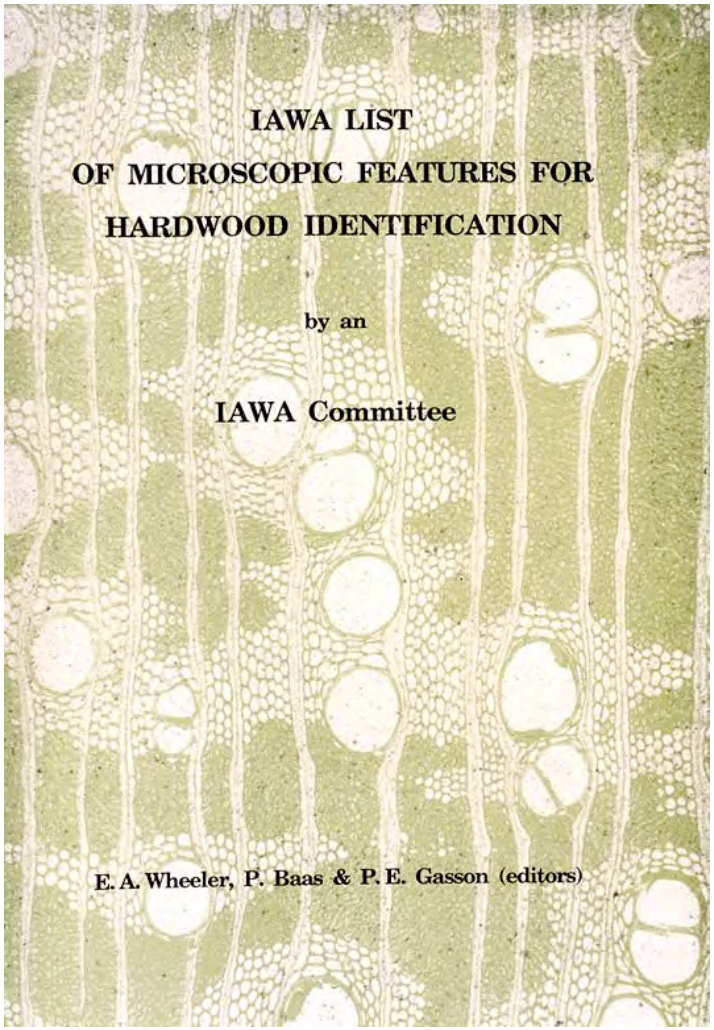


Order form at
International Association of Wood Anatomists Web Site

http://bio.kuleuven.be/sys/iawa

IAWA Hardwood Feature List

Definitions and Illustrations
Features 124-135.

Numbered photographs from:
IAWA Committee. 1989. IAWA List of Microscopic Features for Hardwood Identification. IAWA Bulletin n.s. 10(3): 219-332.

Photographs without numbers are associated with the InsideWood website hosted by N.C. State University Libraries.
http://insidewood.lib.ncsu.edu/search

Slide Set Assembled by E.A.Wheeler

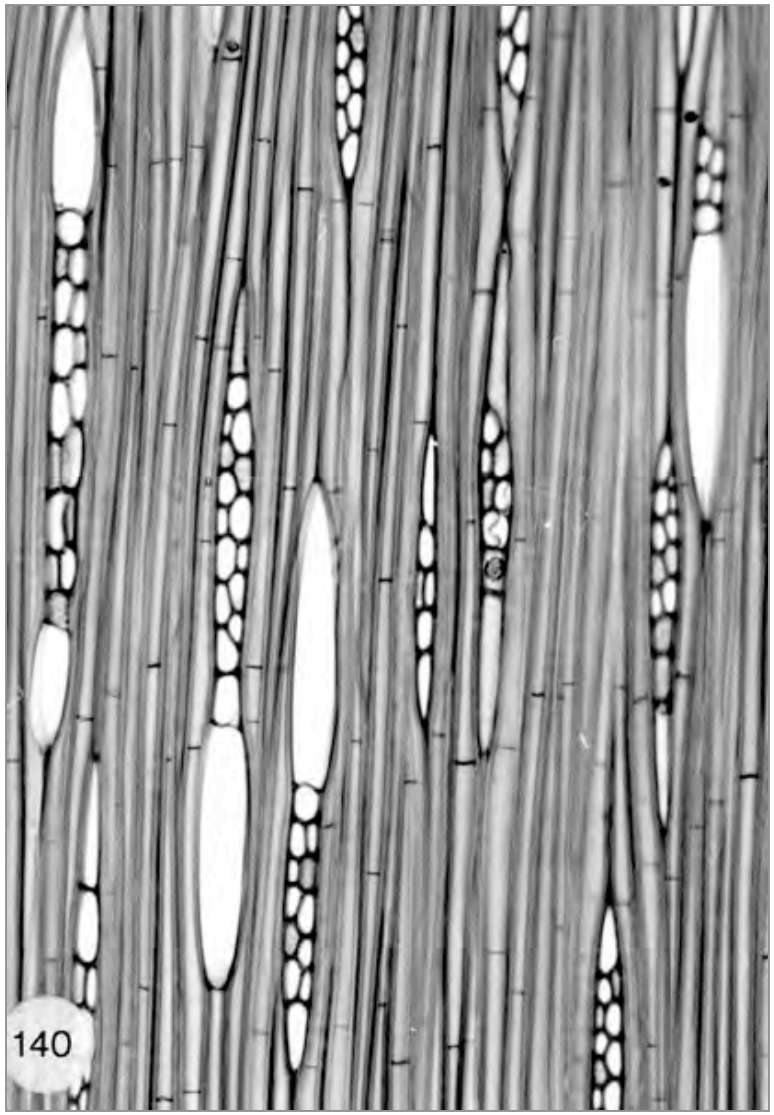
OIL AND MUCILAGE CELLS

Oil cell = a parenchymatous idioblast filled with oil; mostly, but not always, enlarged and rounded in outline occasionally of considerable axial extension.

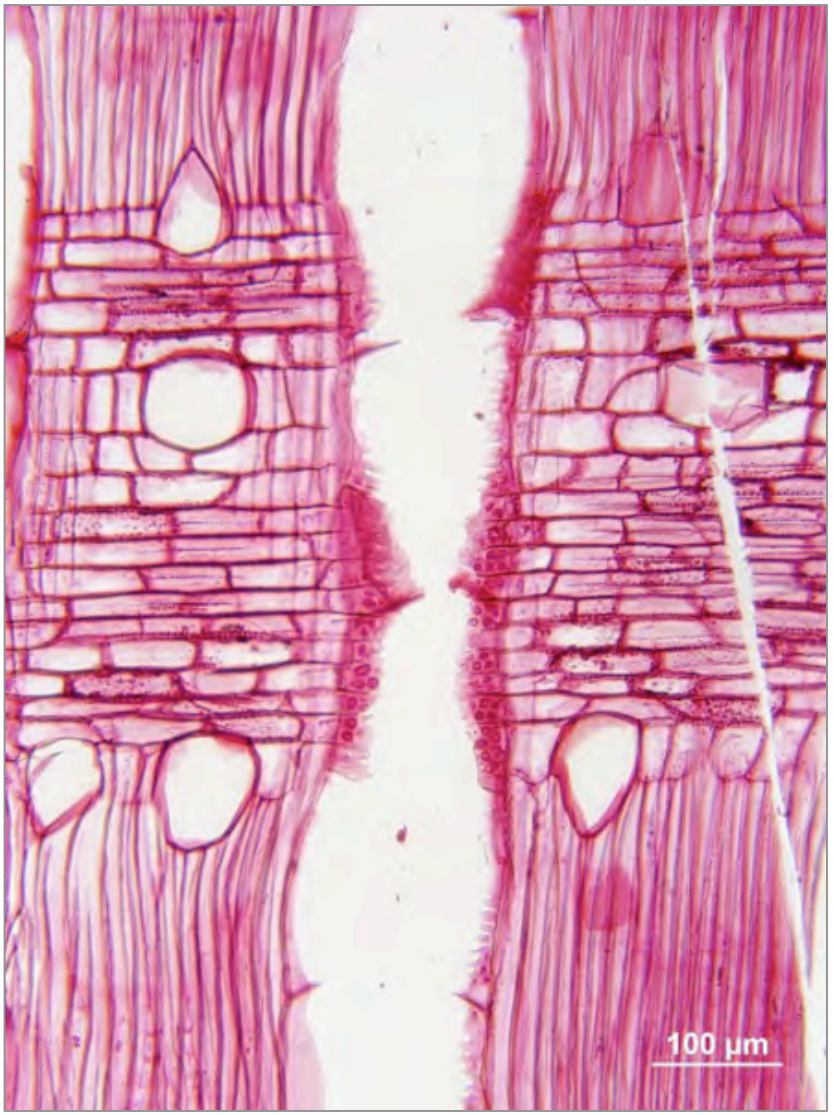
Mucilage cell = a parenchymatous idioblast filled with mucilage; mostly, but not always, enlarged and rounded in outline occasionally of considerable axial extension.

It is not practical to distinguish between oil and mucilage cells by their appearance.

Feature 124. Oil and/or mucilage cells associated with ray parenchyma

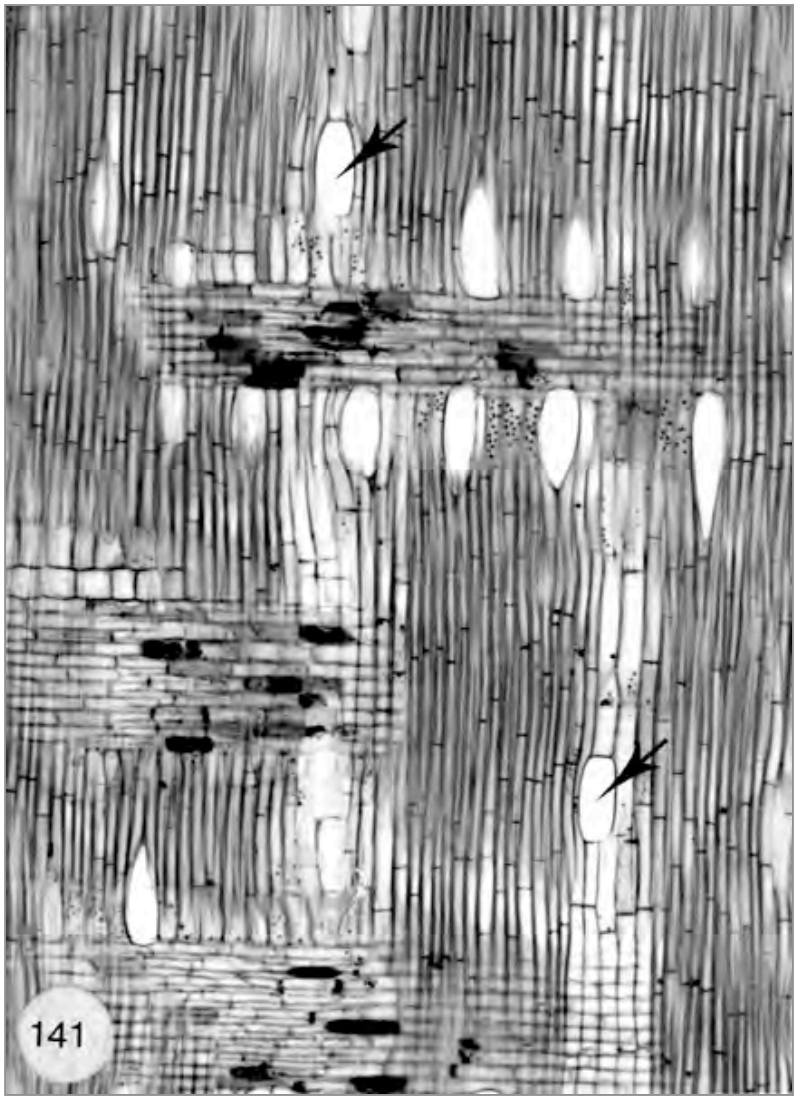


Ocotea glaucinia (Lauraceae)
P.E. Gasson

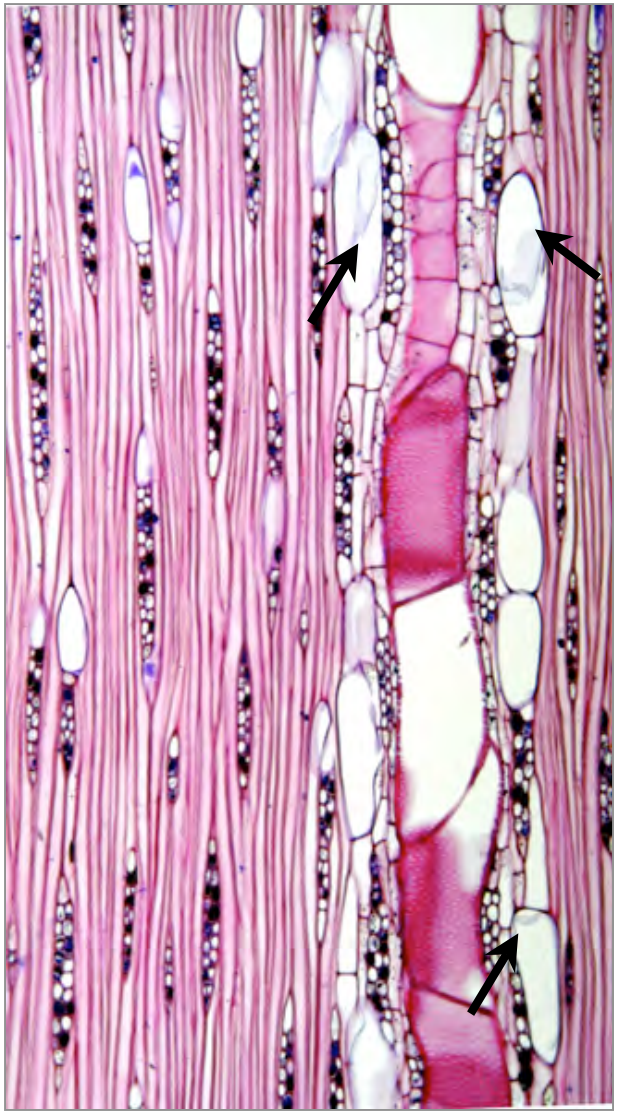


Sassafras albidum (Lauraceae)
E.A. Wheeler

Feature 125. Oil and/or mucilage cells associated with axial parenchyma

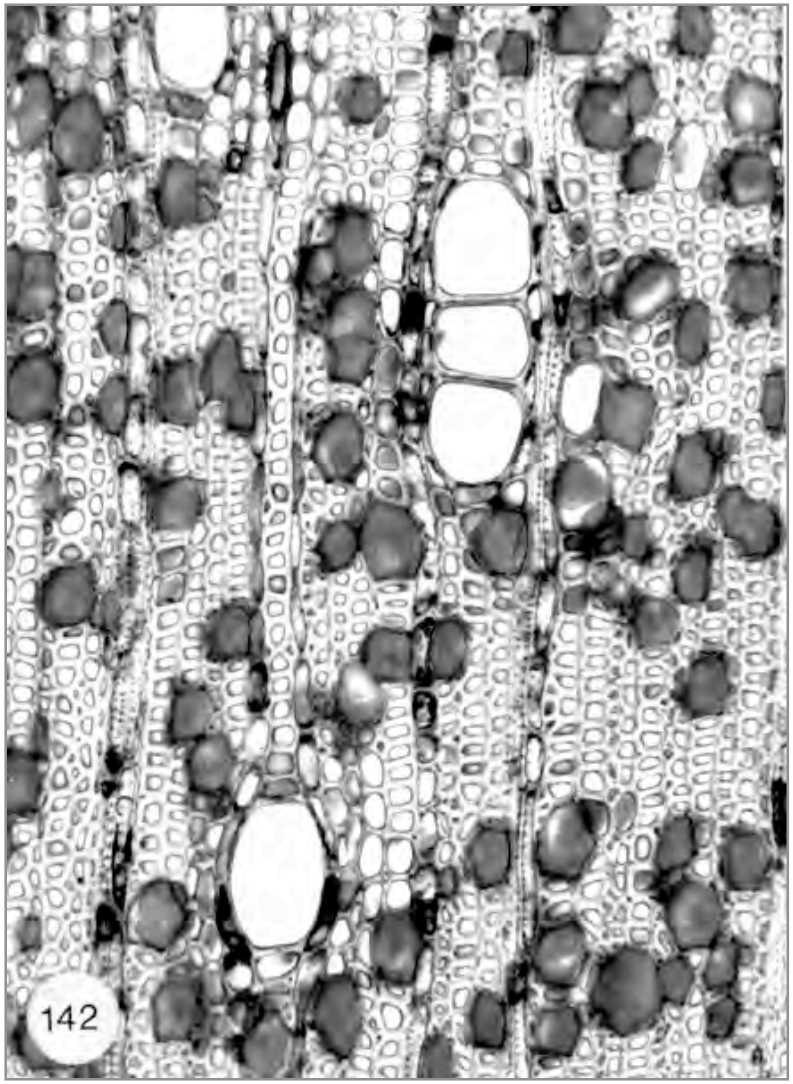


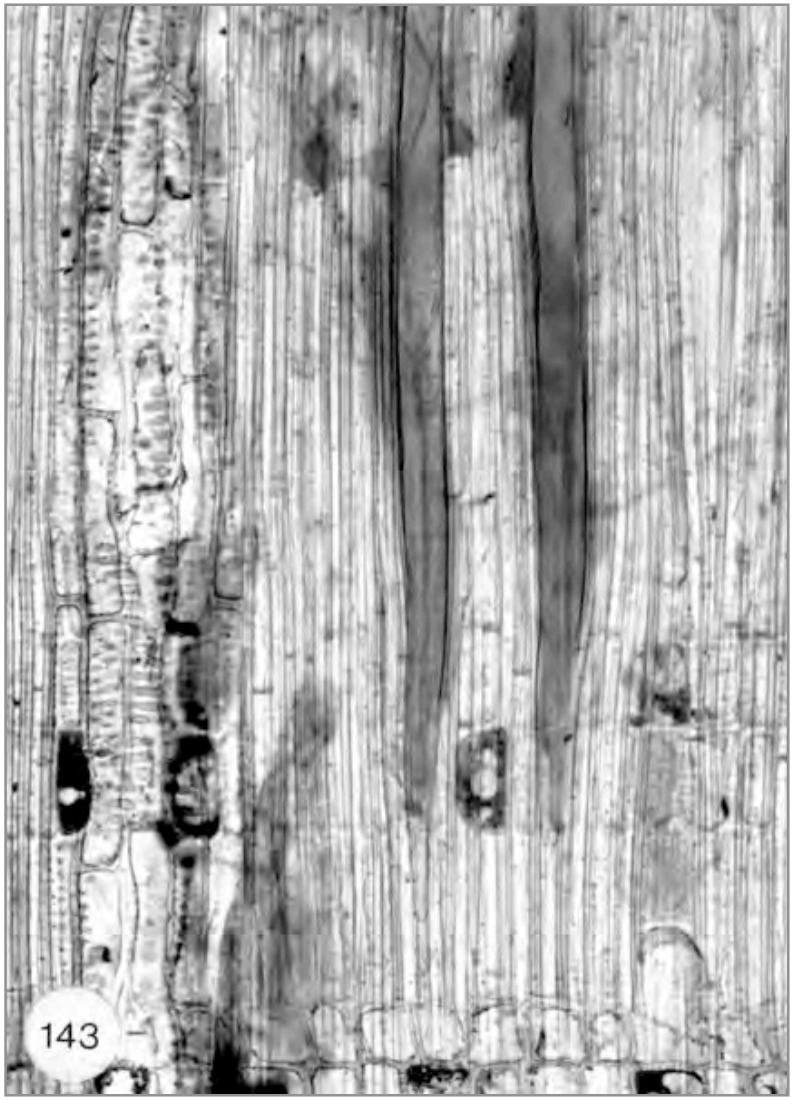
Ocotea glaucinia (Lauraceae)
P.E. Gasson.



Cinnamomum camphorum (Lauraceae) FFPRI, Tsukuba,Japan.
Oil cells in axial parenchyma (arrows), also in ray parenchyma.

Feature 126. Oil and/or mucilage cells present among fibres



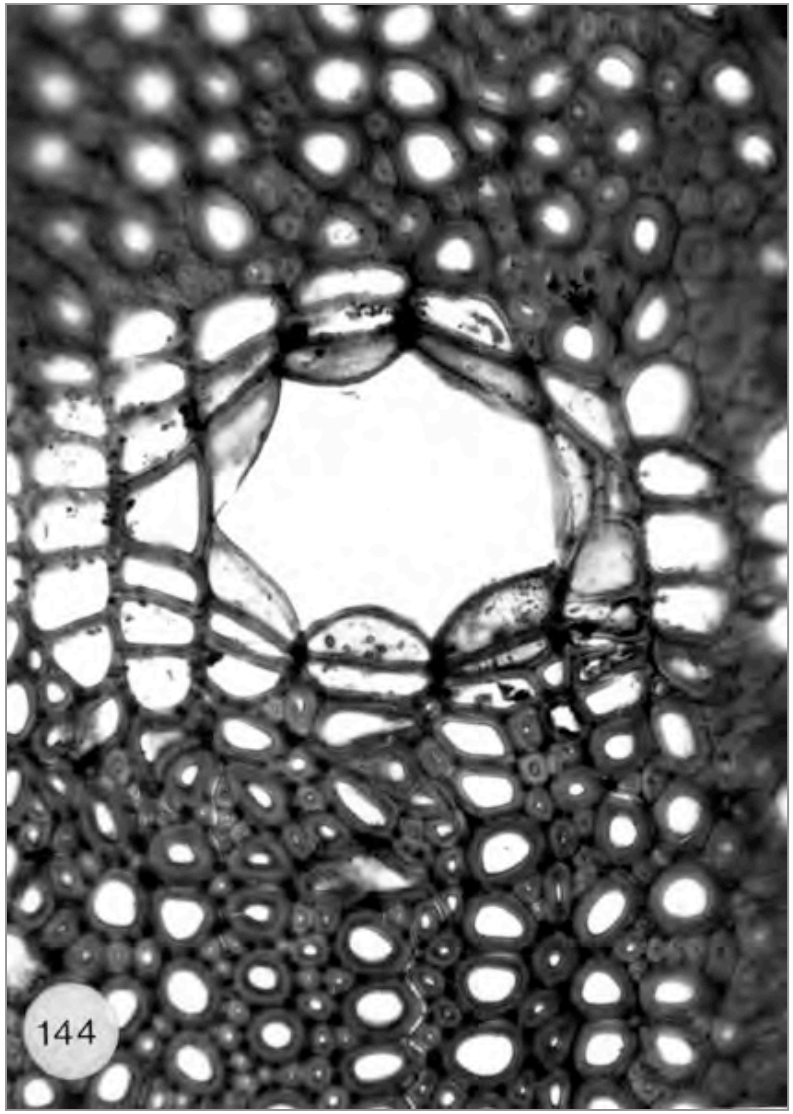


Ocotea tenella (Lauraceae) P.E. Gasson.

INTERCELLULAR CANALS

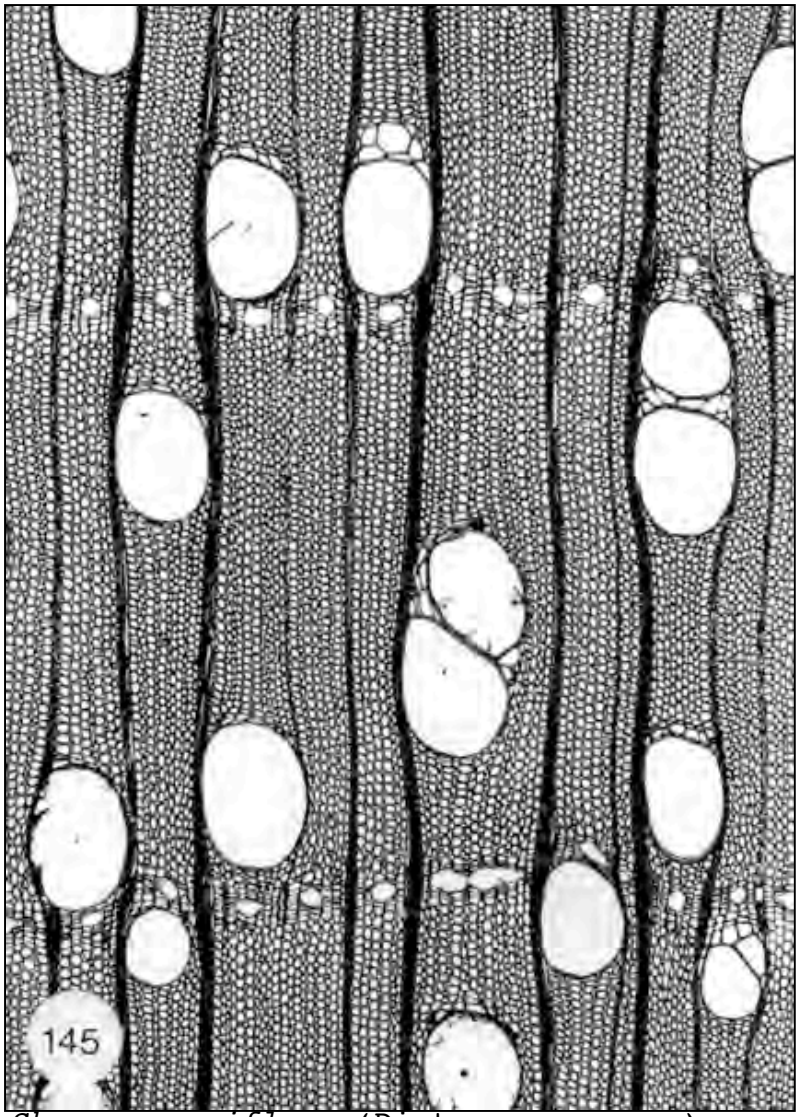
Intercellular canal = a tubular intercellular duct surrounded by an epithelium, generally containing secondary plant products such as resins, gums, etc., secreted by the epithelial cells.

Synonyms: gum duct, resin duct.

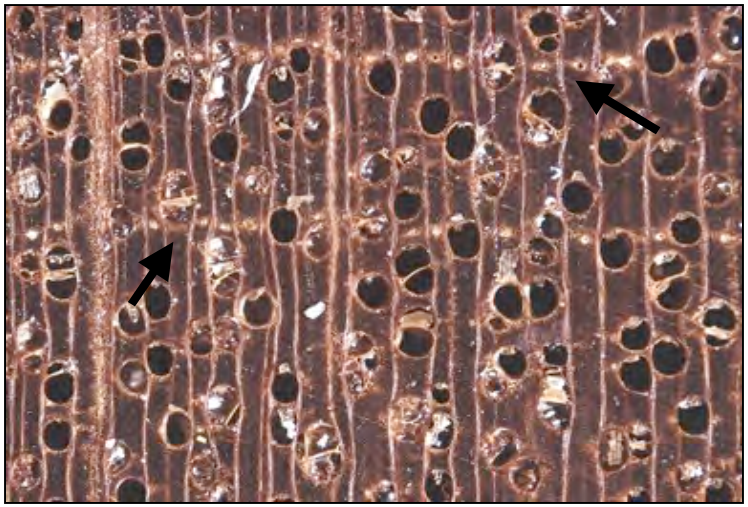


Parashorea smythiesii (Dipterocarpaceae) P.E. Gasson.

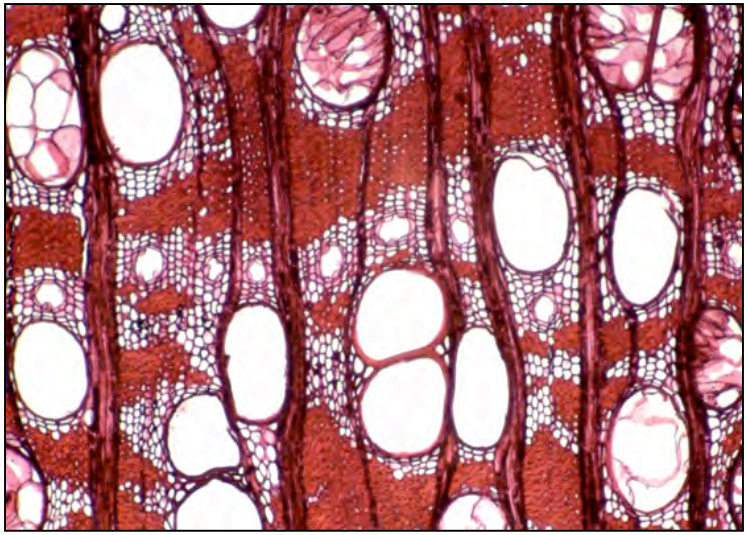
Feature 127. Axial canals in long tangential lines = more than five canals in a line.



Shorea parviflora (Dipterocarpaceae)
K. Ogata

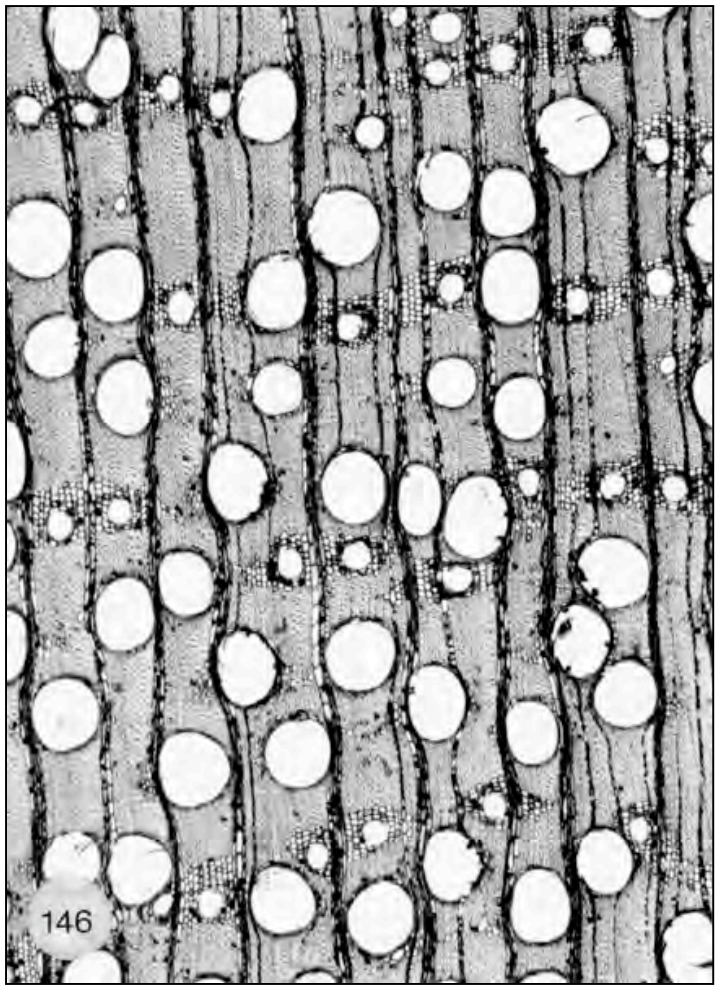


Shorea teysmanniana: L.Y.T. Westra
Hand lens view



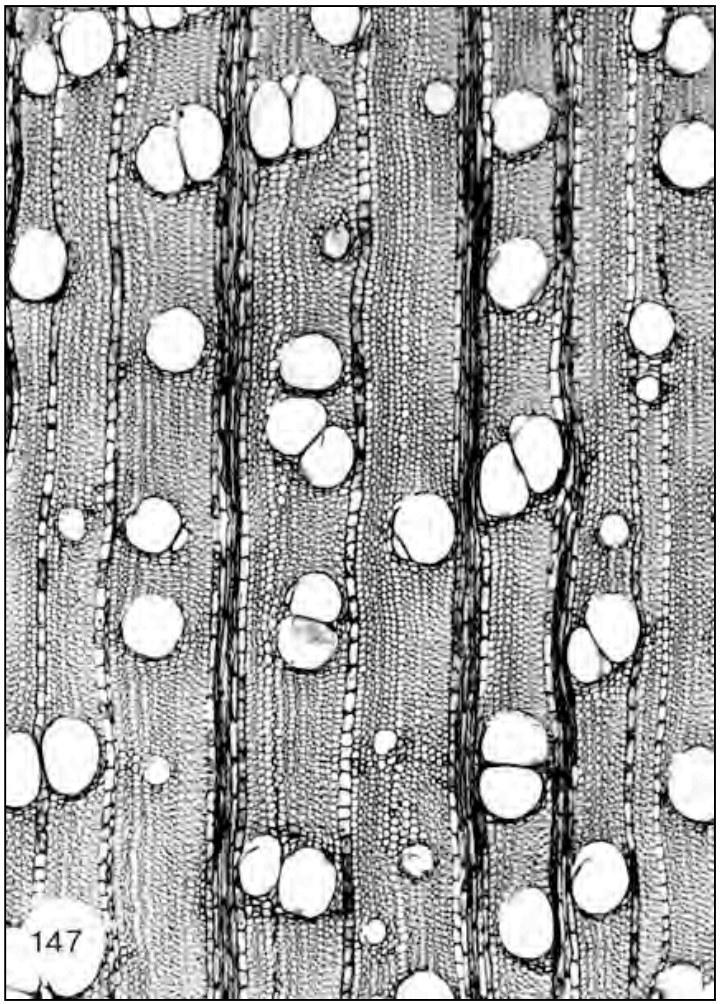
Parashorea stellata: Els Bakker
(Dipterocarpacae)

Feature 128. Axial canals in short tangential lines = two to five canals in a line.



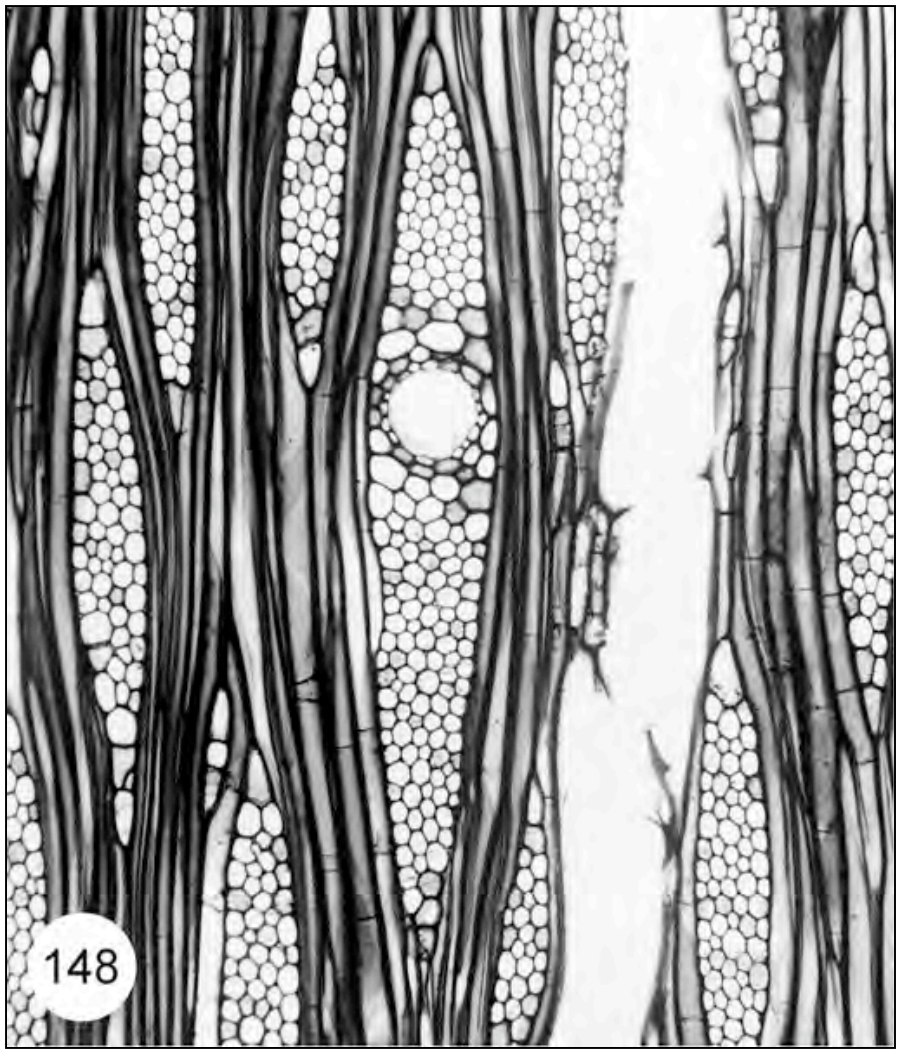
Dipterocarpus grandiflorus: D. Grosser (Dipterocarpacae)

Feature 129. Axial canals diffuse = randomly distributed solitary canals.

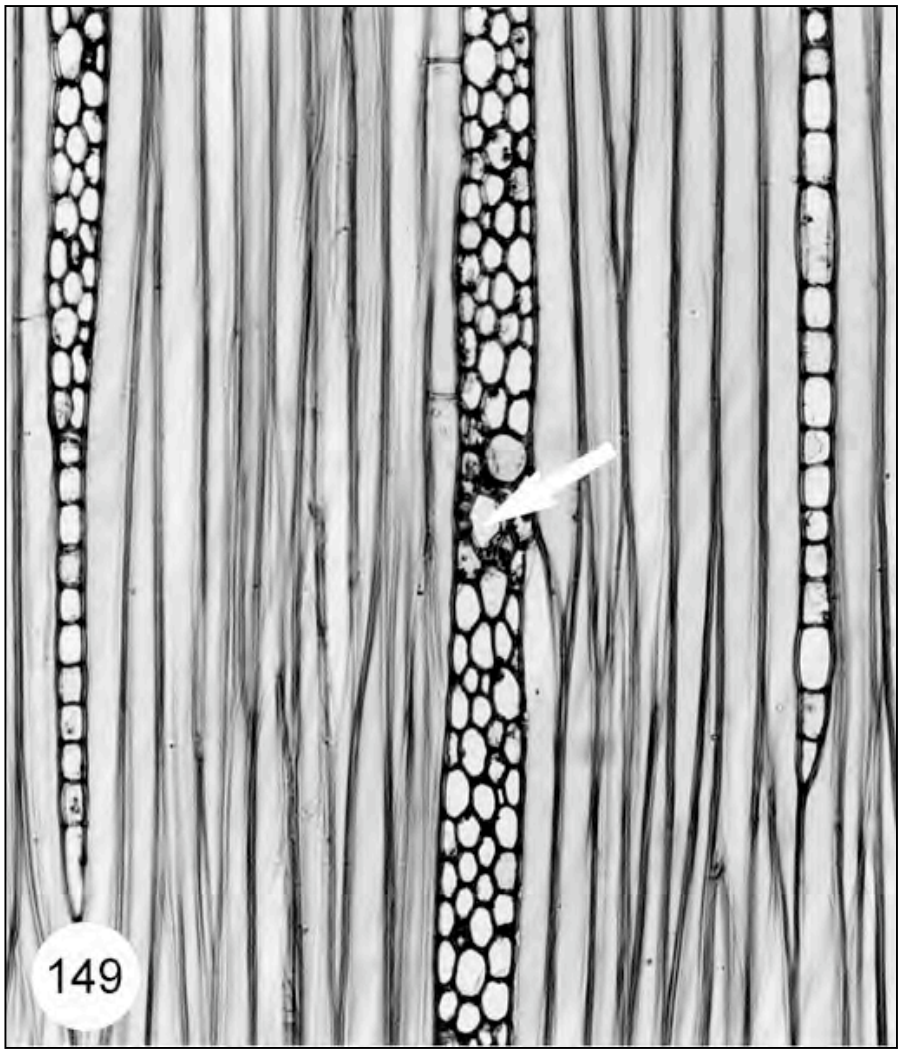


Dipterocarpus grandiflorus: K. Ogata (Dipterocarpacae)

Feature 130. Radial canals = canals present in rays. Synonym: horizontal canals.



Bursera gumminfera: I.W. Bailey, Bailey-Wetmore Laboratory of Plant Anatomy and Morphology. (Burseraceae)

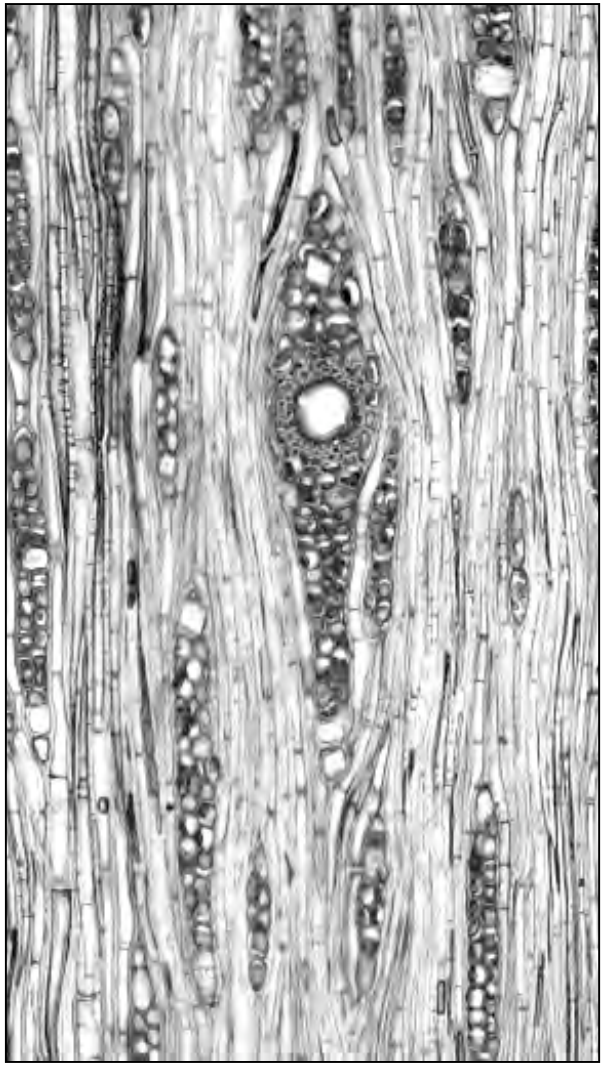


Shorea hopeifolia: K. Ogata (Dipterocarpacae)

Feature 130. Radial canals = canals present in rays.
Synonym: horizontal canals.

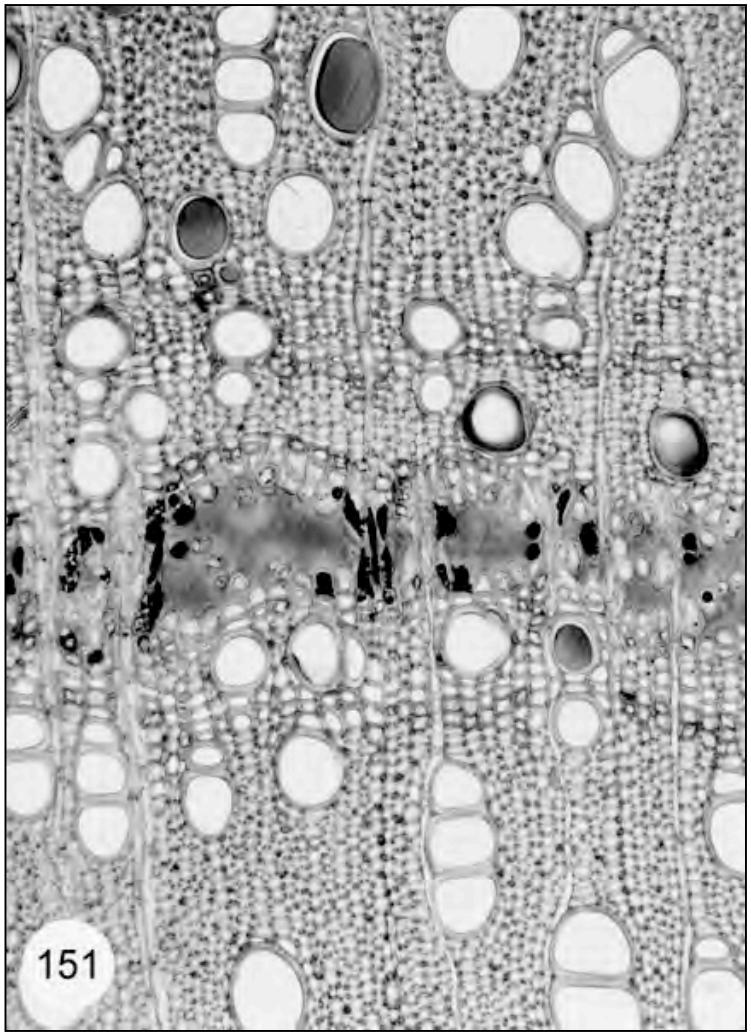
Parashorea smythiesii (Dipterocarpaceae). K. Ogata

Commiphora africana (Burseraceae) P.E. Gasson

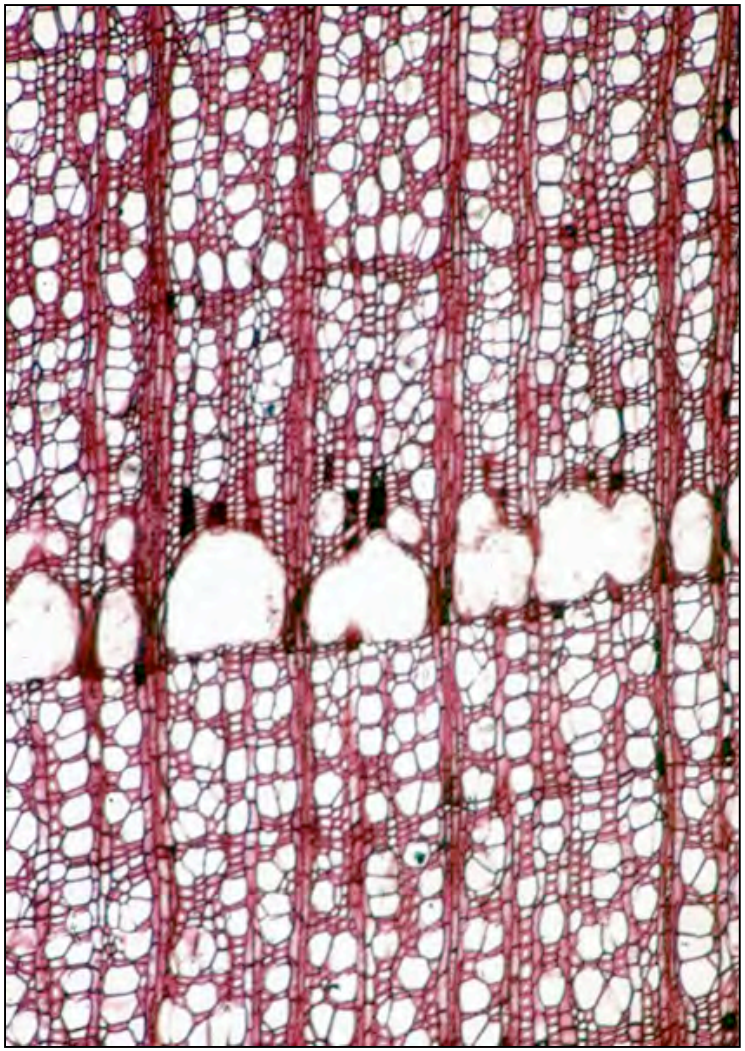


Tetragastris altissima(Burseraceaee) RMCA, Tervuren, Belgium

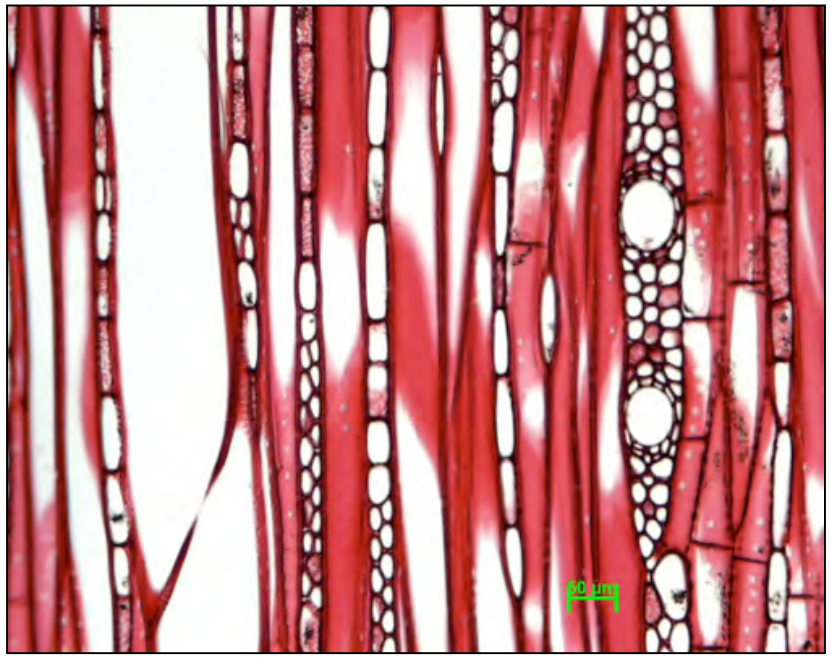
Feature 131. Intercellular canals of traumatic origin = canals formed in response to injury, arranged in tangential bands, generally irregular in outline and closely spaced.

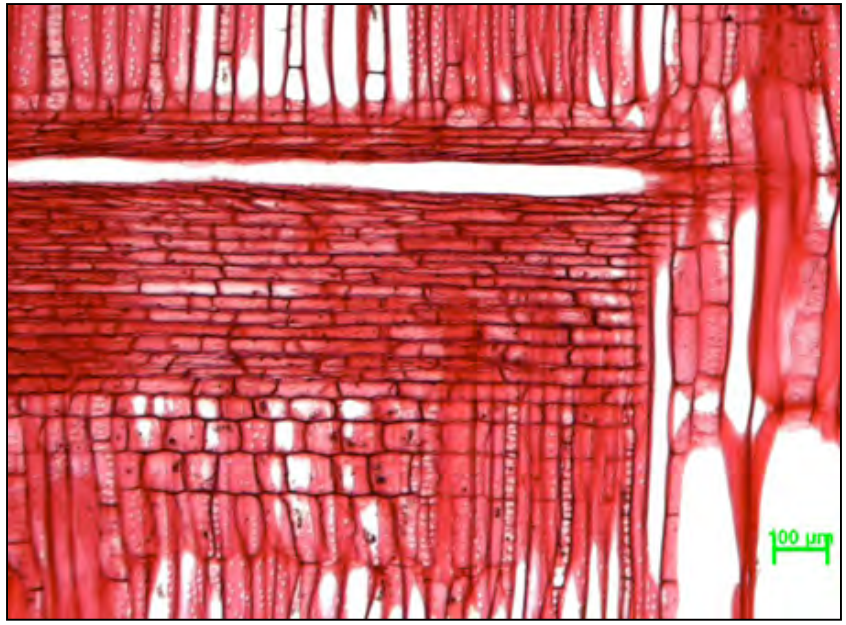


Murraya exotica P.E. Gasson (Rutaceae)



Liquidambar styraciflua (Hamamelidaceae) E.A. Wheeler





Dyera costulata: P.E. Gasson (Apocynaceae)

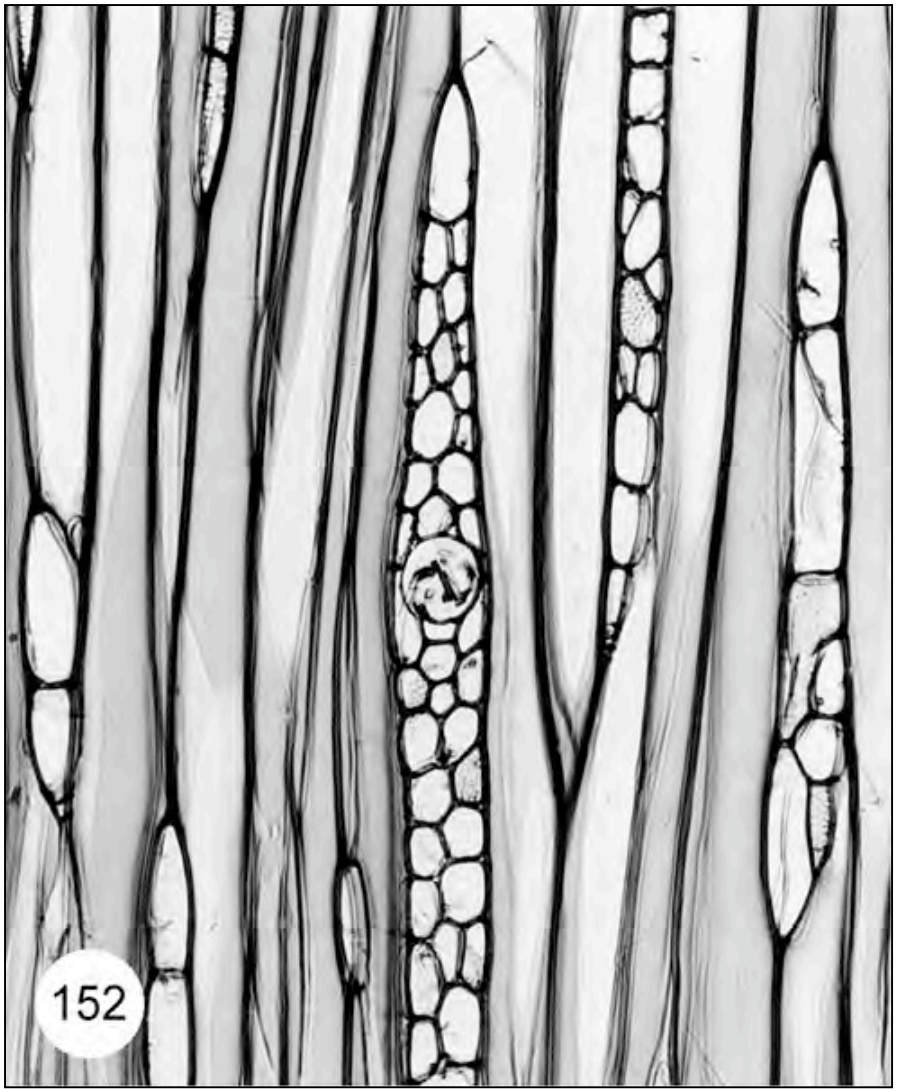
TUBES / TUBULES

Feature 132. Laticifers or tanniferous tubes. Structural differences between the two are minor. Therefore, they are combined into one descriptor.

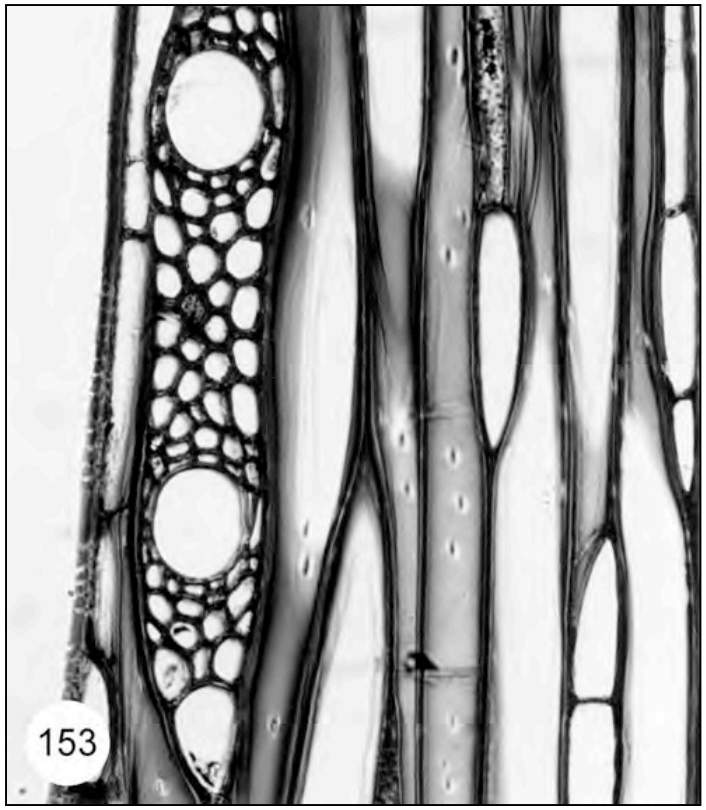
Laticifer = tubes containing latex,the latex may be colourless or light yellow to brown; laticifers may extend radially or axially (axial only known from Moraceae).

Tanniferous tubes = tubes containing tannins, which are reddish-brown, in rays (so far only known from Myristicaceae).

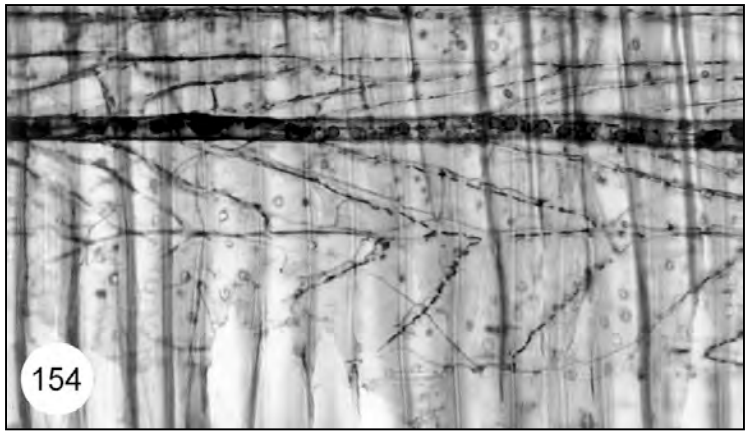
Feature 132. Laticifers or tanniferous tubes.



Alstonia scholaris K. Ogata (Apocynaceae)

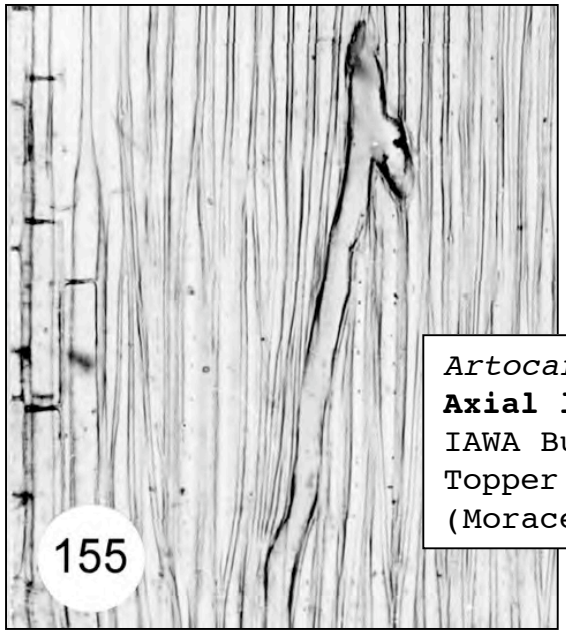


Dyera costulata. Wide laticifers. P.E. Gasson (Apocynaceae)

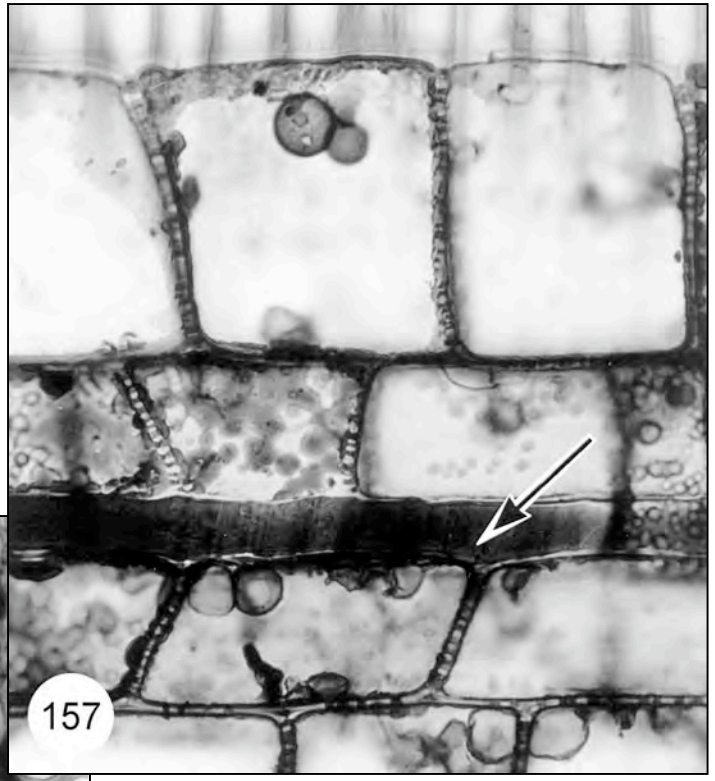


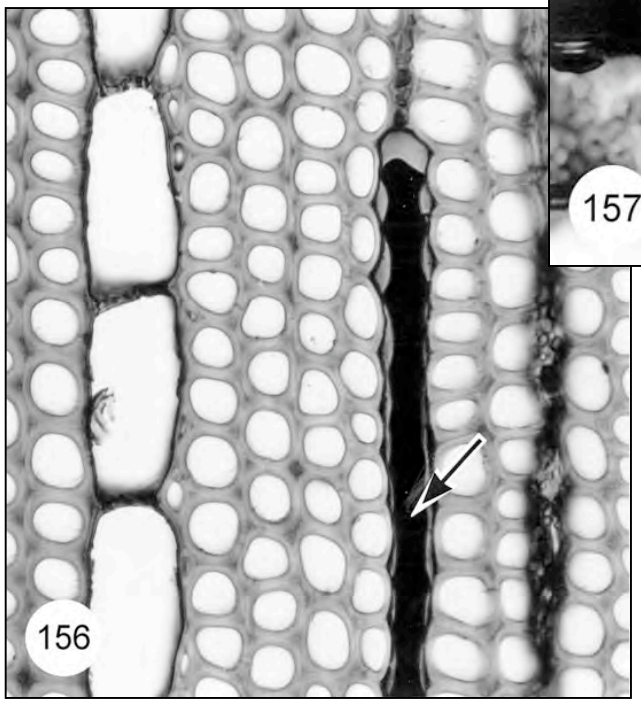
Croton panamensis. P.E. Gasson (Euphorbiaceae)

Feature 132. Laticifers or tanniferous tubes.



Artocarpus communis, **Axial laticifer** IAWA Bull.1980. Topper & Koek-Noorman (Moraceae)

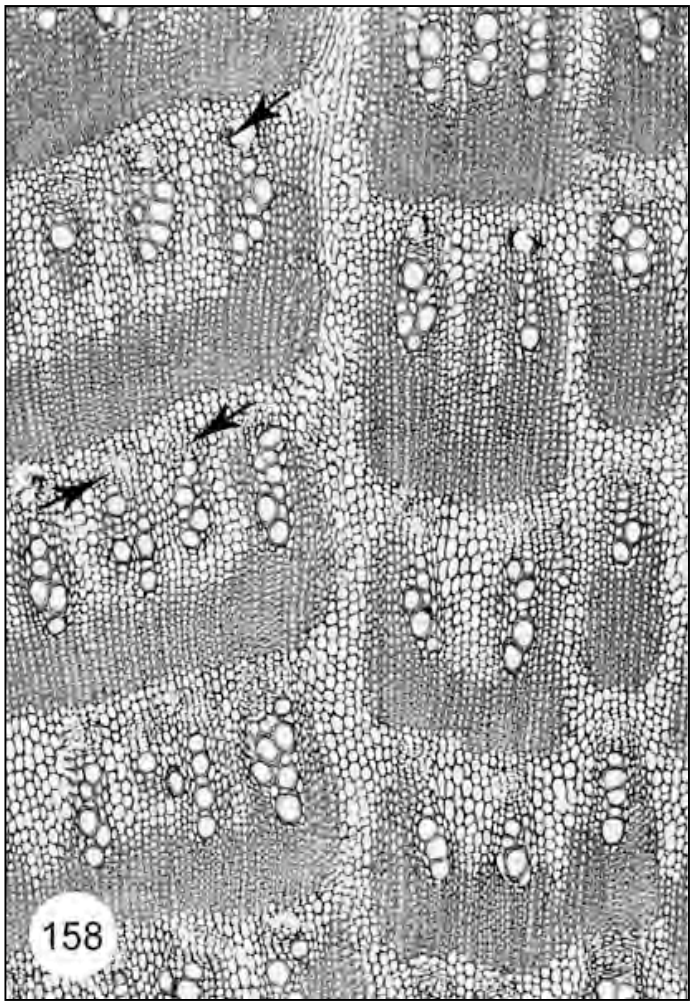




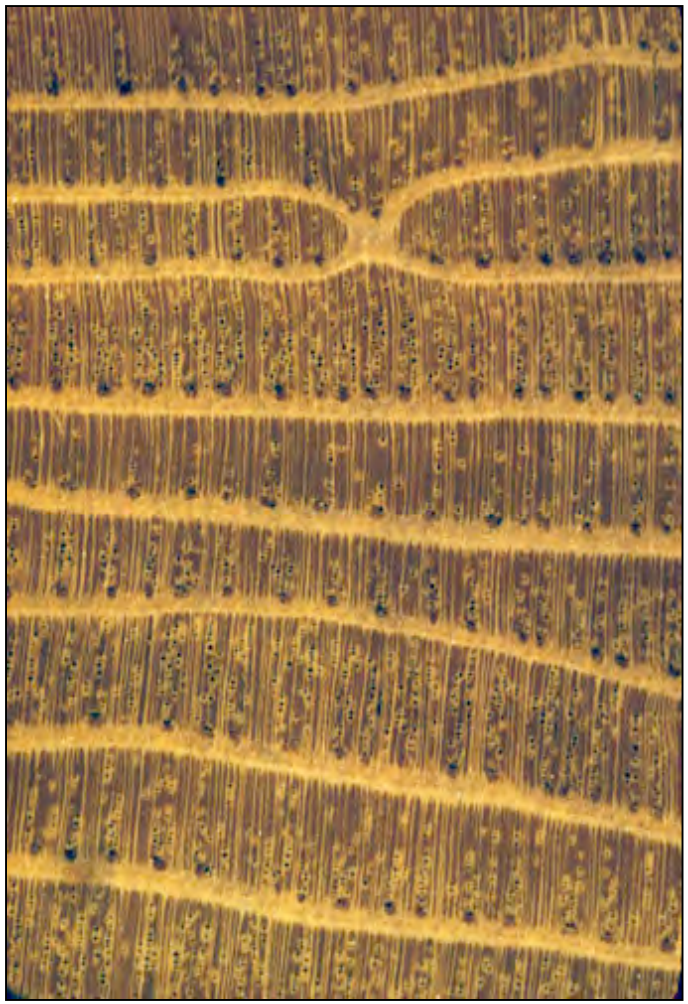
Horsfieldia subglobosa. **Tanniferous tube.** P.E. Gasson (Myristicaceae)

CAMBIAL VARIANTS

Feature 133. Included phloem, concentric = phloem strands in tangential bands altrnating with zones of xylem and/or conjunctive tissue.

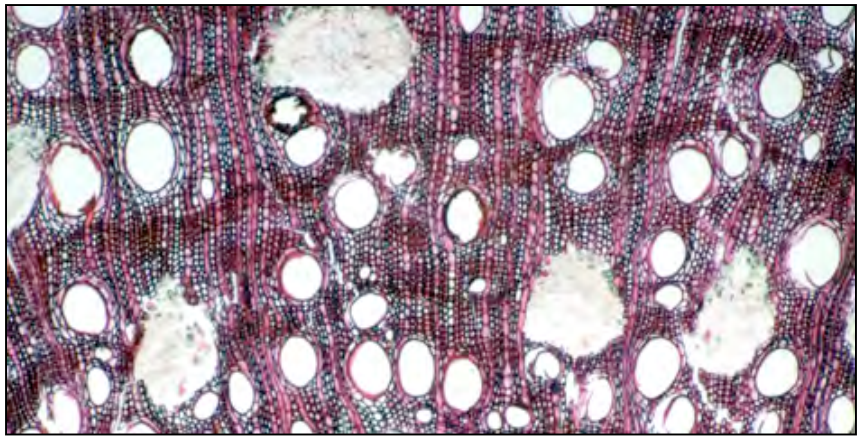


Suaeda monoica (Chenopodiaceae) D. Grosser

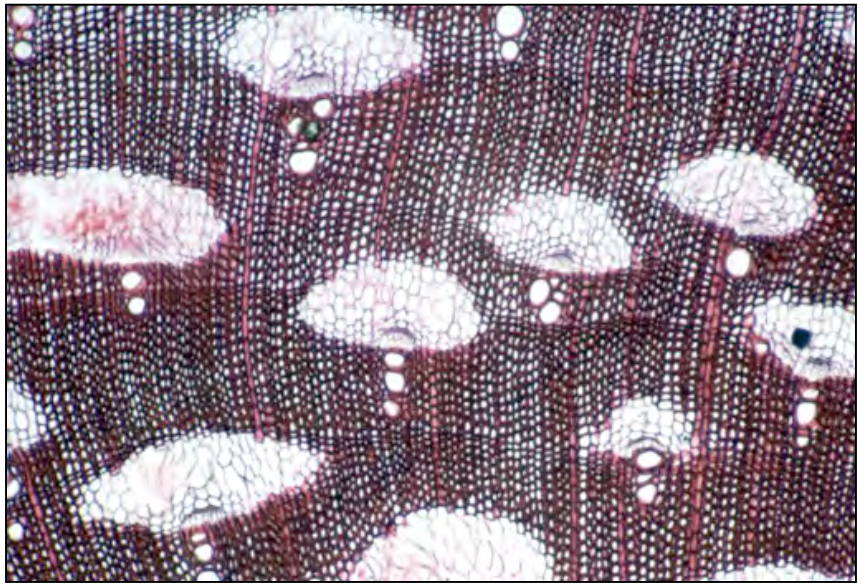


Avicennia sp. (Avicenniaceae) W. Bryan Handlens View

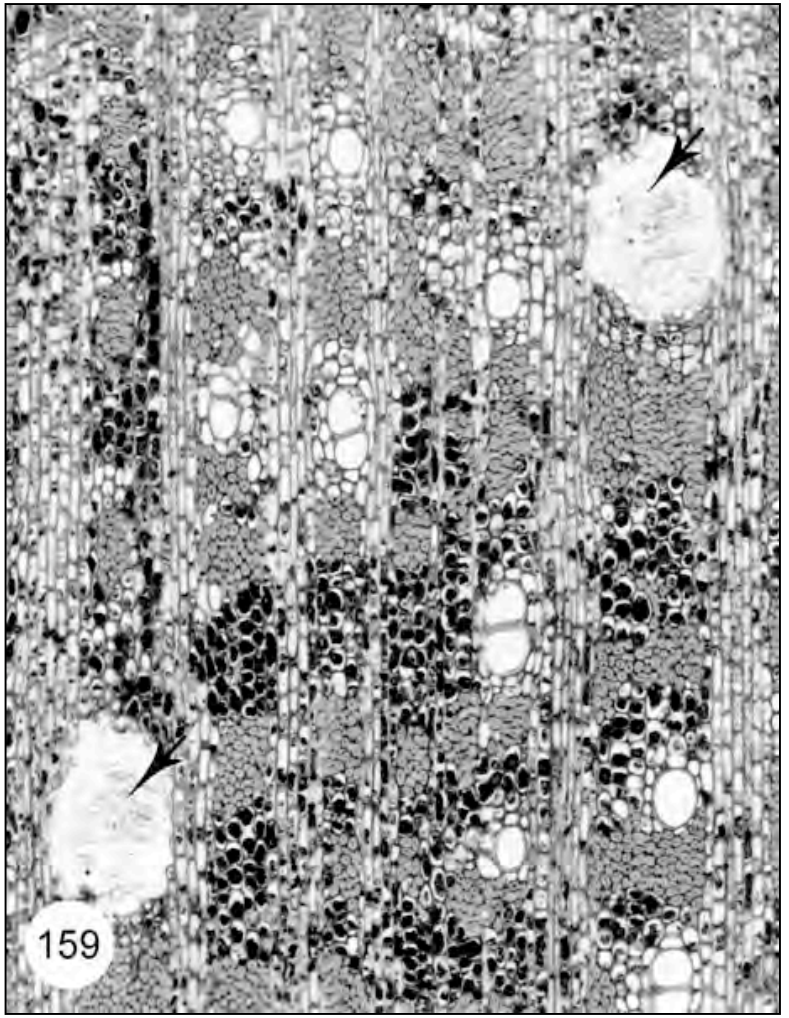
Feature 134. Included phloem, diffuse = scattered, isolated phloem strands. The phloem strands may be surrounded by parenchyma or imperforate elements.



Cheiloclinium serratum (Celastraceae) M.E. Bakker

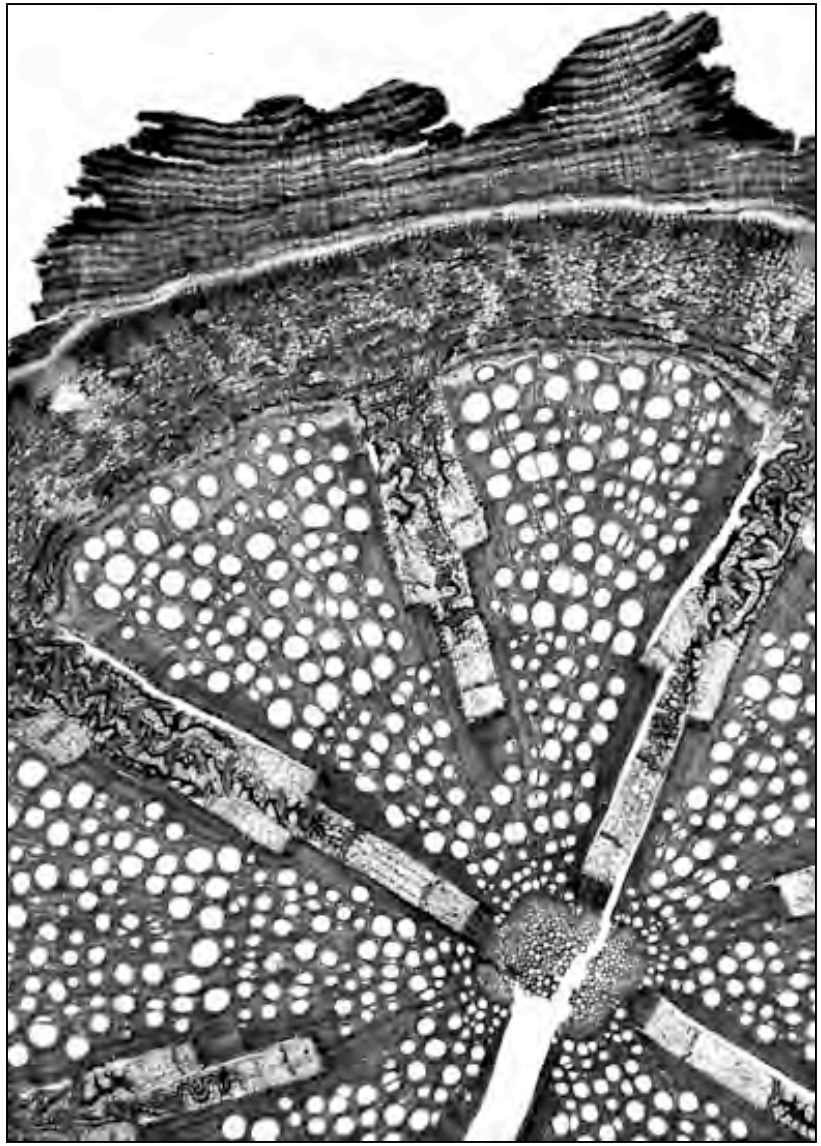


Neea mollis (Nyctaginaceae) M.E. Bakker



Strychnos nux-vomica (Loganiaceae) P.E. Gasson

Feature 135. Other cambial variants = category for a variety of cambial variants including axes elliptical, flattened and furrowed in cross section; axes with lobed or furrowed xylem; fissured xylem; compound, divided, corded and cleft xylem masses.



Macfadyena unguis-cati. P.E. Gasson