

Introduction to Botany: BIOL 154

Lab 7. Stems II

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Preparation/reading:

1. Chapter 5, section 3: secondary growth of stems
2. Periderm—stem cross section: *Sambucus* sp. (elderberry). Procedure: prepared slide. Assignments:
 - (a) Draw the periderm cell layers, detail of your choice (single-, 2- or 3-lined)
 - (b) **Label:** lenticel, phellem, phelloderm, cork cambium
3. Young tree branch—stem cross section and stem habitus of *Fraxinus* sp. (ash). Procedure: cut piece of stem. Assignments:
 - (a) Draw stem cross-section
 - (b) **Label:** heartwood, sapwood, vascular cambium, secondary phloem, periderm, annual ring, bark
 - (c) Sketch surface of the given piece of wood; **label** lenticel
 - (d) How old is this tree branch?
4. Secondary growth—stem cross section of *Aristolochia* sp. (dutchman's pipe). Procedure: prepared slide. Assignments:
 - (a) Draw complete stem overview
 - (b) **Label:** lenticel, periderm/epidermis/cuticle, collenchyma, cortex parenchyma, sclerenchyma, vascular cambium, secondary phloem = bast, bark, wood = secondary xylem, ray, xylem vessel, pith