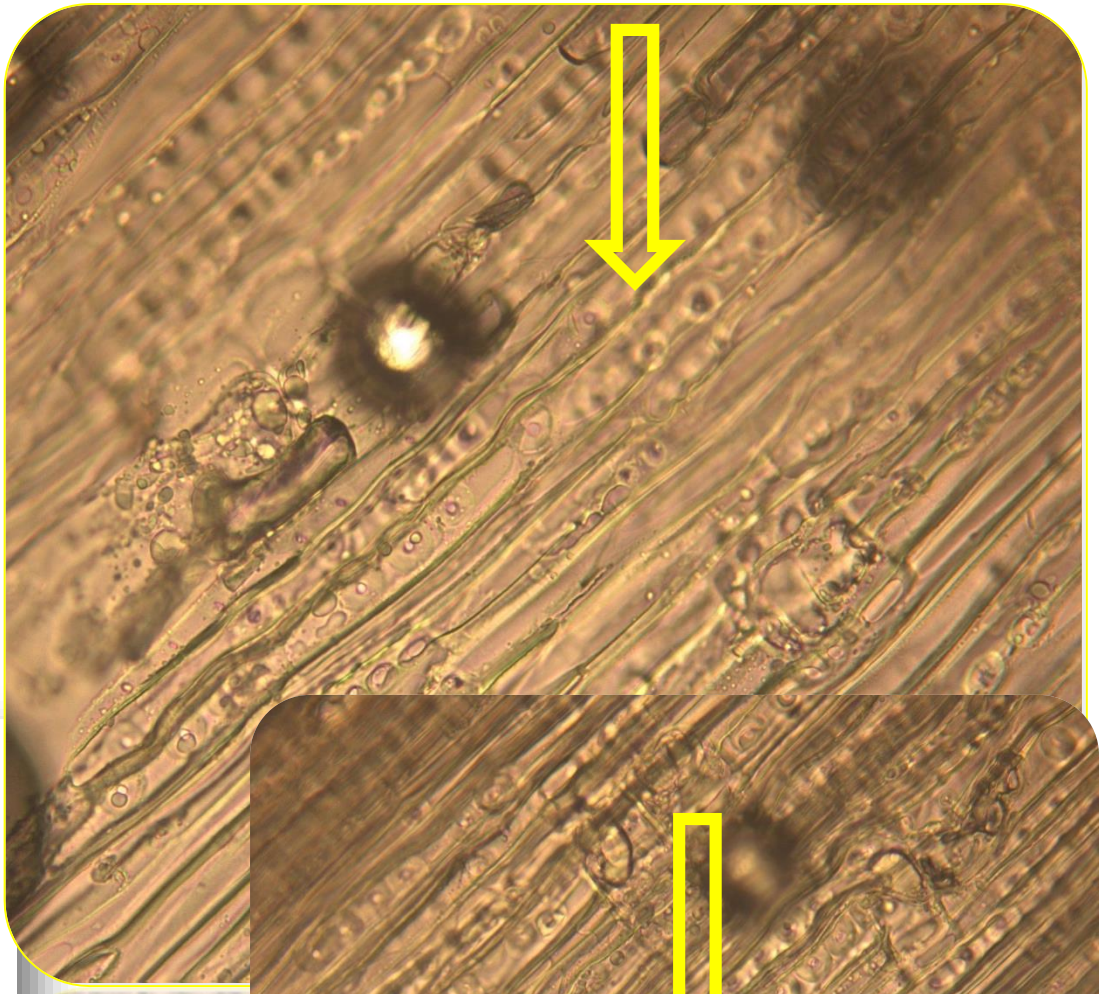


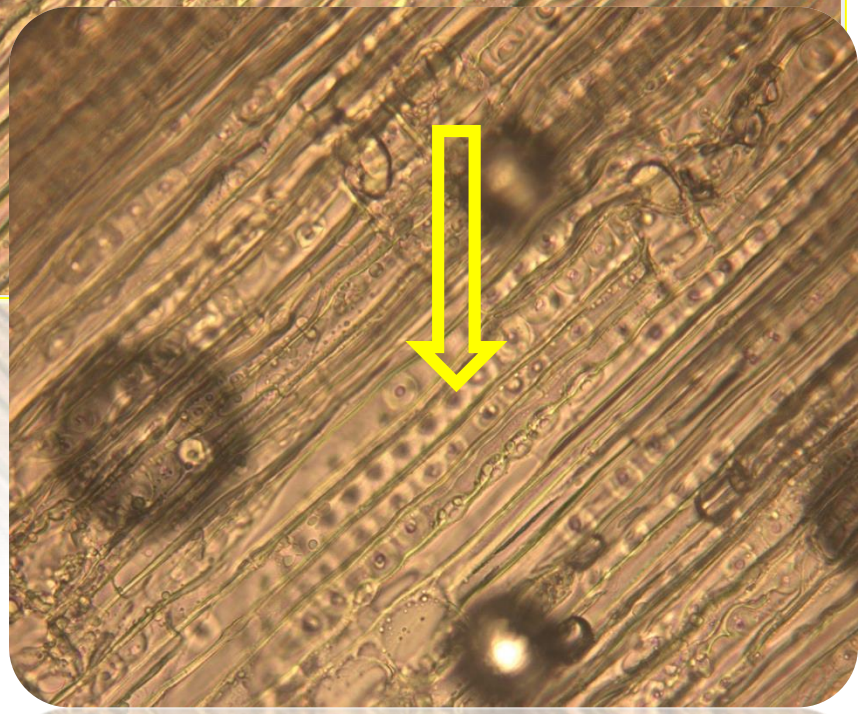
Longitidunal radially



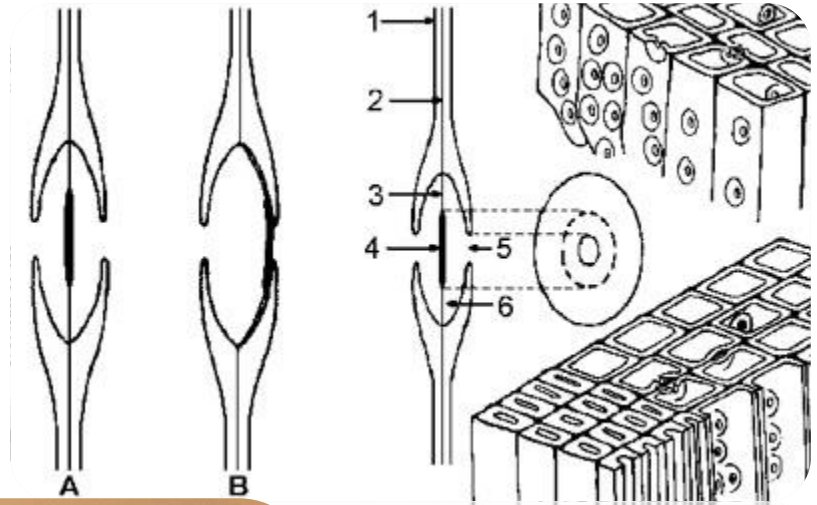
There are two types of rays in gymnosperms; **homocellular rays (when rays comprise of only parenchyma**) and **heterocellular rays (when it consists of both parenchyma cells and tracheids**).

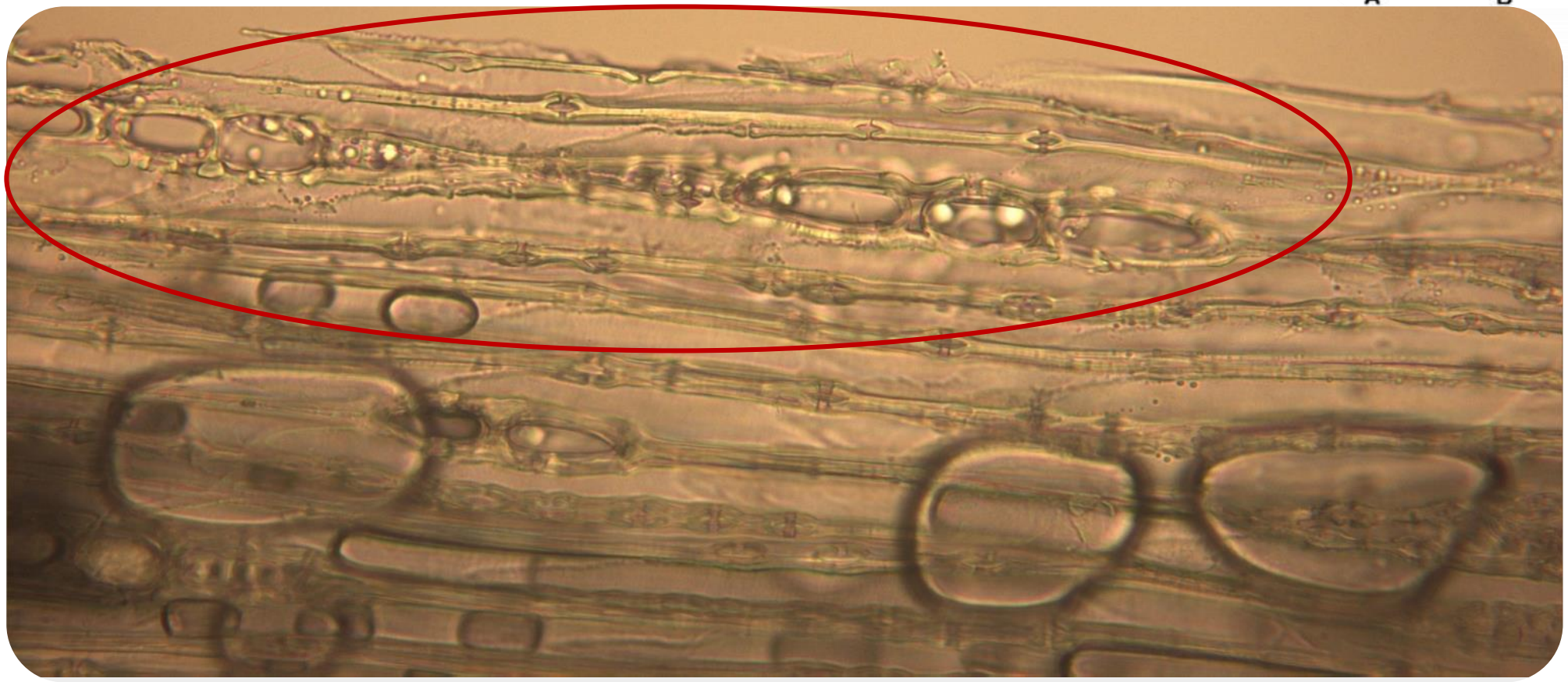




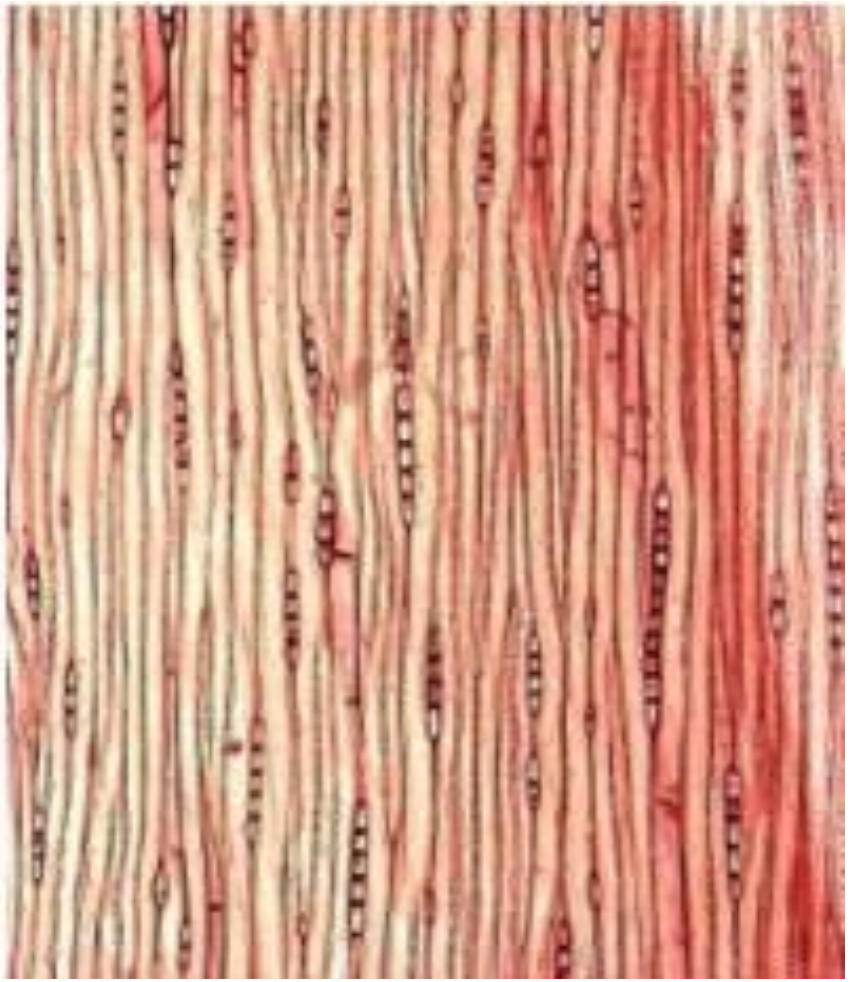


Longitidunal tangentally





Transversal **Longitidunal-radial** **Longitidunal-tangental**



Gymnosperm wood

Subject: Secondary Growth in Stem
Sub subject: Gymnosperm wood
Sp: *Pinus nigra*
Sec. dr: Transversal **Longitidunal-radial** **Longitidunal-tangental**