Leaves

- The leaf
  - Is the main photosynthetic organ of most vascular plants

- Leaves generally consist of
  - A flattened blade葉身 and a stalk
  - The petiole葉柄, which joins the leaf to a node of the stem

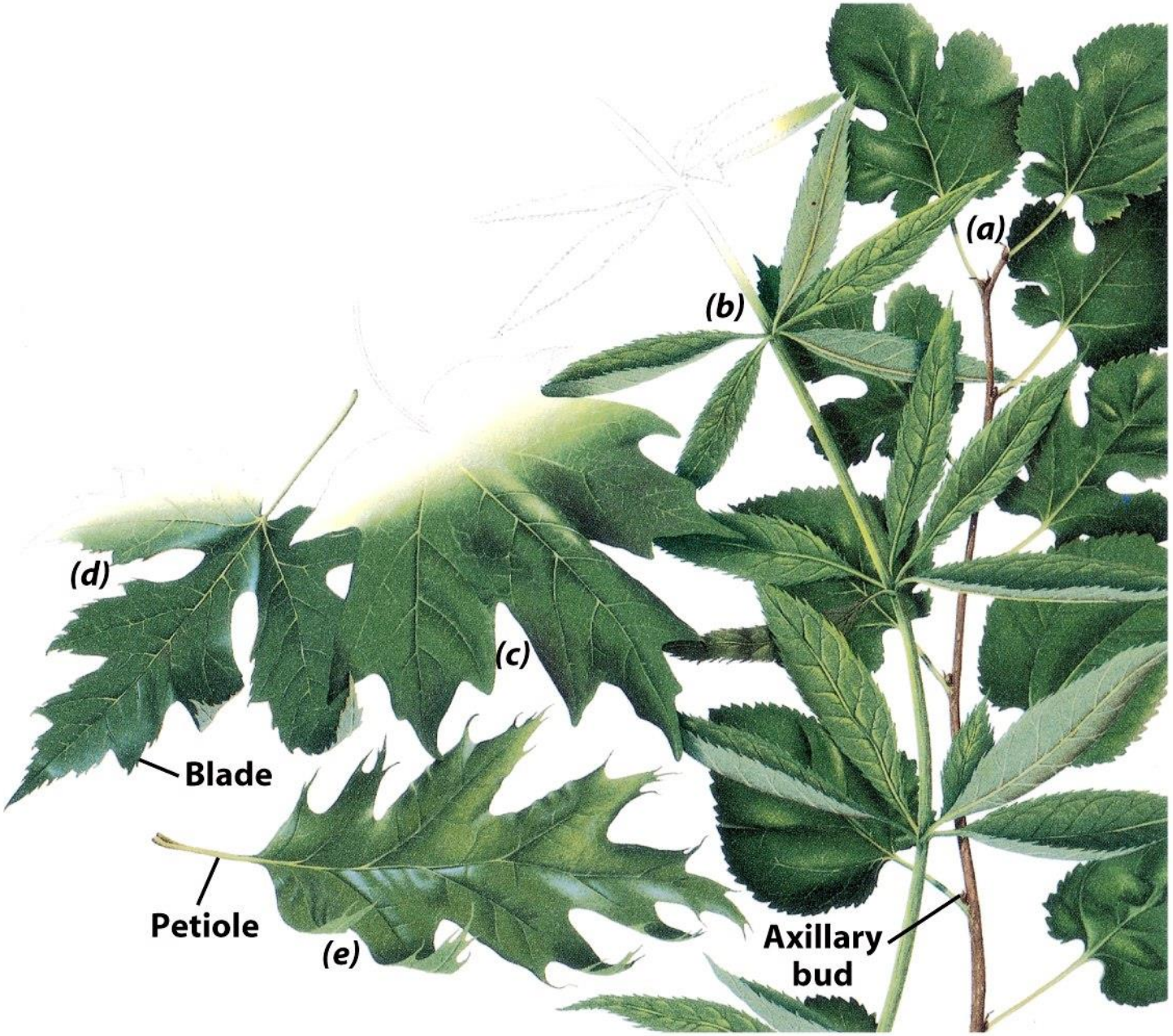

Figure 25-16
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- In classifying angiosperms
  - Taxonomists may use leaf morphology as a criterion

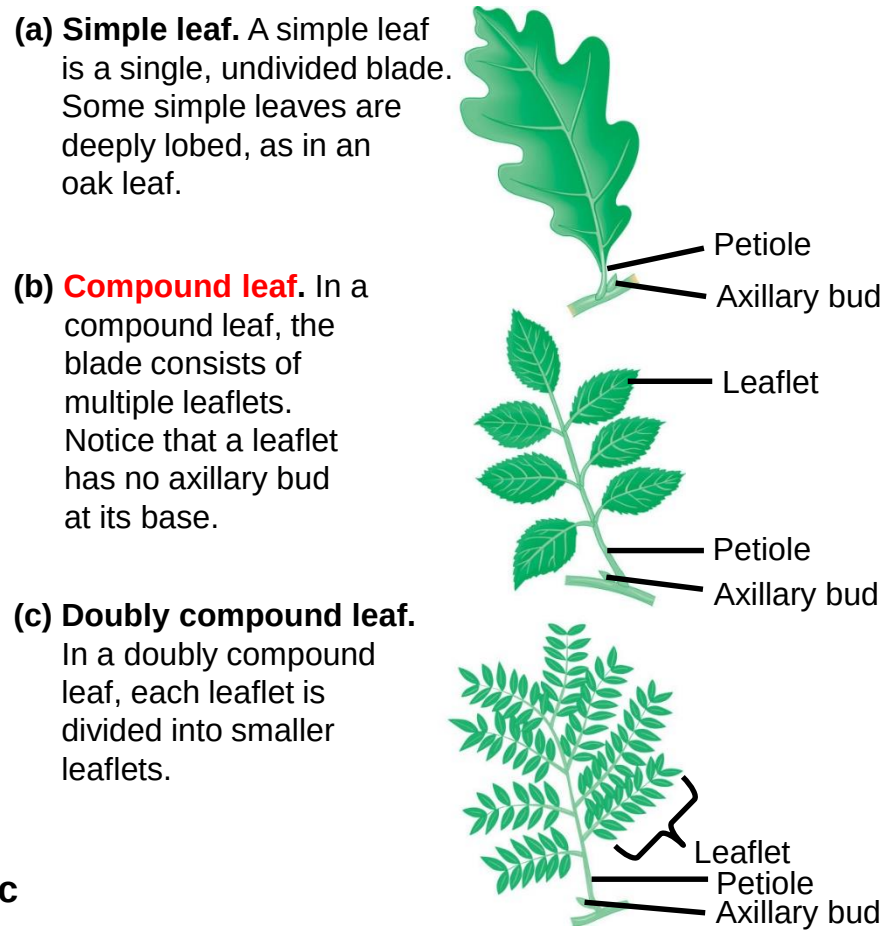

Figure 35.6a–c

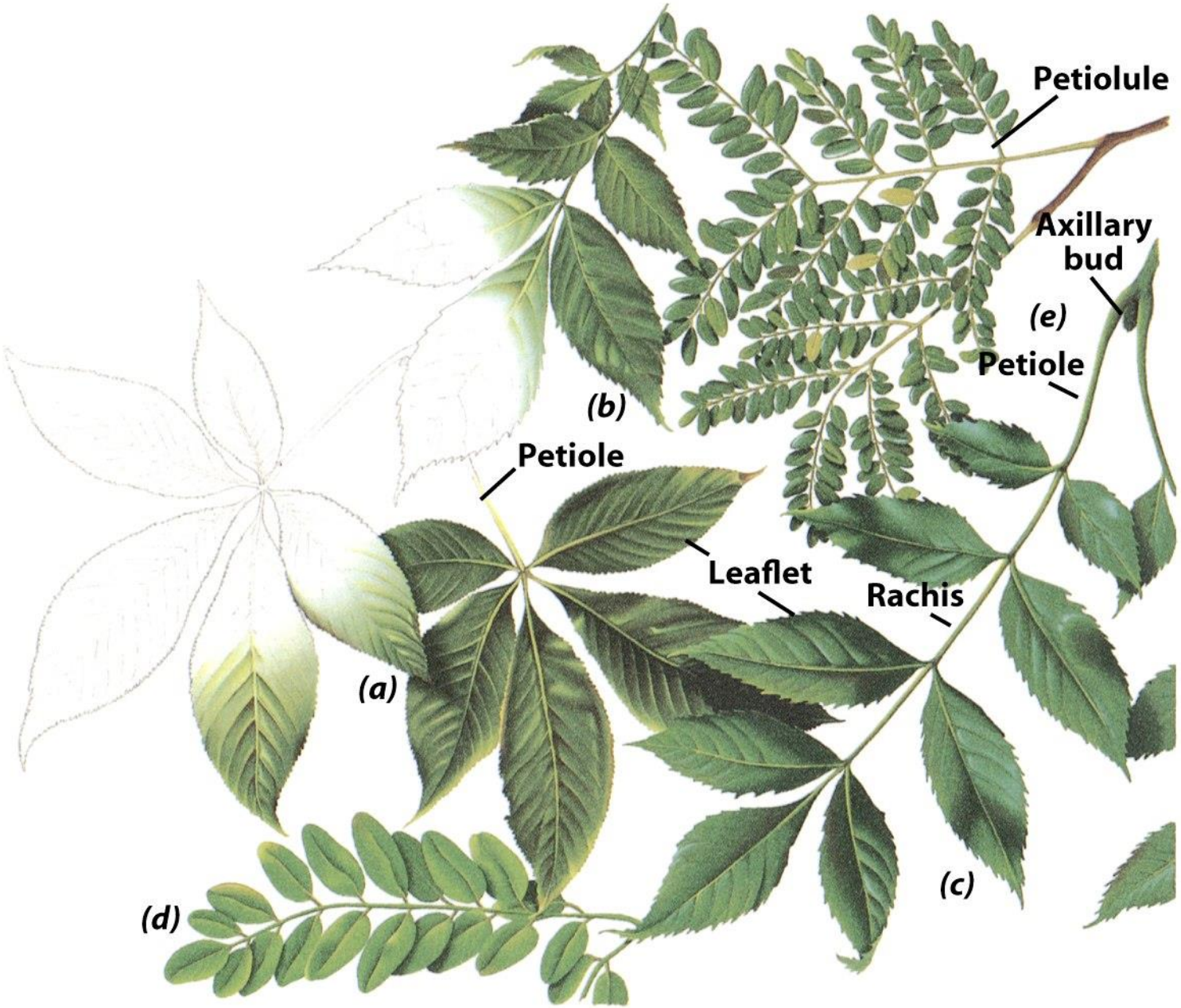

Figure 25-19
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- Some plant species
  - Have evolved modified leaves that serve various functions

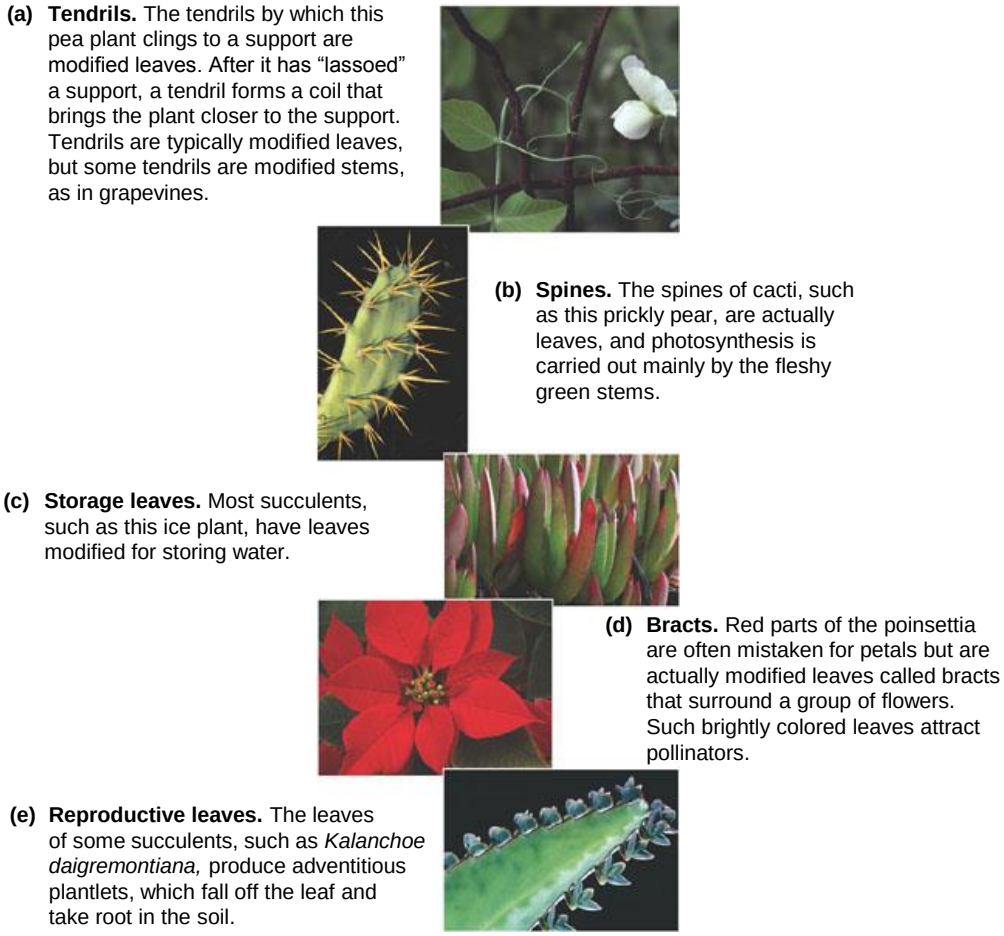

Figure 35.6a–e

Figure 25-17
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Figure 25-18a
Biology of Plants, Seventh Edition

Figure 25-18b
Biology of Plants, Seventh Edition

- Monocots and dicots
  - Differ in the arrangement of veins, the vascular tissue of leaves
- Most monocots
  - Have parallel veins
- Most dicots
  - Have branching veins

Tissue Organization of Leaves

- The epidermal barrier in leaves
  - Is interrupted by stomata, which allow CO_2 exchange between the surrounding air and the photosynthetic cells within a leaf
- The ground tissue in a leaf
  - Is sandwiched between the upper and lower epidermis
- The vascular tissue of each leaf
  - Is continuous with the vascular tissue of the stem

- Leaf anatomy

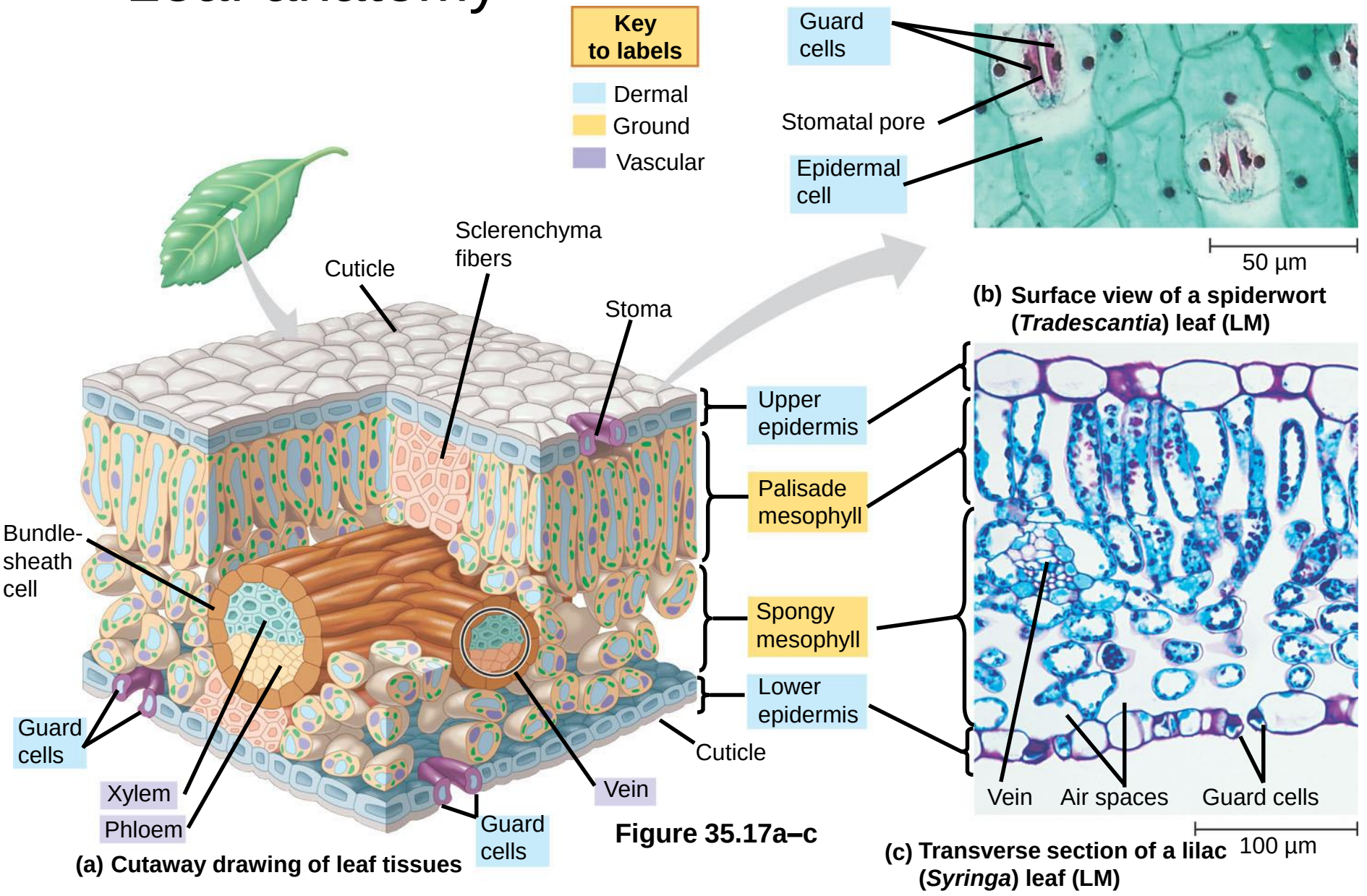

Figure 35.17a–c

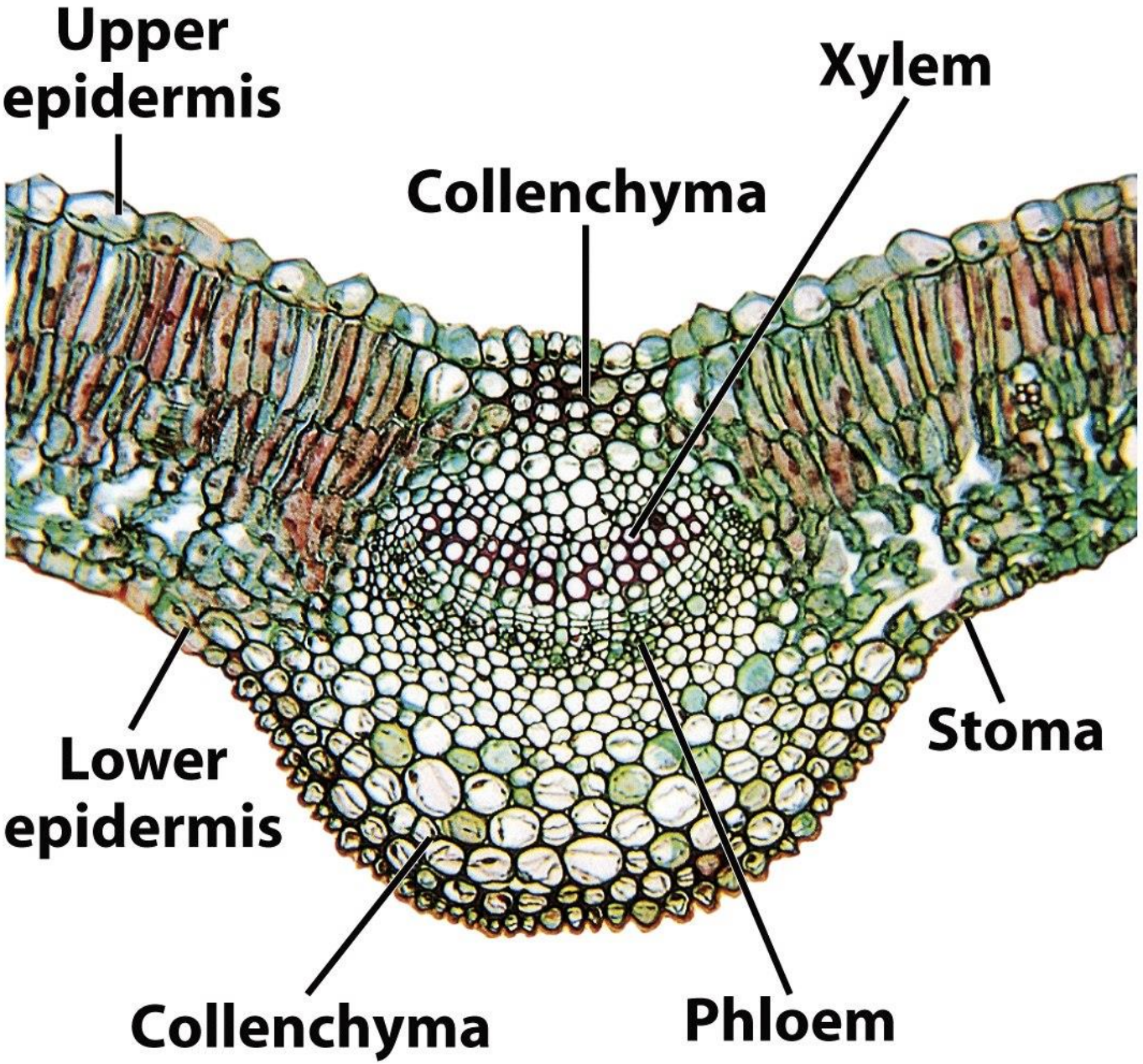

Figure 25-20a
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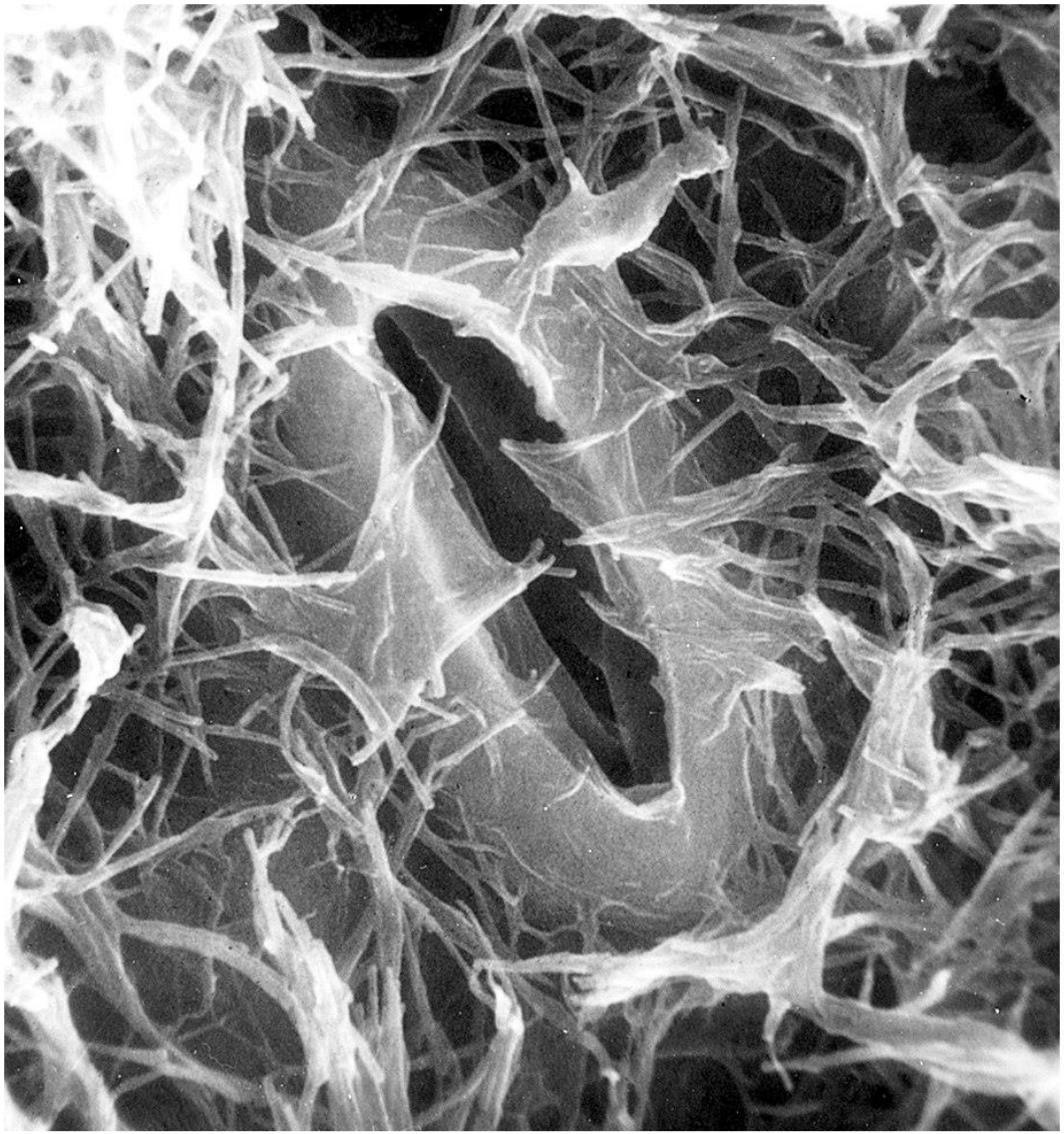

Figure 23-24
Biology of Plants, Seventh Edition

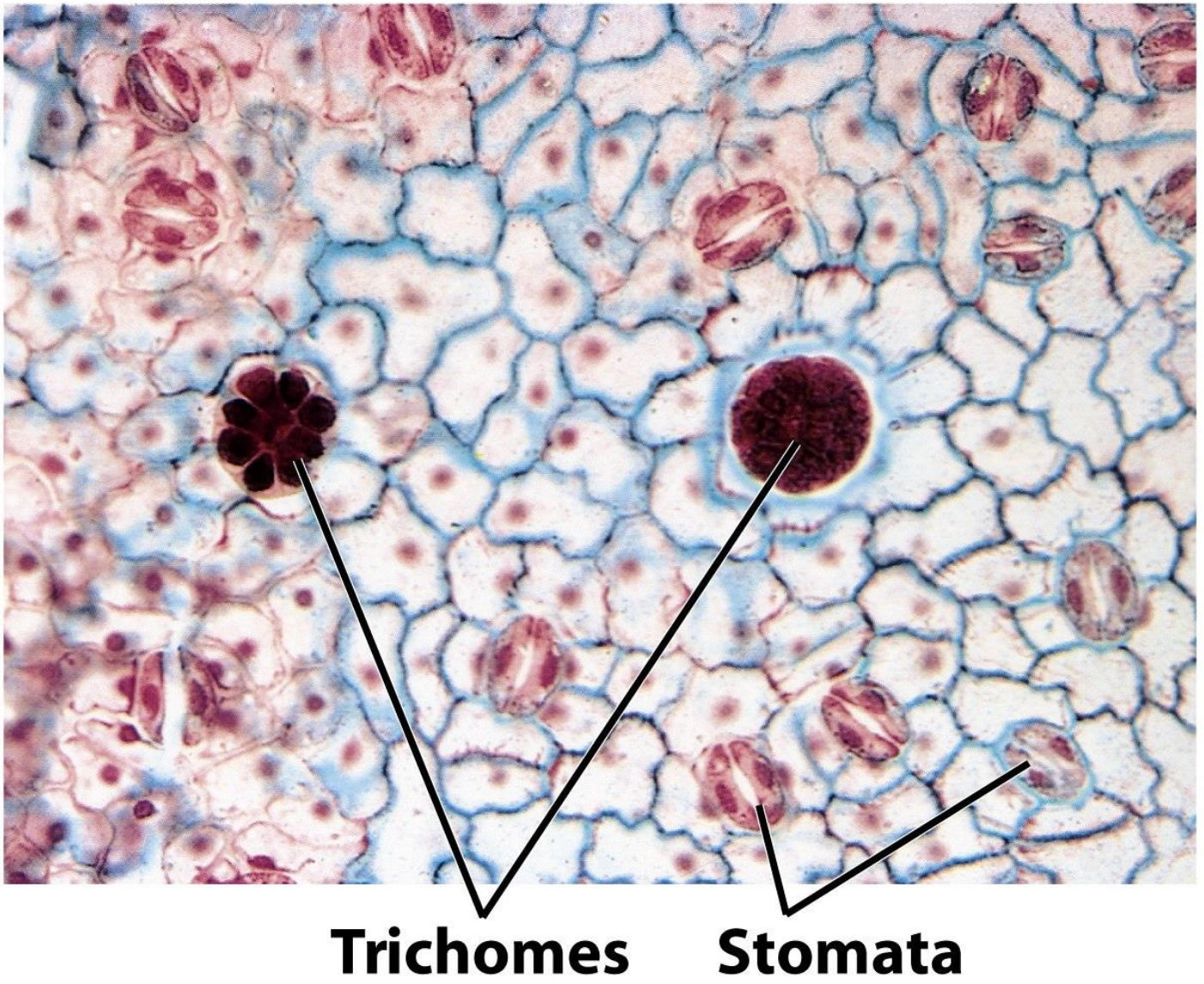

Figure 25-20e
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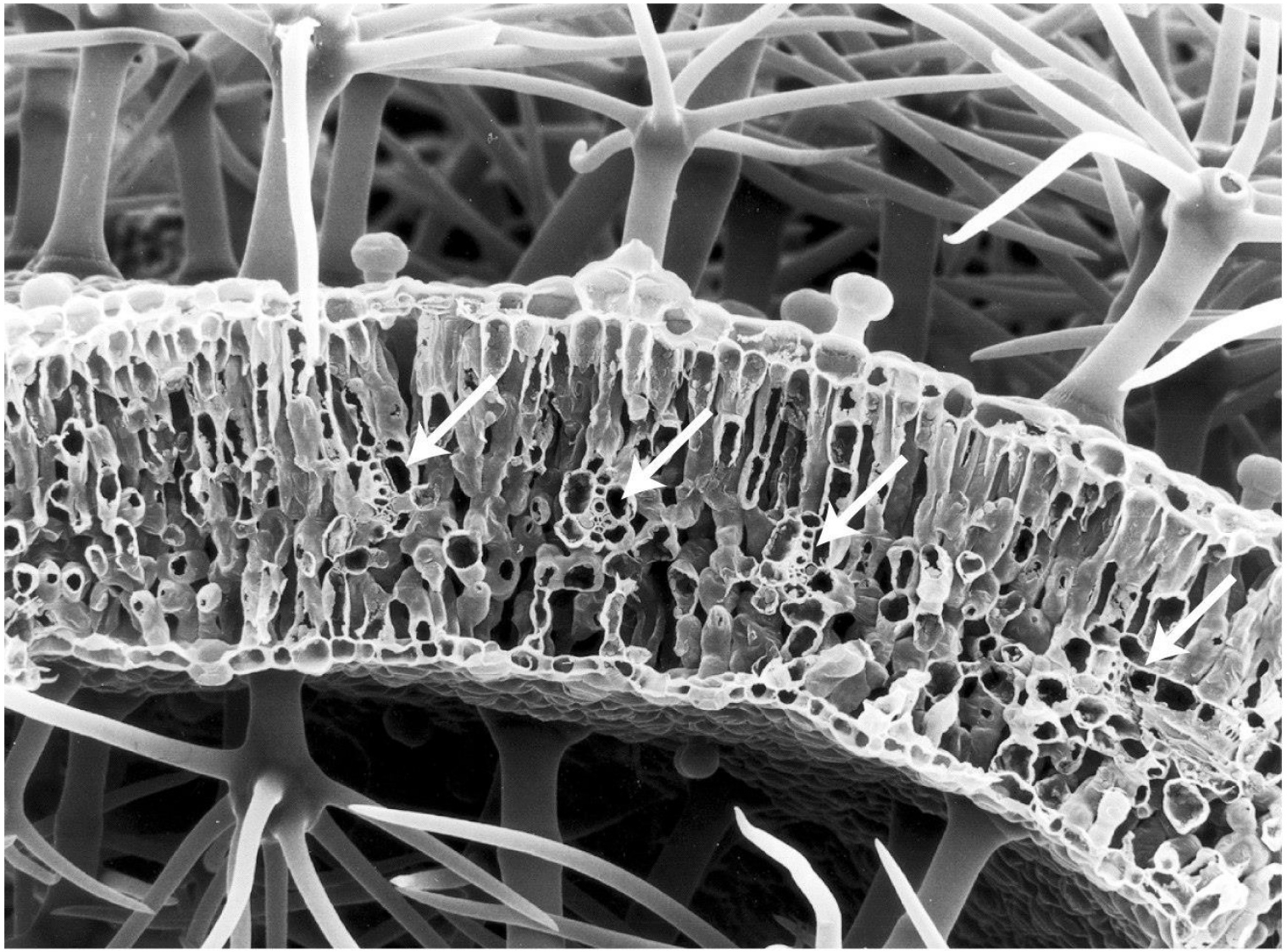

Figure 23-26
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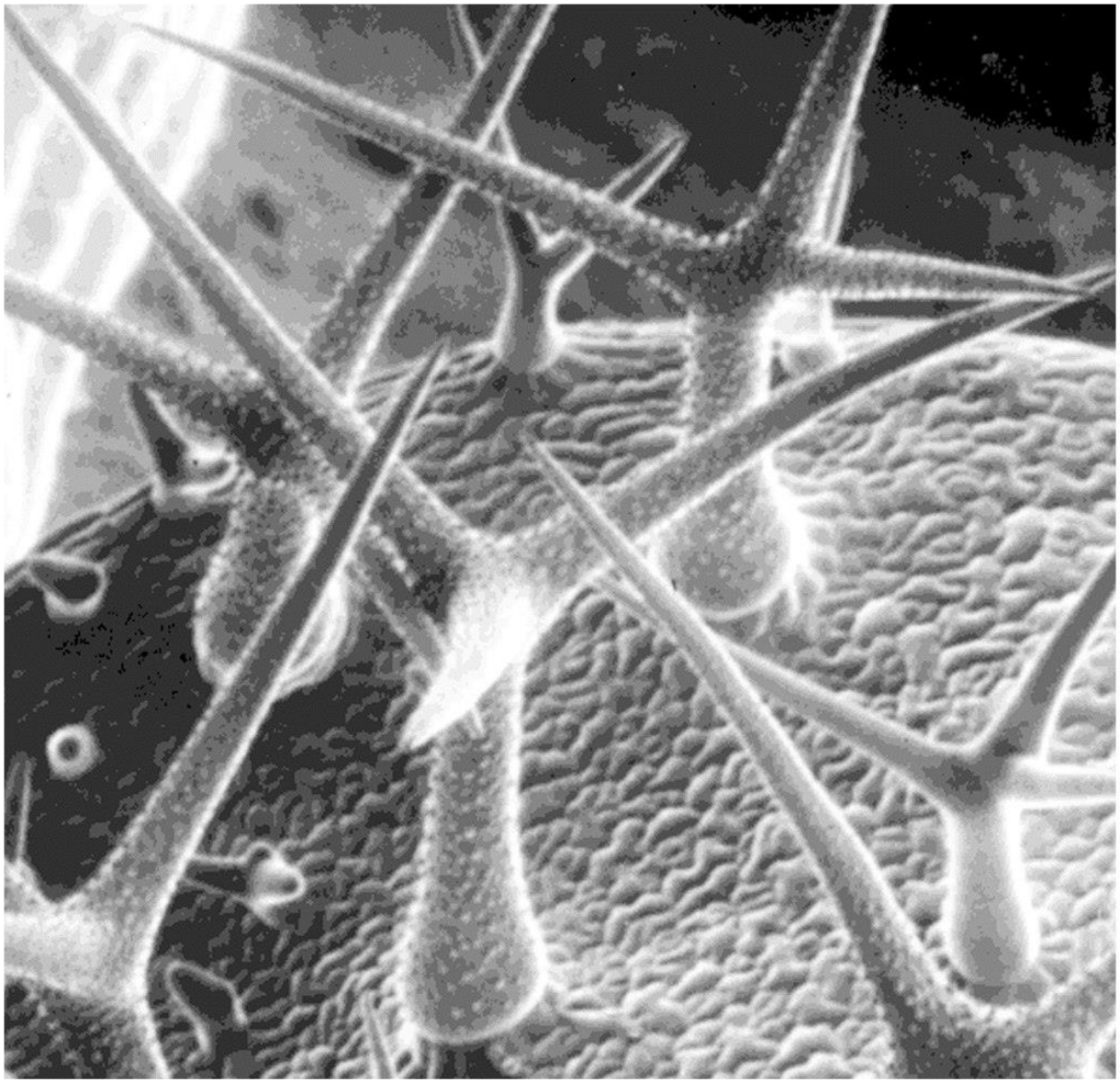

Figure 23-27
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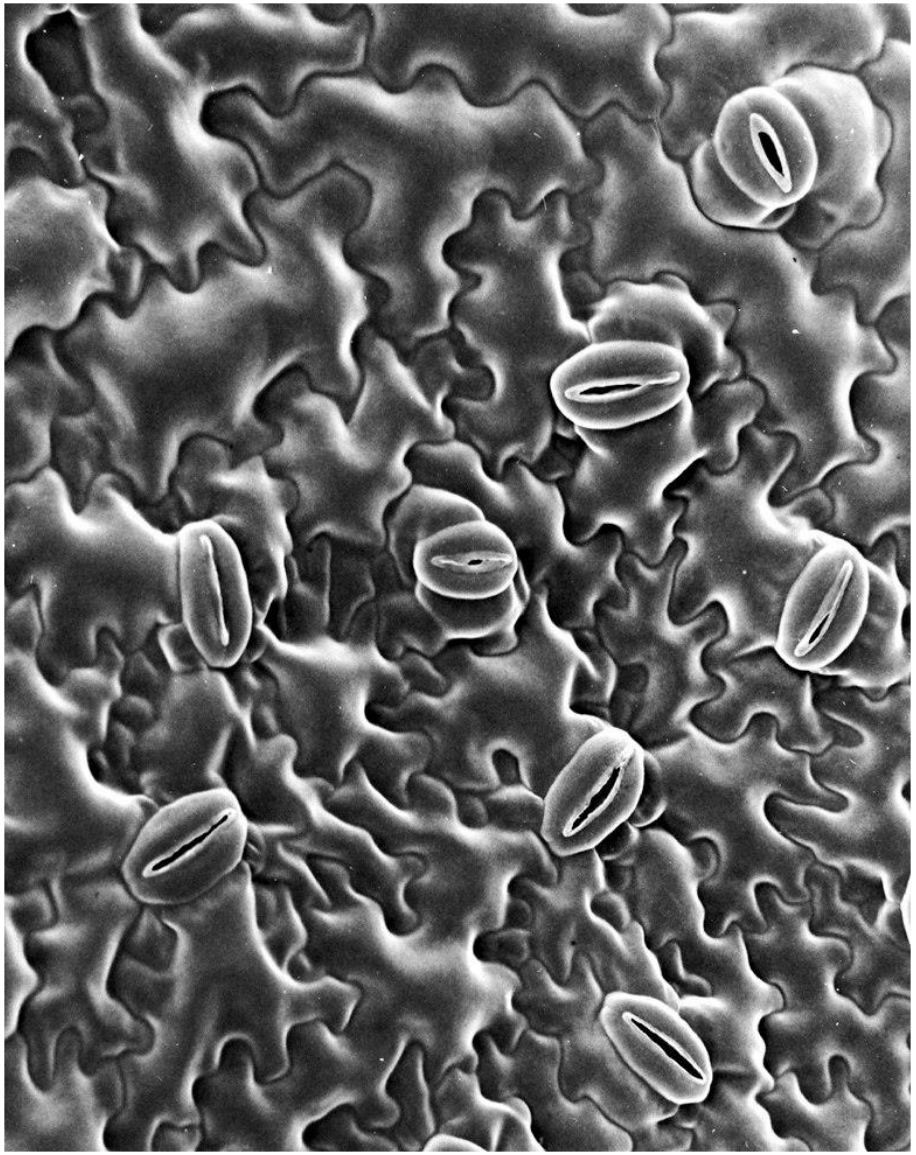

Figure 25-23a
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Figure 25-23b
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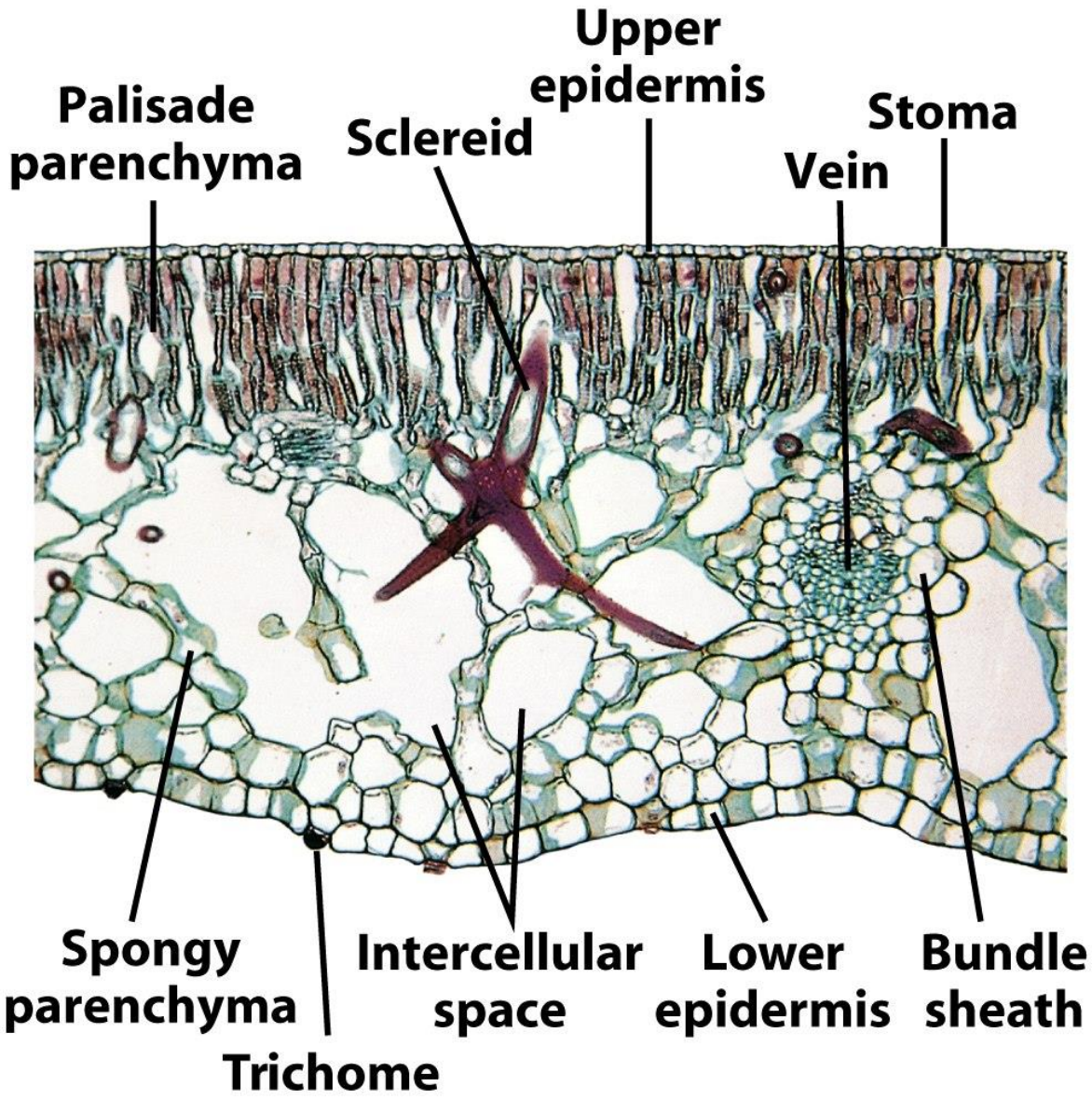

Figure 25-21
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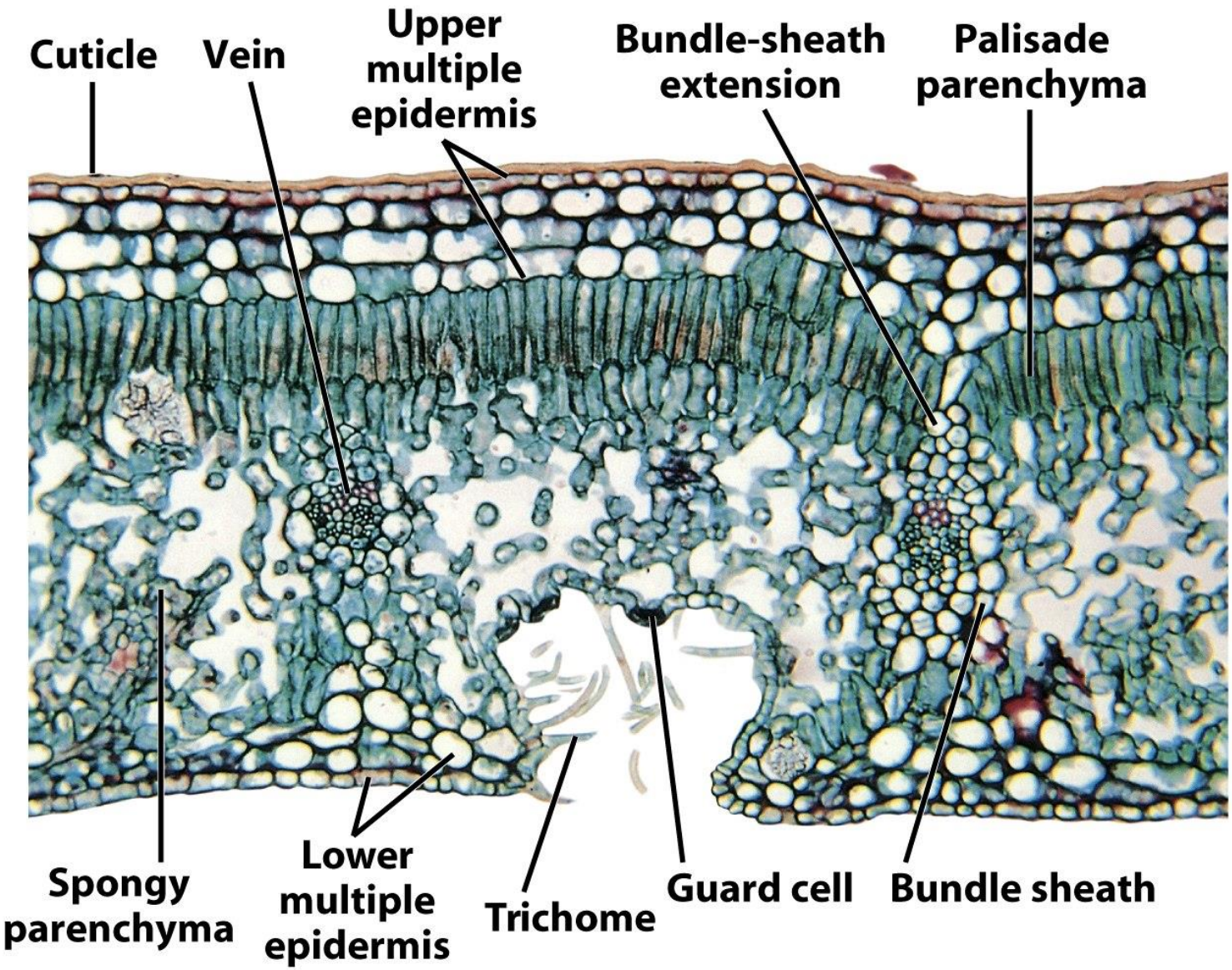

Figure 25-22
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- The most obvious morphological changes
  - Typically occur in leaf size and shape

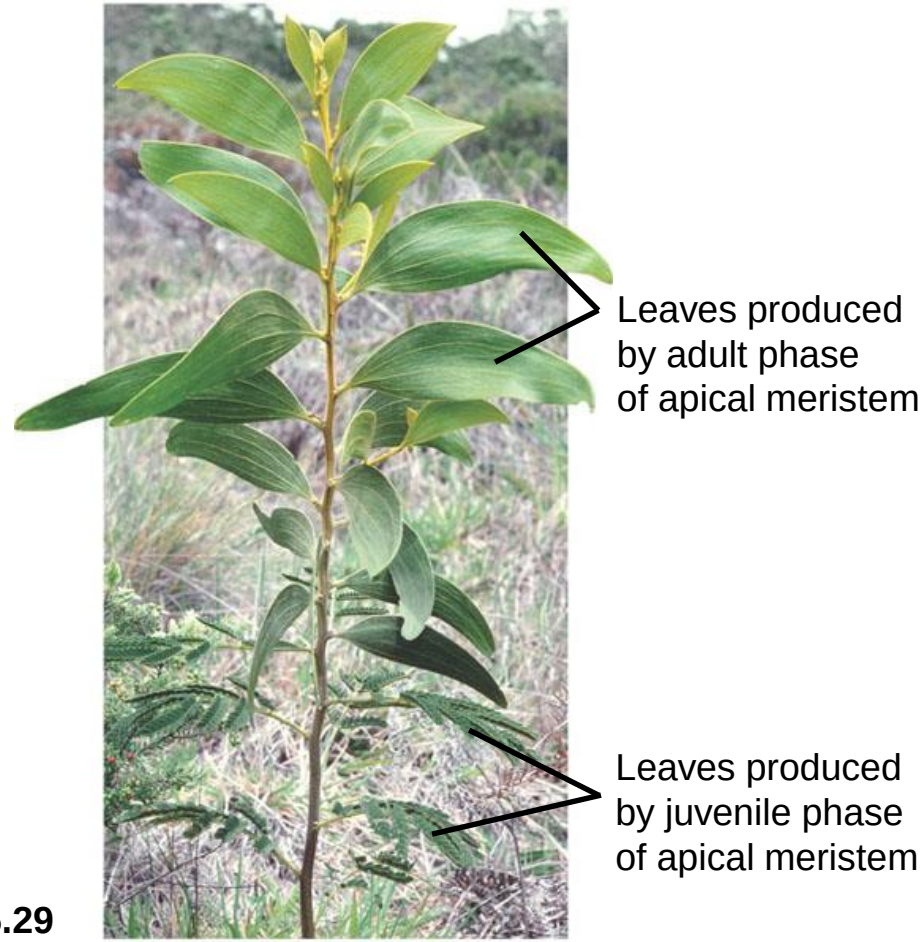

Figure 35.29

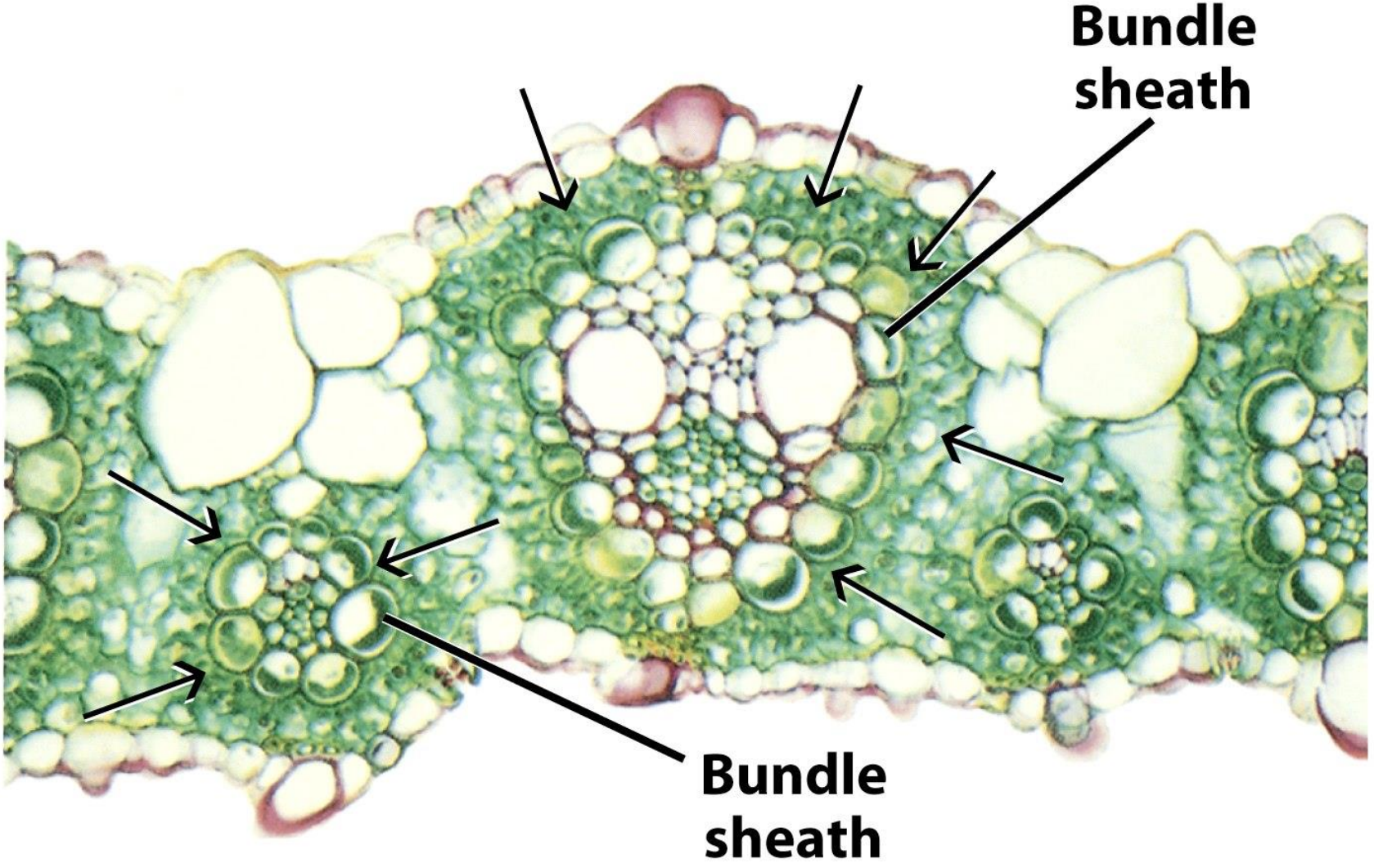

Figure 25-25
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