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Title

90. Pearsall Ecuadorian Comparative Wood Reference Collection: Scanning Electron Micrographs of Charred Samples (Part 2)

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Pearsall Ecuadorian Comparative Wood Reference Collection: Scanning Electron Micrographs of Charred Samples 2022

McCown Archaeobotany Laboratory Report #90

Part 2 of 2

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Berkeley
UNIVERSITY OF CALIFORNIA



**ARCHAEOLOGICAL
RESEARCH
FACILITY**



Methodology

1. Samples were collected for the National Science Foundation project "Human Ecology in the Jama River Valley" by James Ziedler & Deborah Pearsall (Principal Investigators) during October-December 1982, March-April 1988, January 1990, August 1991. All sample numbering and identifications are from this original collection and can be found at <https://www.tropicos.org/person/35870>. The EWC notation in front of a sample number refers to the "Ecuador Wood Collection."
2. Charred wood specimen were fractured in order to view a flat surface of the transverse, tangential, and radial anatomical views. This fracture was either done by hand with a 'snapping' motion or using slight pressure from a knife or blade under the view of a WILD M3B stereomicroscope (6x-40x) in the McCown Archaeobotany Laboratory. The reverse side of the specimen was then shaved down flat so that each piece could be positioned appropriately.
3. Specimen were fixed onto an aluminum ½" slotted head mount (Ted Pella Prod No. 16111) using PELCO Colloidal Graphite (Ted Pella Prod No. 16053).
4. Samples were imaged using a TM-1000 Environmental Scanning Electron Microscope at the University of California's Archaeological Research Facility.
5. Generally, images were recorded for each anatomical view at 50x, 100x, and 200x magnifications. Vessel wall texture images were recorded anywhere between 500x and 1000x, depending on the size of the feature.
6. Anatomical measurements recorded for each hardwood specimen include:
 - a. vessel size, frequency, arrangement, and presence of tyloses, gum, or resin,
 - b. ray thickness and frequency,
 - c. parenchyma type, and
 - d. porosity.
7. Anatomical measurements followed the modern hardwood feature descriptions by the IAWA.
 - a. (InsideWood. 2004-onwards. Published on the Internet. <http://insidewood.lib.ncsu.edu/search>).
8. After imaging, all specimen were returned to their original storage boxes.

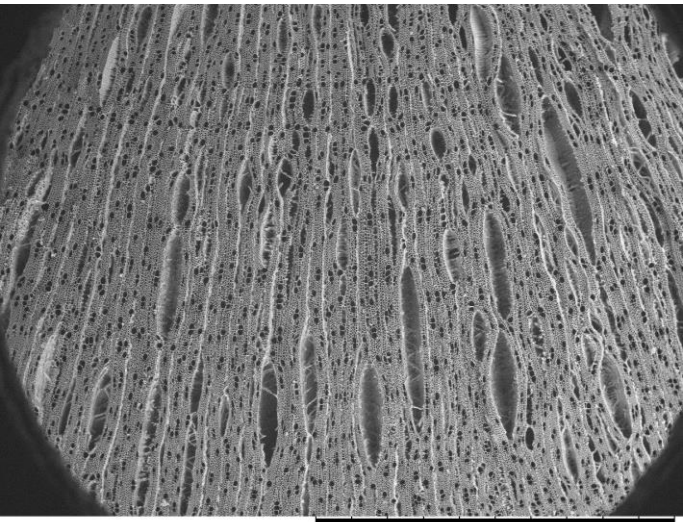
EWC 1648 Unknown Identification

Vessels
Size: <50µm
Freq.: 100+
Arrangement: solitary, pairs ,chains
Tyloses: absent

Rays:
per mm: 12+
Thickness (cells): 1 to 3
Parenchyma Type: Vascentric,
Unilateral
Porosity: diffuse

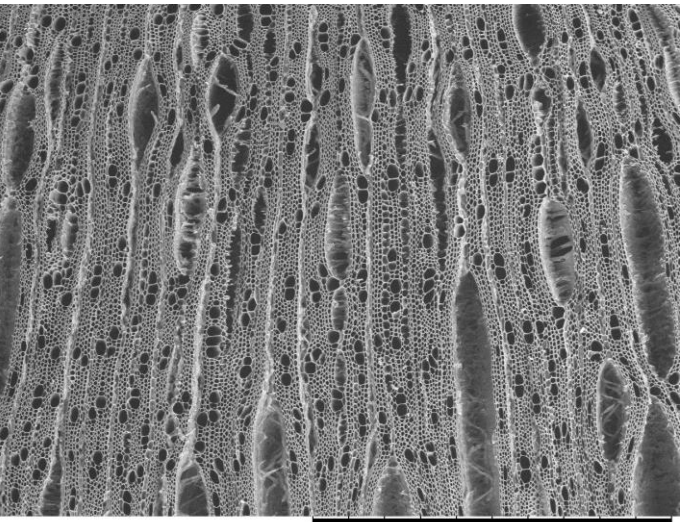
Common Name: "negrito"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



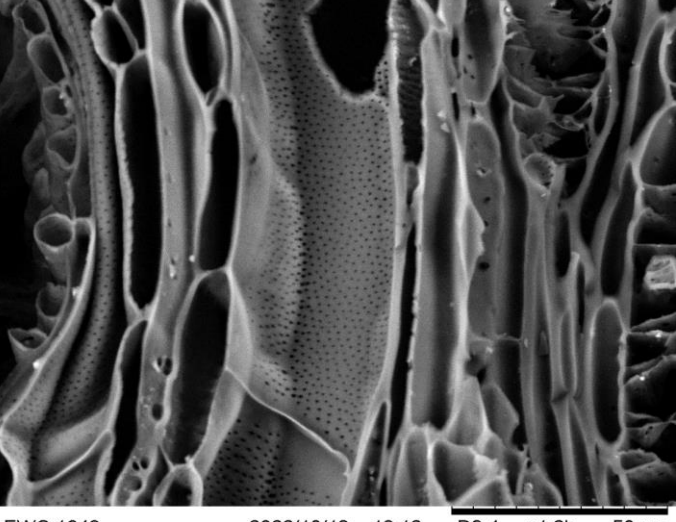
EWC 1648 2022/10/13 17:52 D2.8 x50 2 mm

Transverse 100x



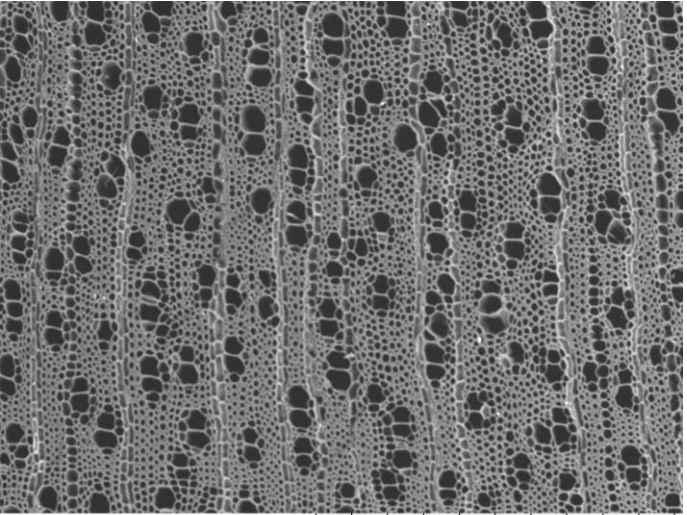
EWC 1648 2022/10/13 17:51 D2.8 x100 1 mm

Vessel Wall



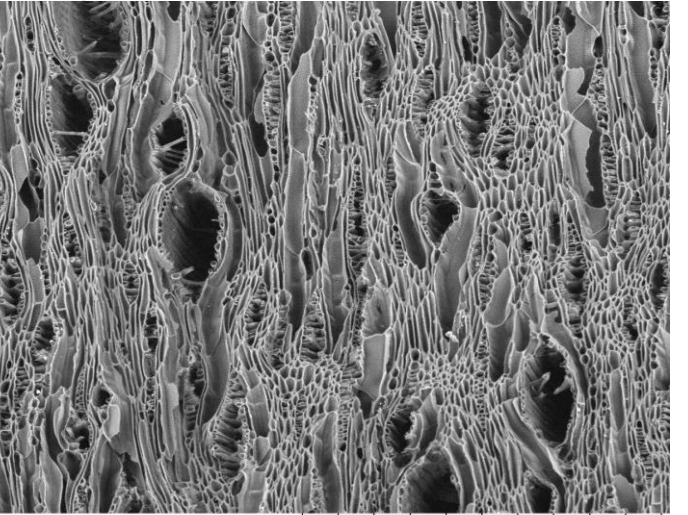
EWC 1648 2022/10/13 18:12 D3.4 x1.2k 50 µm

Transverse 200x



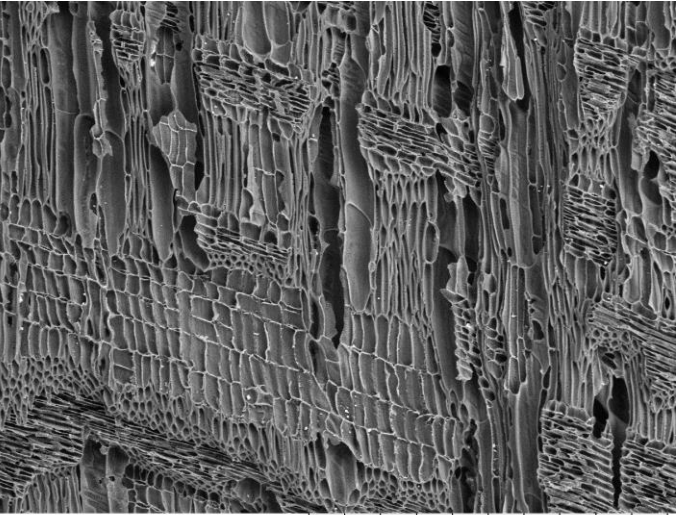
EWC 1648 2022/10/13 17:58 D2.8 x200 500 µm

Tangential



EWC 1648 2022/10/13 18:09 D3.4 x200 500 µm

Radial



EWC 1648 2022/10/13 18:04 D3.5 x200 500 µm

EWC 1649 FABACEAE Pithecellobium

Vessels

Size: 50-100µm
Freq.: 5 to 20
Arrangement: solitary, chains
Tyloses: common

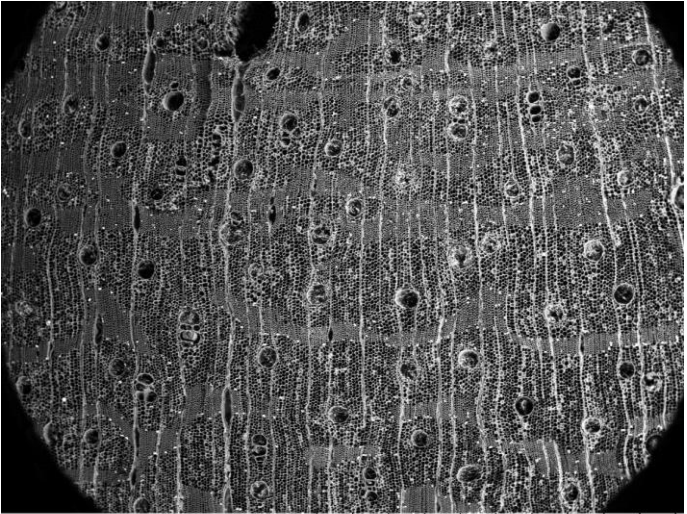
Rays:

per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Vascentric,
confluent, thick bands
Porosity: diffuse

Common Name:

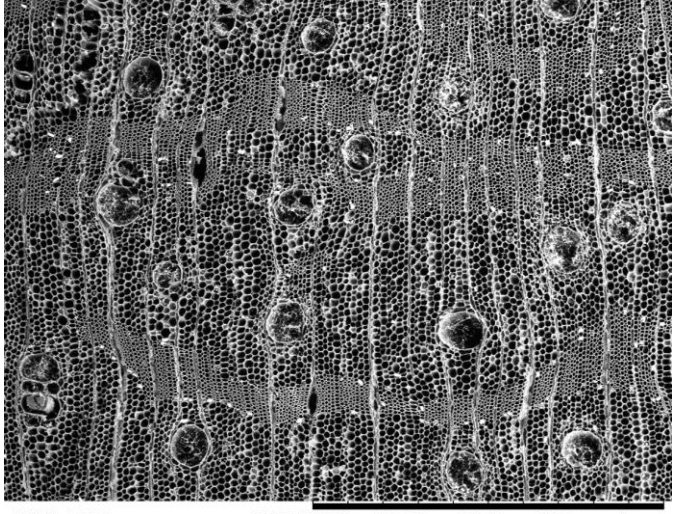
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



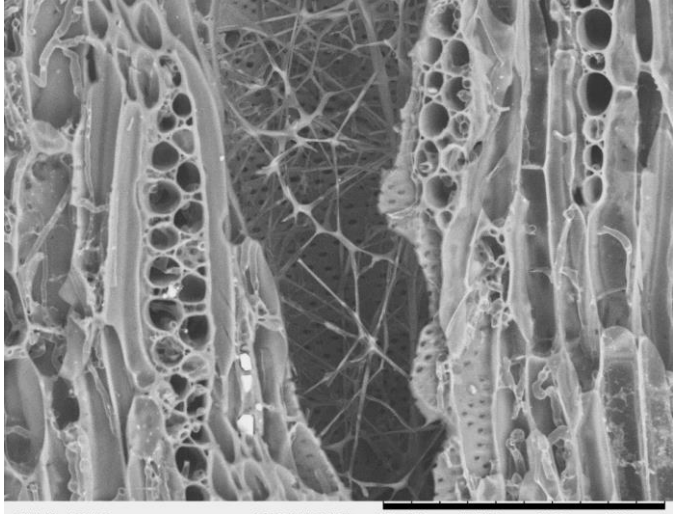
EWC 1649 2022/10/13 18:17 D2.9 x50 2 mm

Transverse 100x



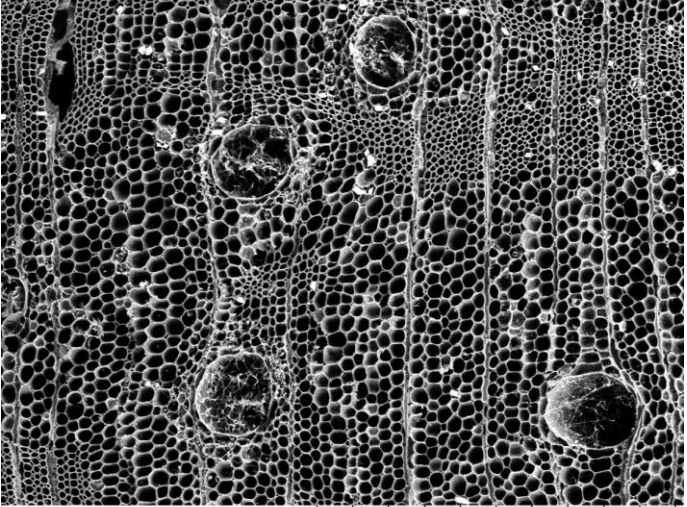
EWC 1649 2022/10/13 18:18 D2.9 x100 1 mm

Vessel Wall



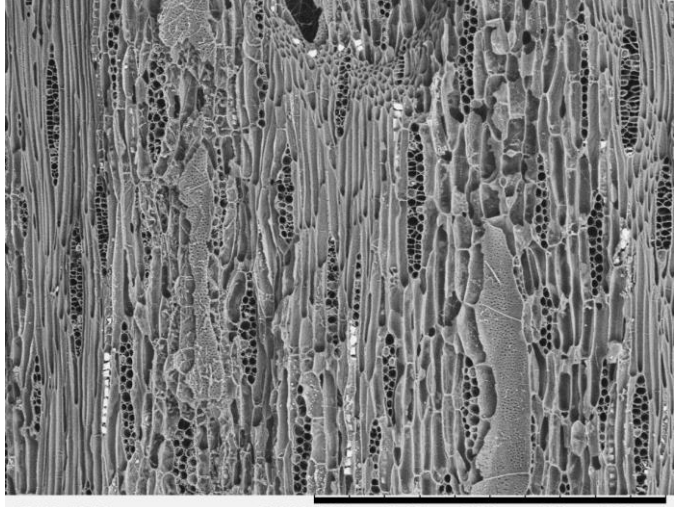
EWC 1649 2022/10/20 17:09 D5.8 x800 100 µm

Transverse 200x



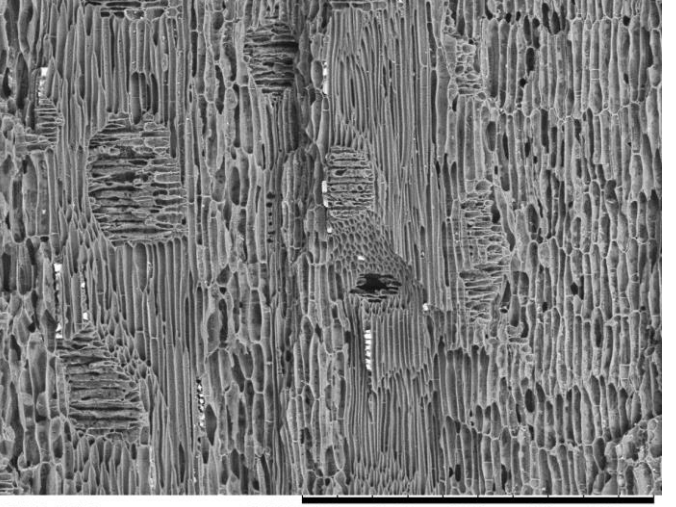
EWC 1649 2022/10/13 18:20 D2.9 x200 500 µm

Tangential



EWC 1649 2022/10/20 17:07 D5.8 x200 500 µm

Radial



EWC 1649 2022/10/20 17:12 D5.8 x200 500 µm

EWC 1650 BIGNONIACEAE *Crescentia cujete* L.

Common Name: "Mate"

Elevation: 20 m

Description: Relatively small understory tree with gourd-like fruits. .

Location: Ecuador, Manabí, Jama

Locality: Jama, Area 2: Approximately 1 km SW of Jama. Collected from a farm in the Jama River Valley. Jama topo map 1:50,000, cuadrícula (block) N77 E81.

Vessels

Size: <50µm, 50-100µm

Freq.: 20 to 40, 40 to 100

Arrangement: solitary, pairs

Tyloses: absent

Porosity: semi-ring porous

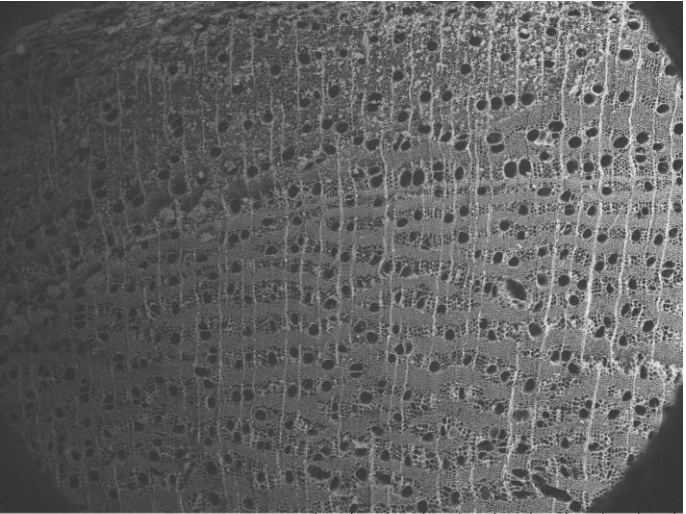
Rays:

per mm: 4-12

Thickness (cells): 1 to 3

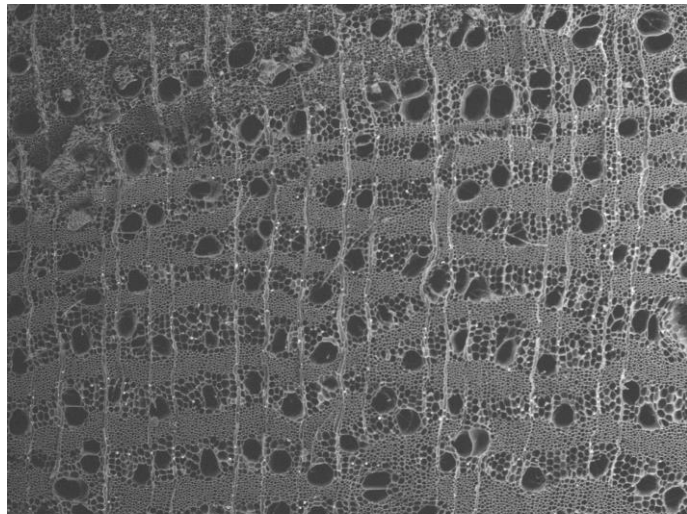
Parenchyma Type: Banded (thick), Vascentric (confluent), Diffuse-in-aggregates

Transverse 50x



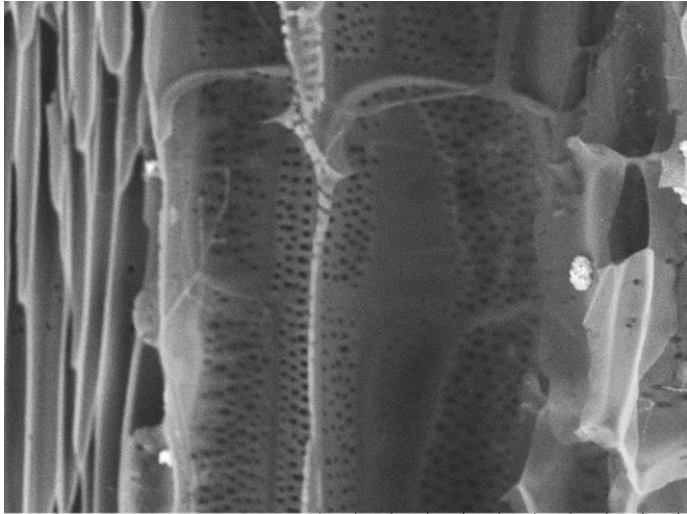
EWC 1650 2022/09/22 22:36 L D3.2 x50 2 mm

Transverse 100x



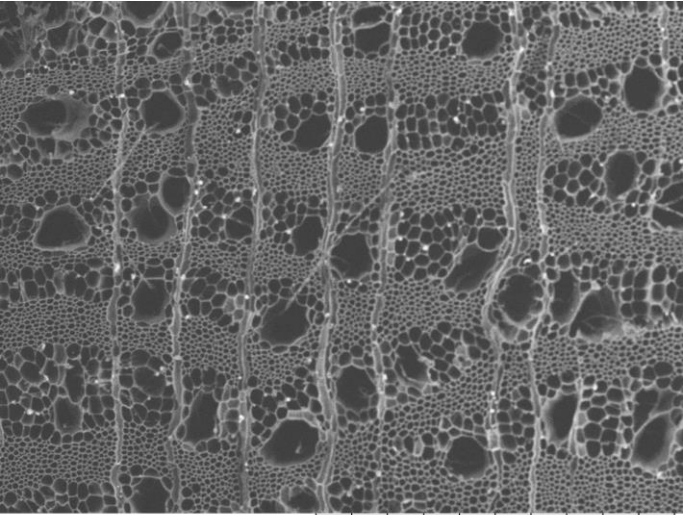
EWC 1650 2022/09/22 22:37 L D3.2 x100 1 mm

Vessel Wall



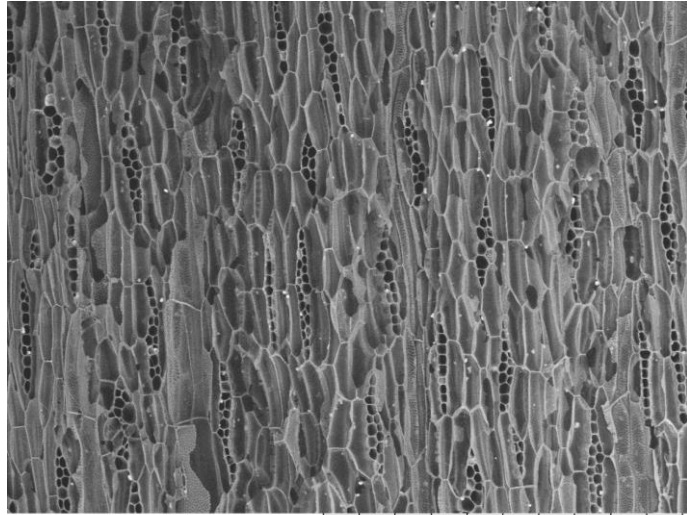
EWC 1650 2022/09/22 22:25 L D4.4 x1.0k 100 µm

Transverse 200x



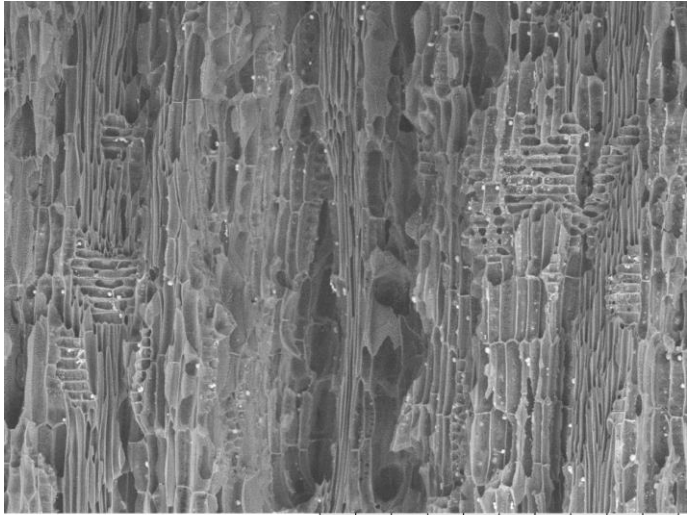
EWC 1650 2022/09/22 22:38 L D3.2 x200 500 µm

Tangential



EWC 1650 2022/09/22 22:29 L D4.6 x200 500 µm

Radial



EWC 1650 2022/09/22 22:20 L D4.4 x200 500 µm

EWC 1651 MUNTINGIACEAE *Muntingia calabura* L.

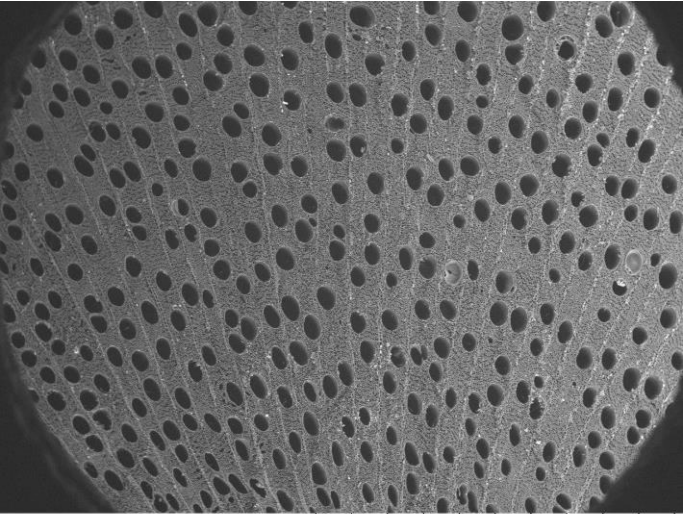
Common Name: "Frutillo"
Elevation: 20 m

Vessels
Size: 50-100µm, 100-200µm
Freq.: 20-40
Arrangement: exclusively solitary
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 4+
Parenchyma Type: Banded (thin),
Diffuse-in-aggregates
Porosity: diffuse

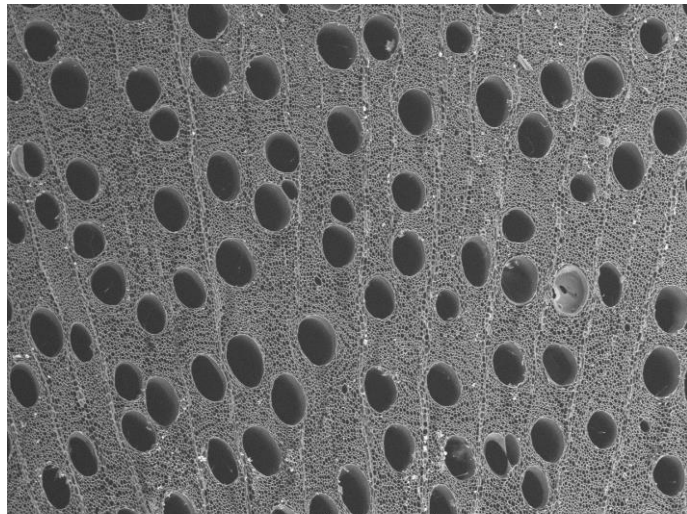
Description: Large upperstory tree with white flrs and a purple edible berries (~1cm diam.).
Location: Ecuador, Manabí, Jama
Locality: Jama, Area 2: Approximately 1 km SW of Jama. Collected from a farm in the Jama River Valley. Jama topo map 1:50,000, cuadrícula (block) N77 E81.

Transverse 50x



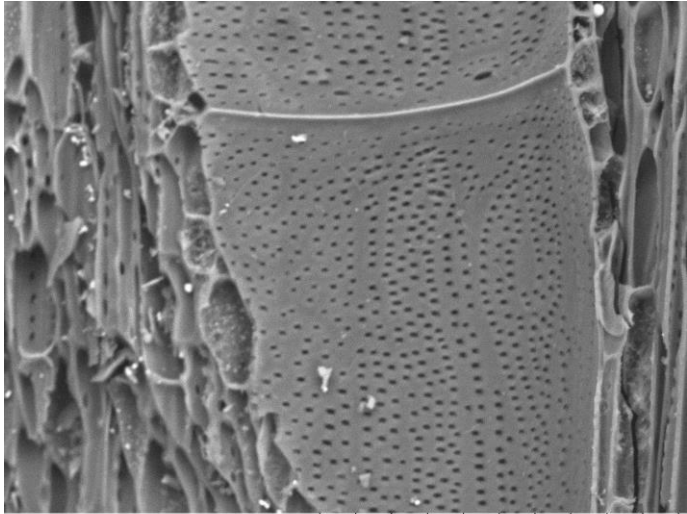
EWC 1651 2022/10/14 10:10 D2.6 x50 2 mm

Transverse 100x



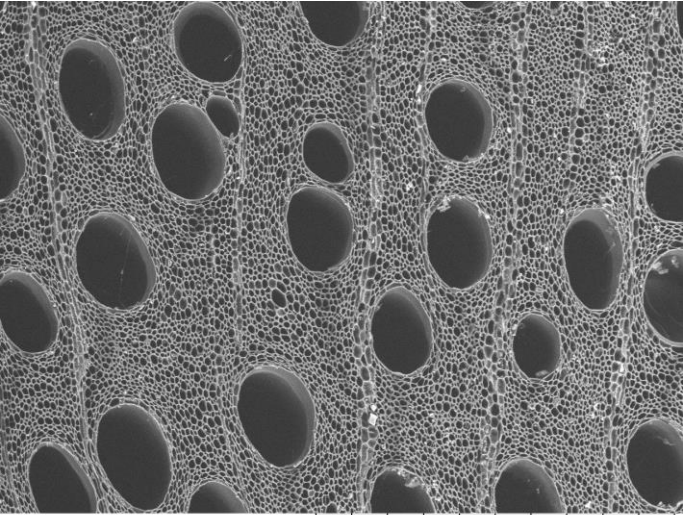
EWC 1651 2022/10/14 10:11 D2.6 x100 1 mm

Vessel Wall



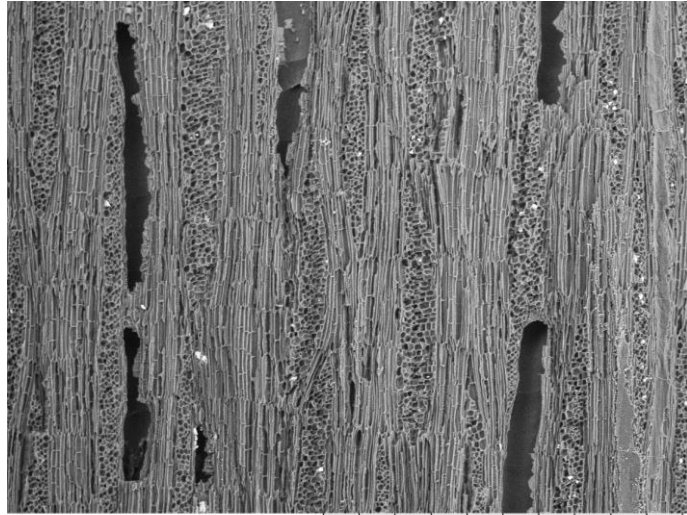
EWC 1651 2022/10/14 10:23 D4.1 x1.0k 100 um

Transverse 200x



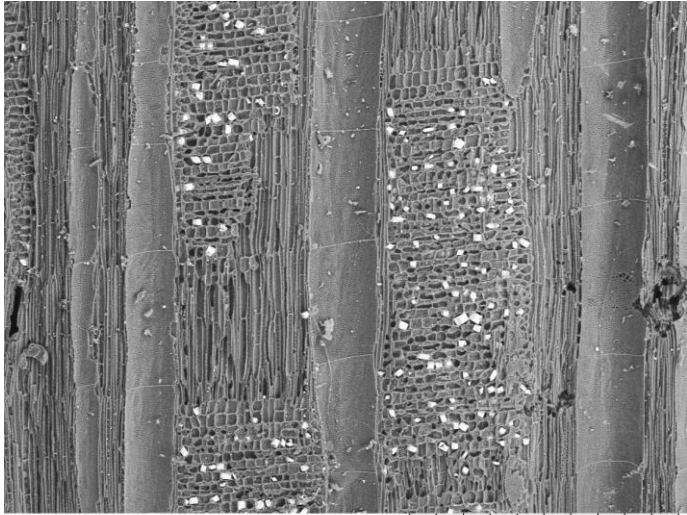
EWC 1651 2022/10/14 10:12 D2.6 x200 500 um

Tangential



EWC 1651 2022/10/14 10:15 D4.0 x100 1 mm

Radial



EWC 1651 2022/10/20 09:44 D5.0 x150 500 um

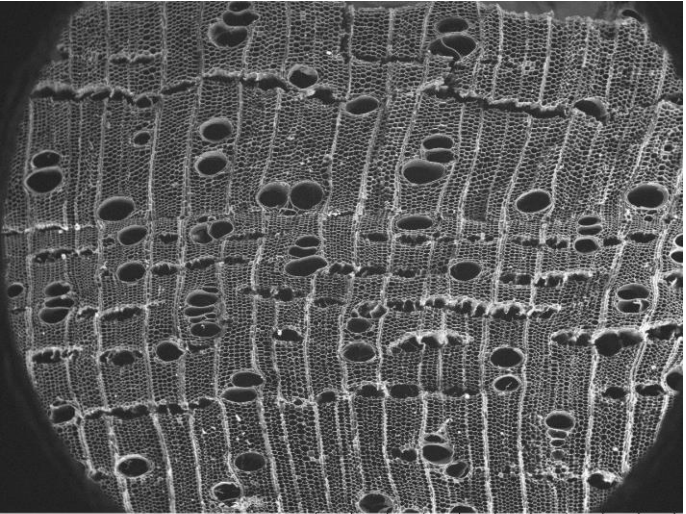
EWC 1652 BIXACEAE Cochlospermum vitifolium (Willd.) Spreng.

Vessels
Size: 50-100µm, 100-200µm, 200+µm
Freq.: 20 to 40
Arrangement: solitary, pairs, chains
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3, 4+
Parenchyma Type: Vascentric (unilateral), Diffuse-in-aggregates
Porosity: diffuse

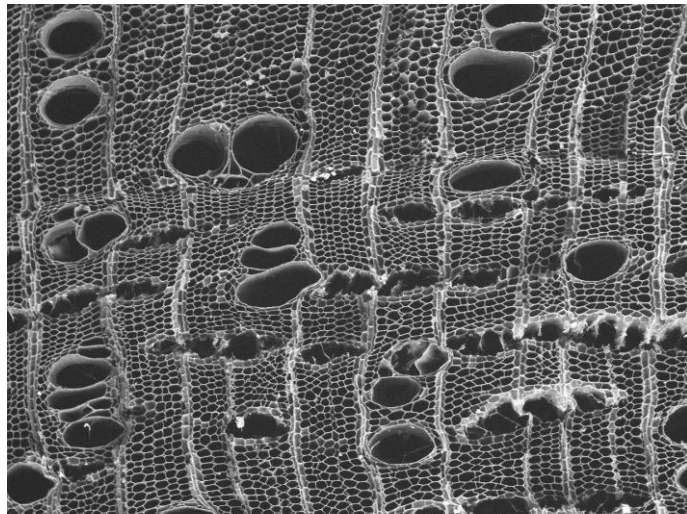
Common Name: "Bototillo"
Elevation: 20 m
Description: Upper canopy tree.
Location: Ecuador, Manabí, Jama
Locality: Jama, Area 2: Approximately 1 km SW of Jama. Collected from a farm in the Jama River Valley. Jama topo map 1:50,000, cuadrícula (block) N77 E81.

Transverse 50x



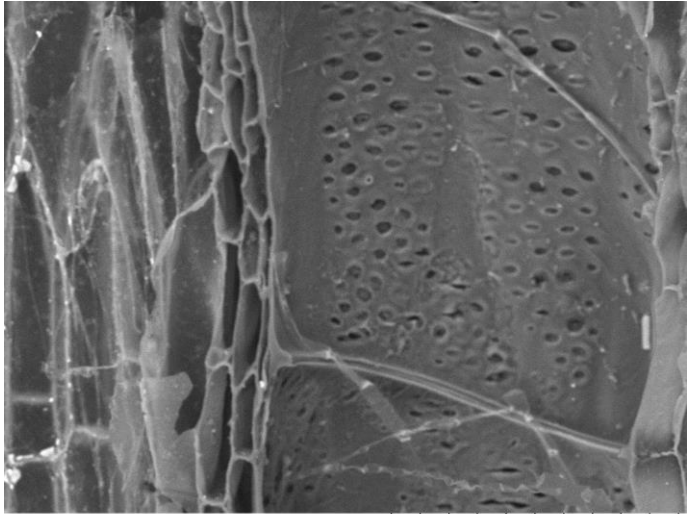
EWC 1652 2022/10/14 10:26 D2.5 x50 2 mm

Transverse 100x



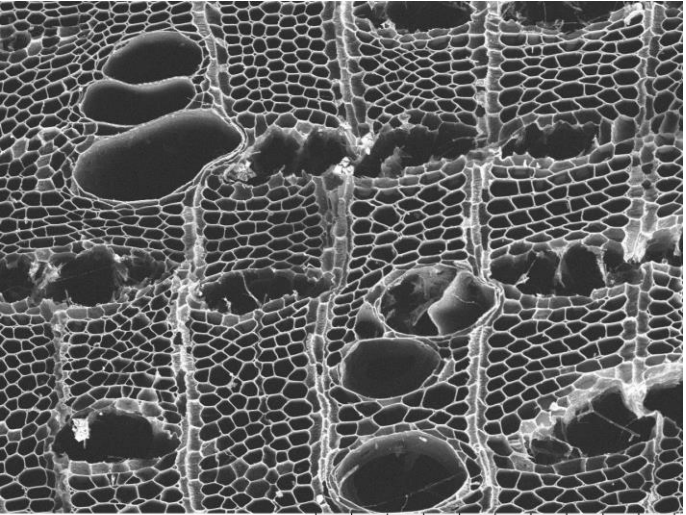
EWC 1652 2022/10/14 10:27 D2.5 x100 1 mm

Vessel Wall



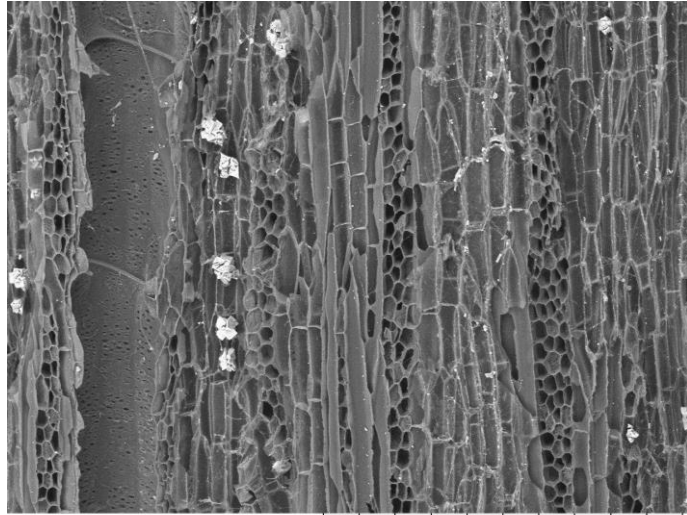
EWC 1652 2022/10/14 10:37 D4.3 x800 100 µm

Transverse 200x



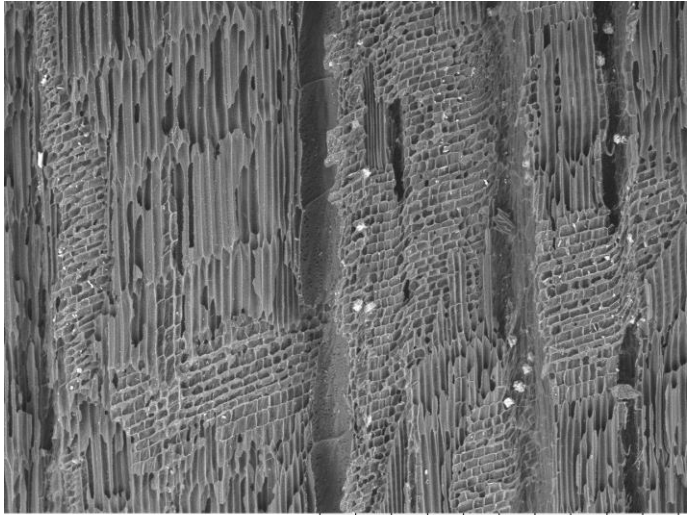
EWC 1652 2022/10/14 10:28 D2.5 x200 500 µm

Tangential



EWC 1652 2022/10/14 10:36 D4.3 x200 500 µm

Radial



EWC 1652 2022/10/14 10:31 D4.2 x100 1 mm

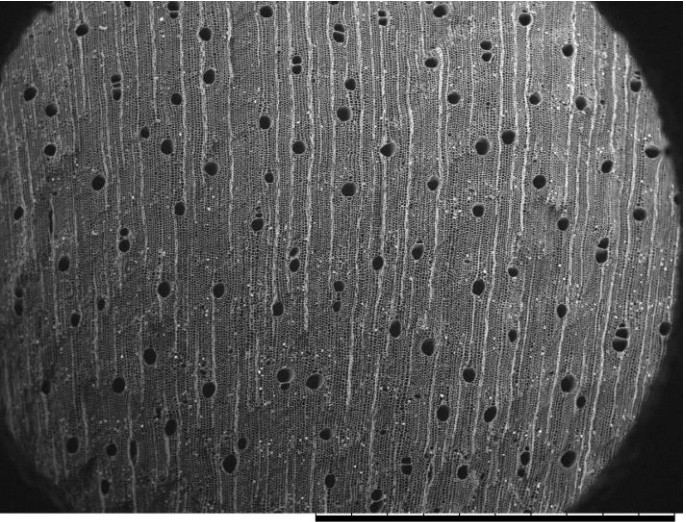
EWC 1653 Unknown Identification

Vessels
Size: <50µm, 50-100µm
Freq.: 5-20
Arrangement: solitary, pairs, chains
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Absent, Scanty,
Vasicentric (unilateral)
Porosity: diffuse

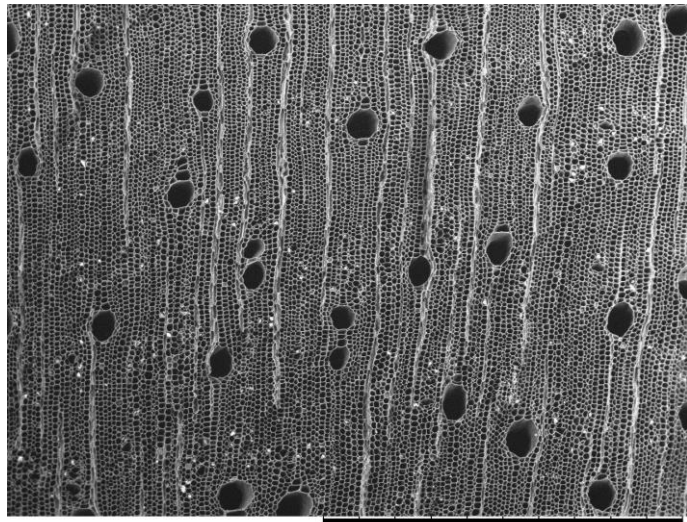
Common Name: "muchina"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



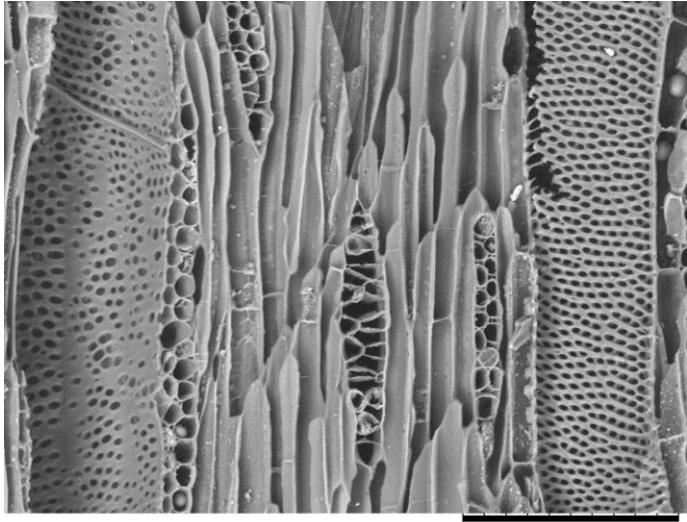
EWC 1653 2022/10/14 10:59 D2.6 x50 2 mm

Transverse 100x



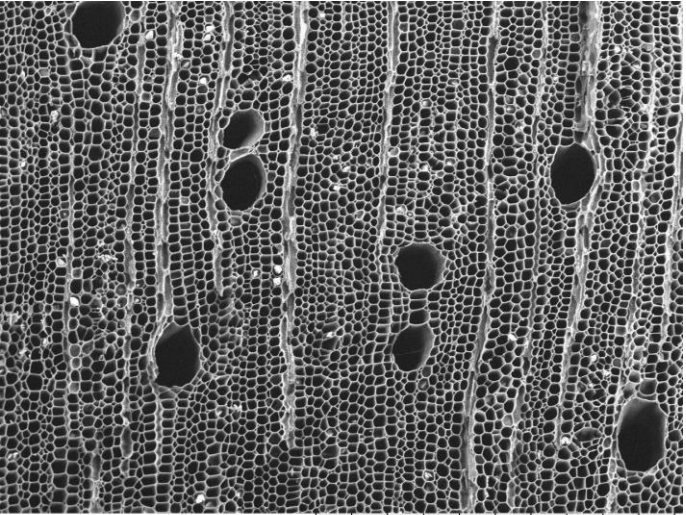
EWC 1653 2022/10/14 11:00 D2.6 x100 1 mm

Vessel Wall



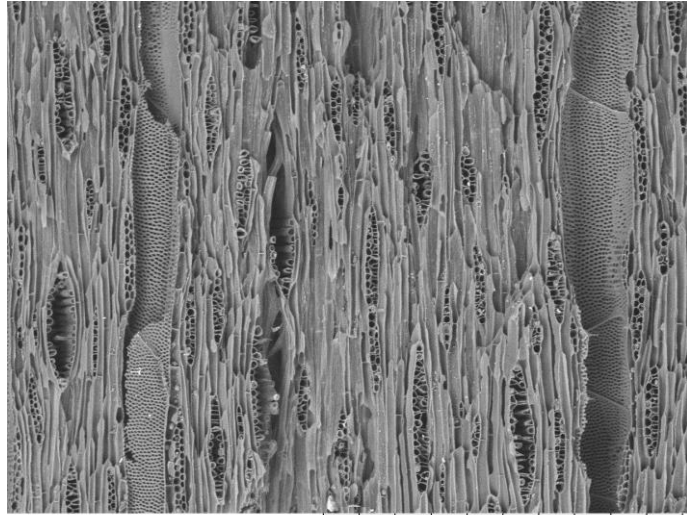
EWC 1653 2022/10/20 09:50 D5.5 x600 100 um

Transverse 200x



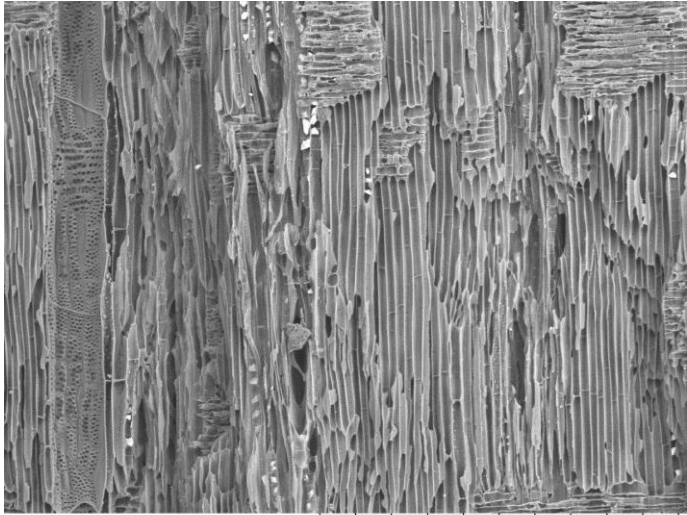
EWC 1653 2022/10/14 11:01 D2.6 x200 500 um

Tangential



EWC 1653 2022/10/20 09:48 D5.3 x200 500 um

Radial



EWC 1653 2022/10/14 11:04 D4.1 x200 500 um

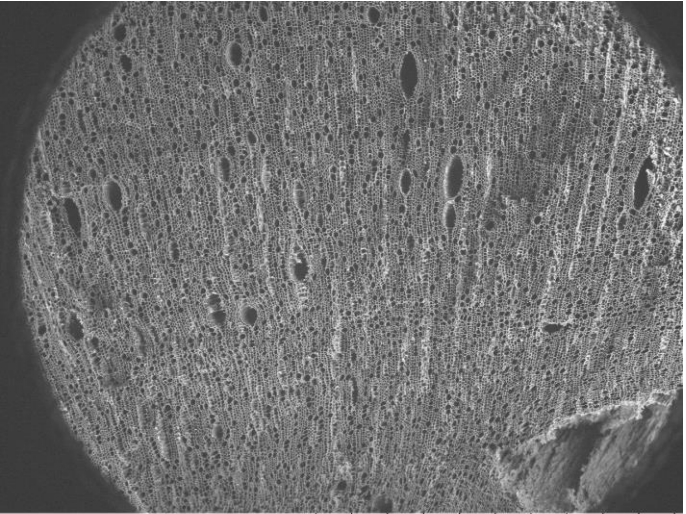
EWC 1656 Unknown Identification

Vessels
Size: <50-100µm
Freq.: 40-100, 100+
Arrangement: solitary
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Absent, Scanty,
Diffuse
Porosity: diffuse, semi-ring porous

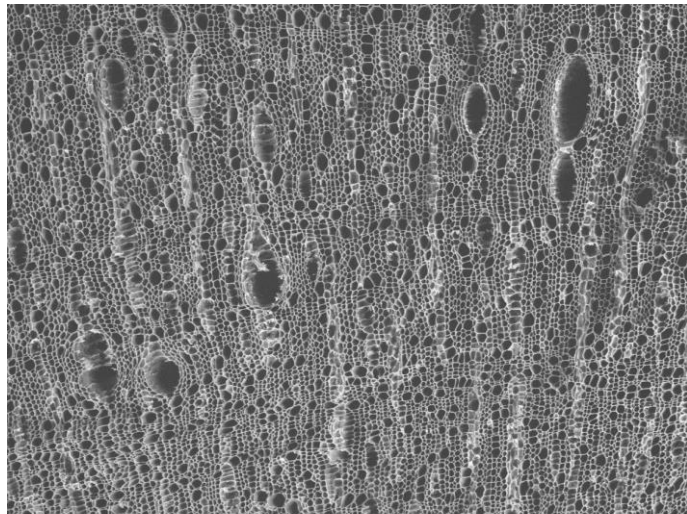
Common Name: "lengua de vaca"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



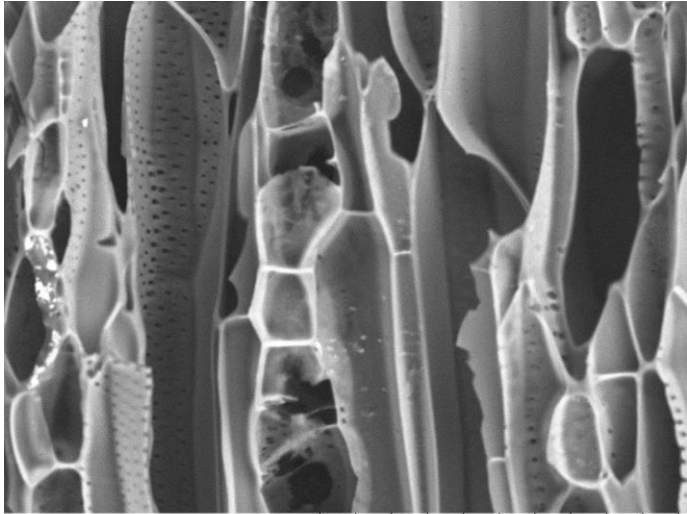
EWC 1656 2022/10/14 11:19 D2.2 x50 2 mm

Transverse 100x



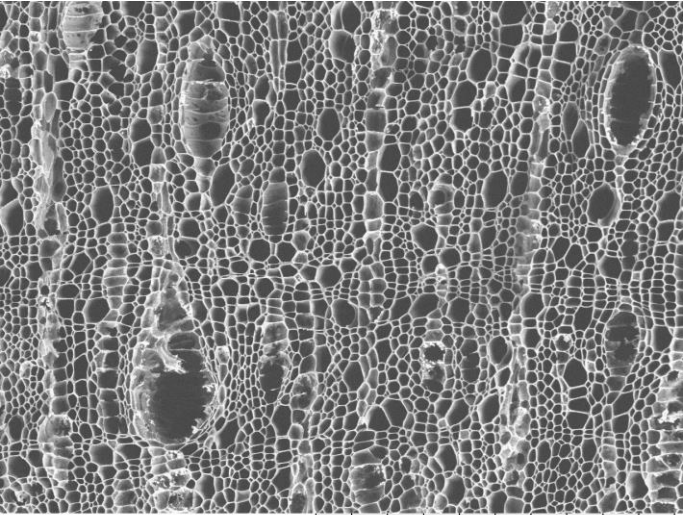
EWC 1656 2022/10/14 11:20 D2.2 x100 1 mm

Vessel Wall



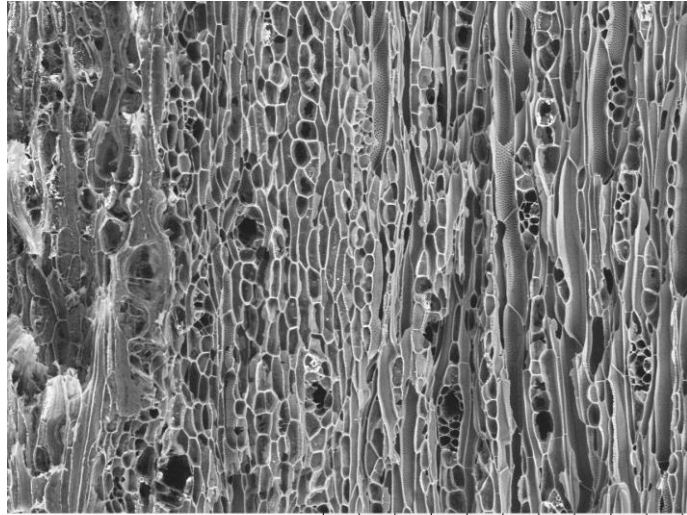
EWC 1656 2022/10/14 11:27 D2.6 x1.0k 100 µm

Transverse 200x



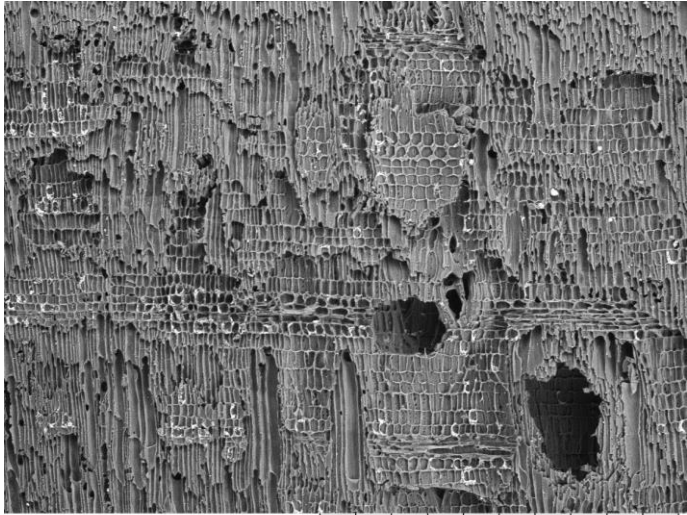
EWC 1656 2022/10/14 11:21 D2.2 x200 500 µm

Tangential



EWC 1656 2022/10/14 11:25 D2.5 x200 500 µm

Radial



EWC 1656 2022/10/14 11:29 D3.7 x100 1 mm

EWC 1657 MELIACEAE *Trichilia* P. Browne

Common Name: "Cameron"

Elevation: 80 m

Description: Upper canopy tree. Collected from a mature secondary forest with closed canopy.

Location: Ecuador, Manabí

Locality: Jama River Valley. Campamento, Area 1: Approximately 2 km W by SW of Campamento. Jama topo map 1:50,000, cuadrícula (block) N75 E74.

Vessels

Size: <50µm, 50-100µm

Freq.: 5-20, 20-40

Arrangement: solitary

Tyloses: absent

Rays:

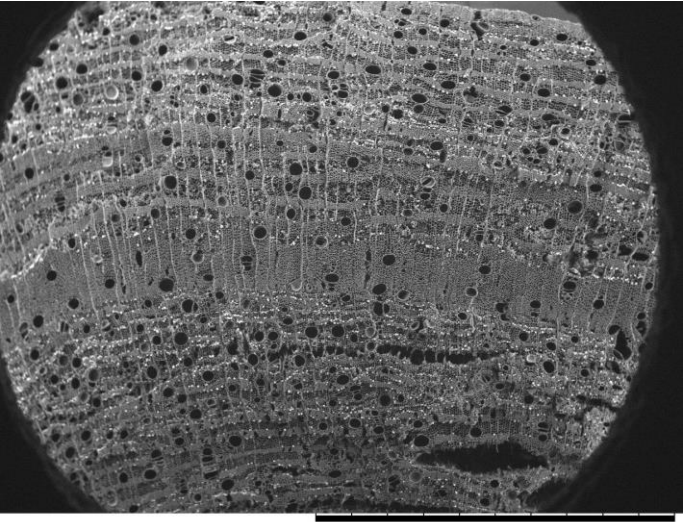
per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Banded (thick), Vasicentric (confluent)

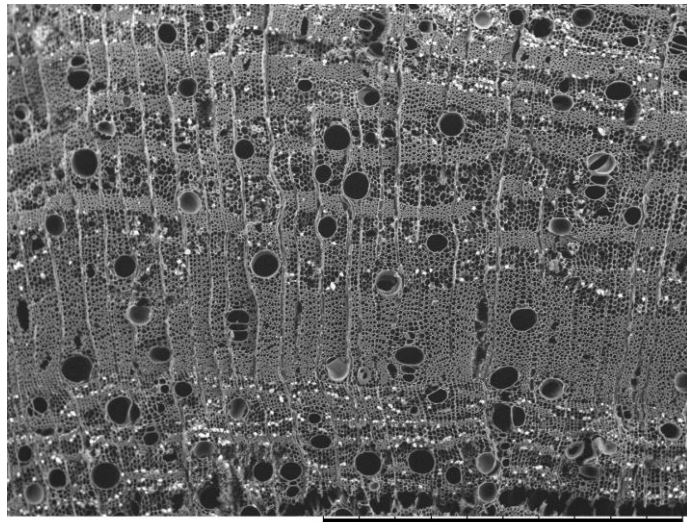
Porosity: semi-ring porous, ring porous

Transverse 50x



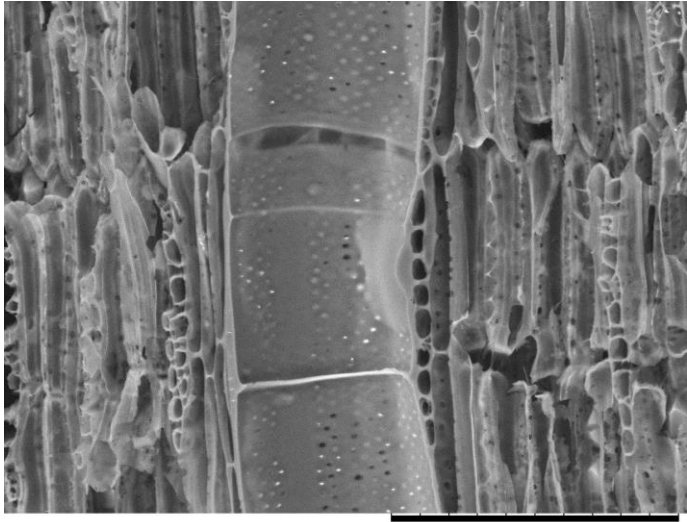
EWC 1657 2022/10/14 11:32 D2.0 x50 2 mm

Transverse 100x



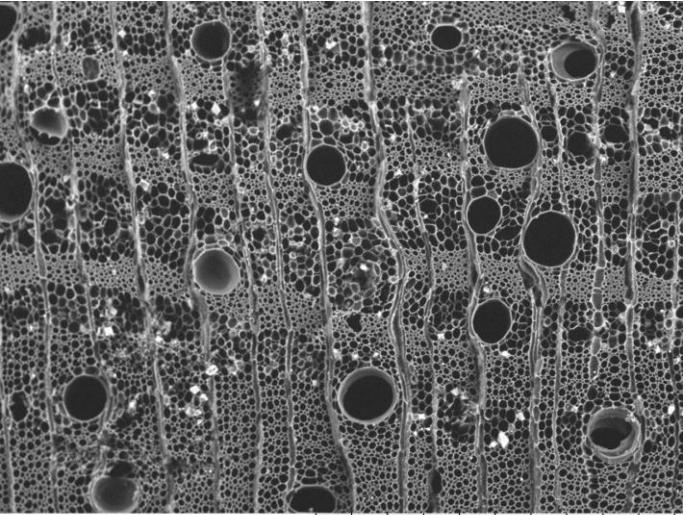
EWC 1657 2022/10/14 11:33 D2.0 x100 1 mm

Vessel Wall



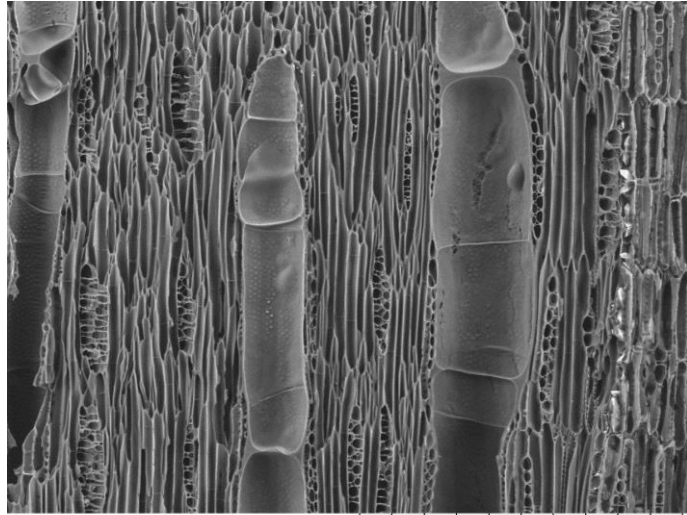
EWC 1657 2022/10/20 09:57 D4.8 x800 100 µm

Transverse 200x



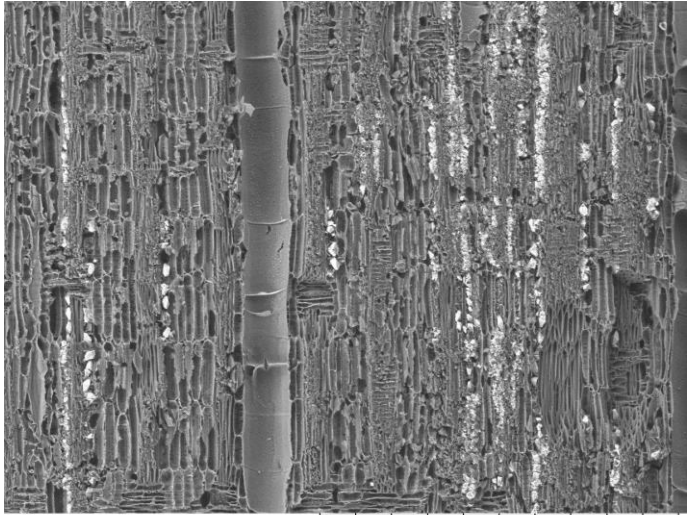
EWC 1657 2022/10/14 11:33 D2.0 x200 500 µm

Tangential



EWC 1657 2022/10/14 11:37 D2.3 x300 300 µm

Radial



EWC 1657 2022/10/14 11:41 D2.6 x200 500 µm

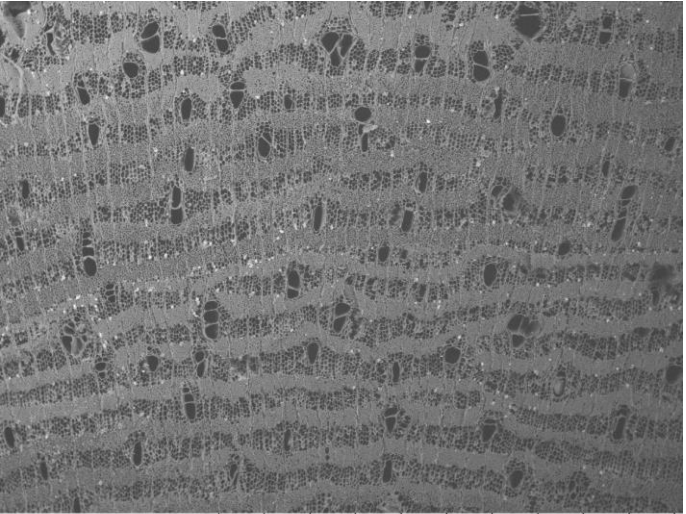
EWC 1660 FABACEAE *Libidibia corymbosa* (Benth.) Britton & Killip

Vessels
Size: 50-100µm
Freq.: 5 to 20
Arrangement: solitary, pairs, chains, clusters
Tyloses: absent

Rays:
per mm: 12+
Thickness (cells): 1 to 3, storied
Parenchyma Type: Banded (thick),
Porosity: diffuse

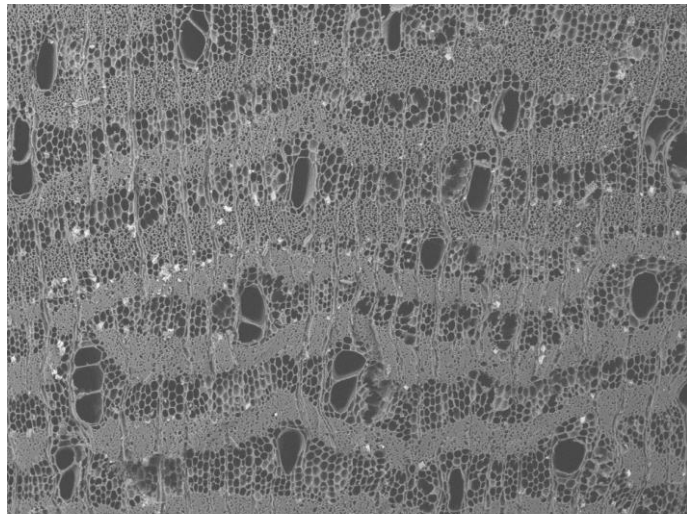
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



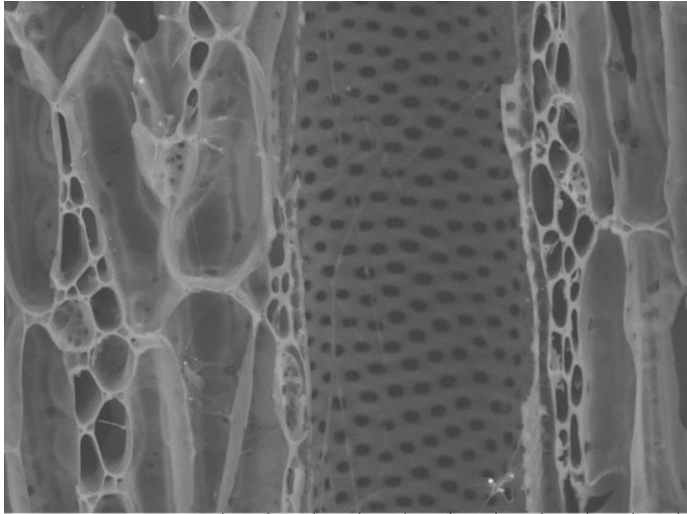
EWC 1660 2022/10/14 14:33 D3.3 x50 2 mm

Transverse 100x



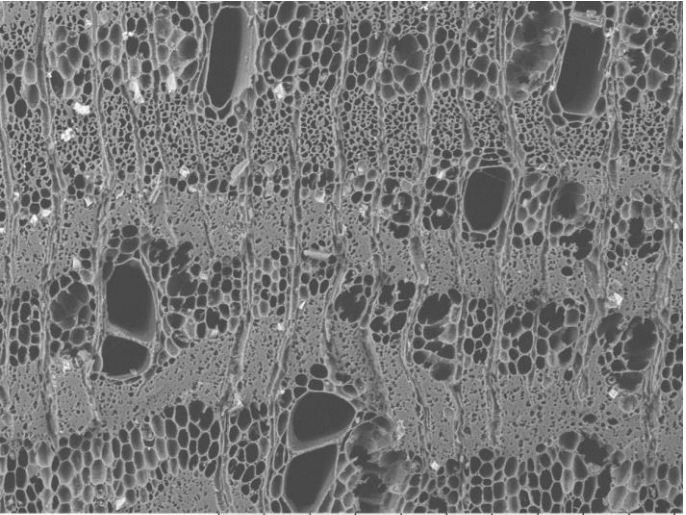
EWC 1660 2022/10/14 14:33 D3.3 x100 1 mm

Vessel Wall



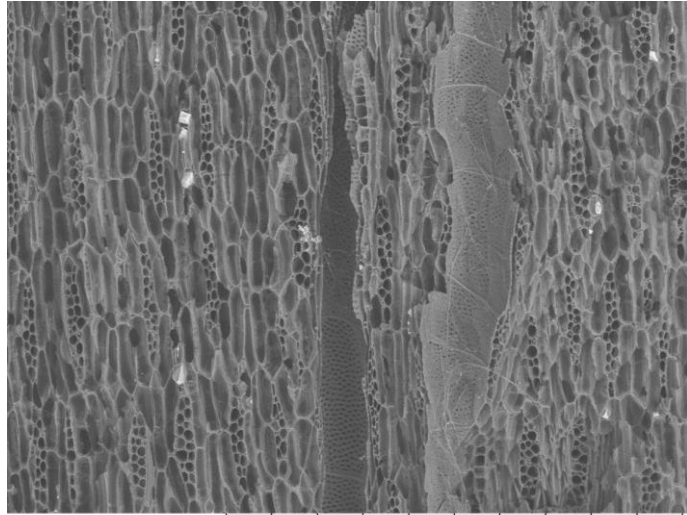
EWC 1660 2022/10/14 14:40 D5.2 x1.0k 100 µm

Transverse 200x



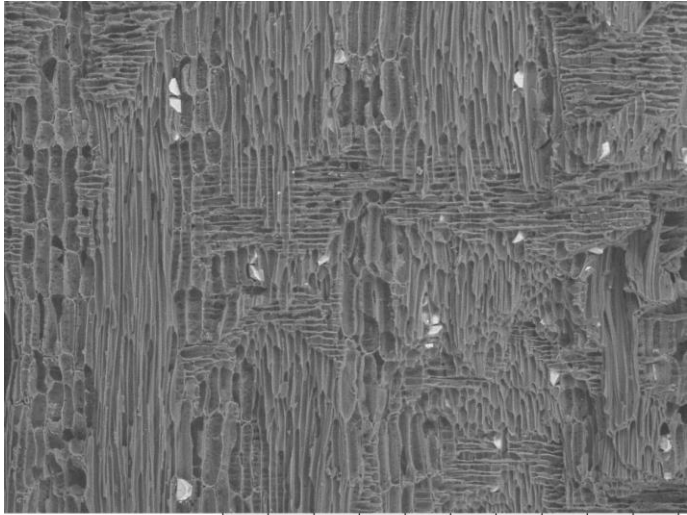
EWC 1660 2022/10/14 14:34 D3.3 x200 500 µm

Tangential



EWC 1660 2022/10/14 14:39 D5.2 x200 500 µm

Radial



EWC 1660 2022/10/14 14:44 D6.4 x200 500 µm

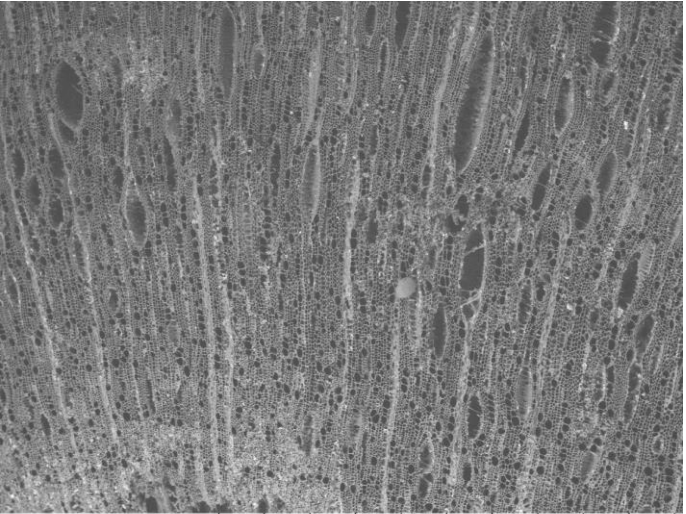
EWC 1662 Unknown Identification

Vessels
Size: <50µm
Freq.: 100+
Arrangement: solitary, chains, clusters
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Diffuse, Diffuse-in-aggregates
Porosity: semi-ring porous

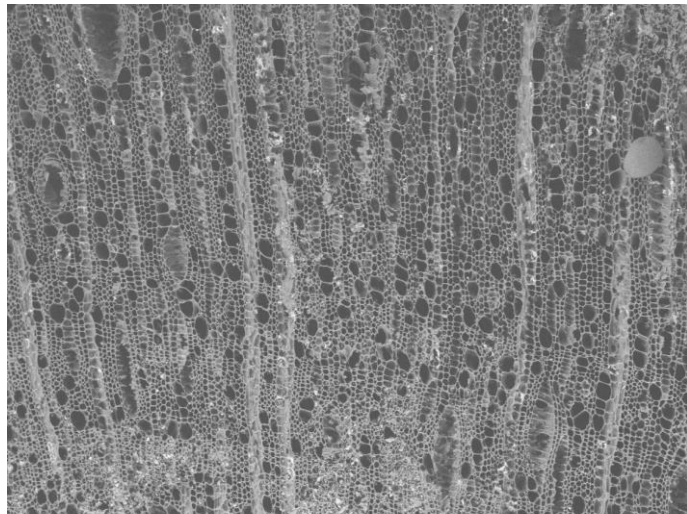
Common Name: "lengua de vaca"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



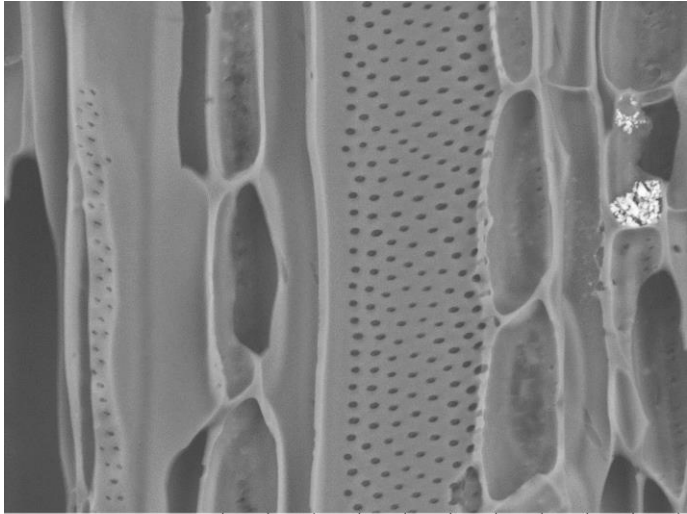
EWC 1662 2022/10/14 14:48 D4.7 x50 2 mm

Transverse 100x



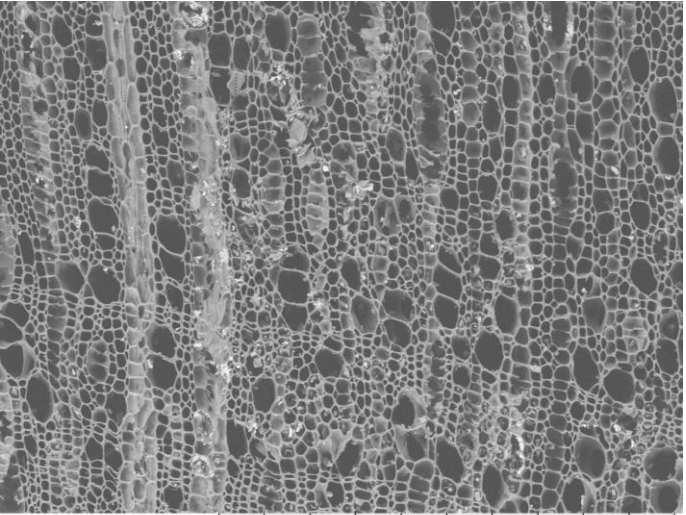
EWC 1662 2022/10/14 14:49 D4.7 x100 1 mm

Vessel Wall



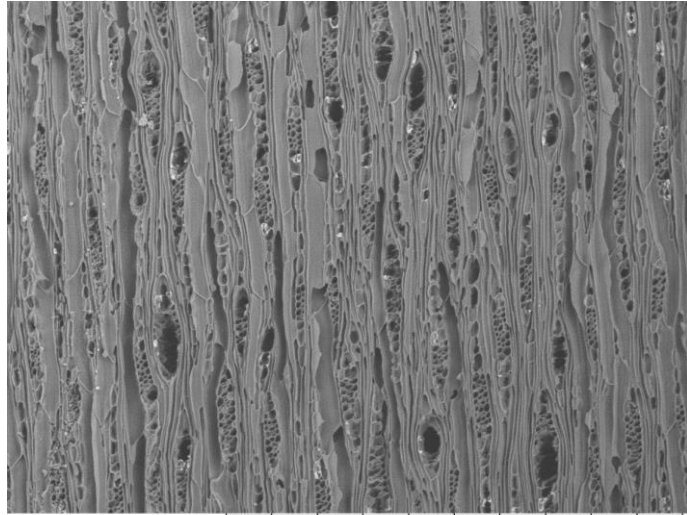
EWC 1662 2022/10/14 14:59 D5.3 x1.0k 100 µm

Transverse 200x



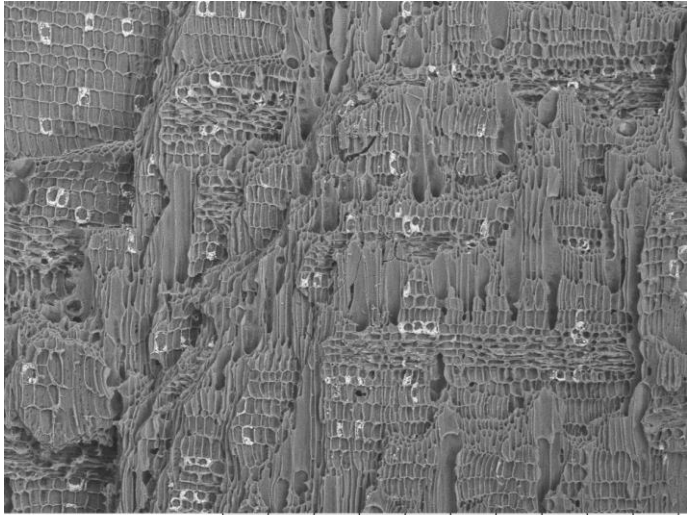
EWC 1662 2022/10/14 14:49 D4.7 x200 500 µm

Tangential



EWC 1662 2022/10/14 14:55 D5.0 x100 1 mm

Radial



EWC 1662 2022/10/14 14:52 D6.2 x100 1 mm

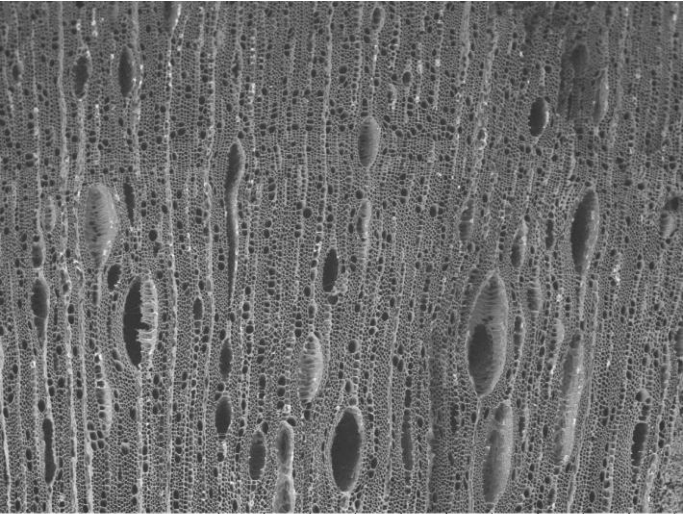
EWC 1663 Unknown Identification

Vessels
Size: <50µm, 50-100µm
Freq.: 40 to 100
Arrangement: solitary, chains, clusters
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1-3, of two distinct sizes
Parenchyma Type: Absent, scanty
Porosity: semi-ring porous

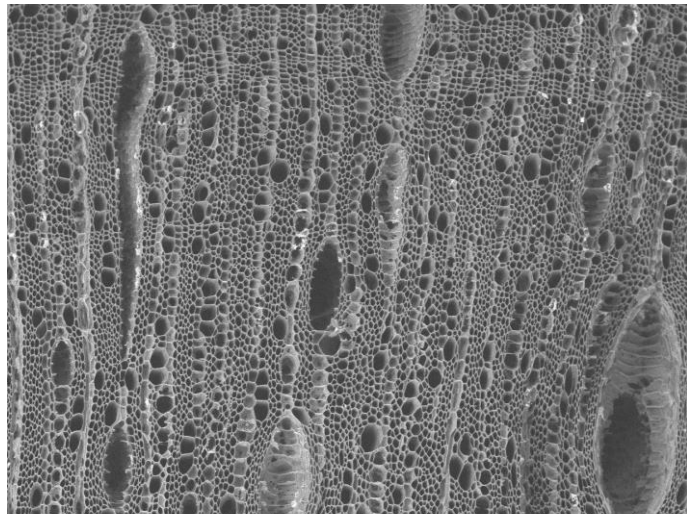
Common Name: "lengua de vaca"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



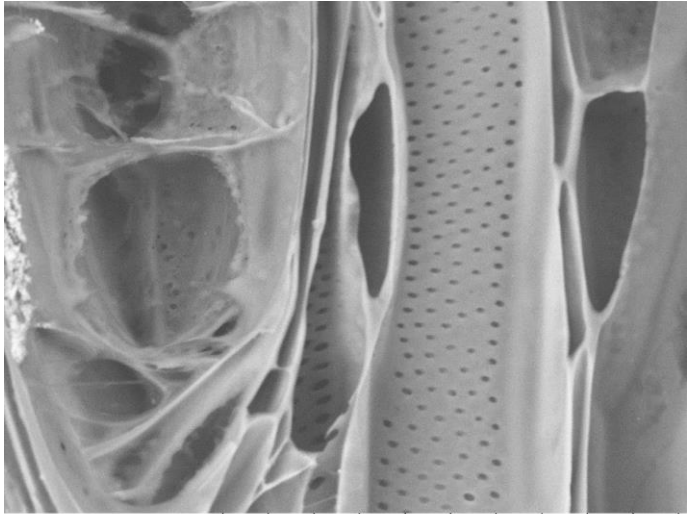
EWC 1663 2022/10/14 15:15 D4.4 x50 2 mm

Transverse 100x



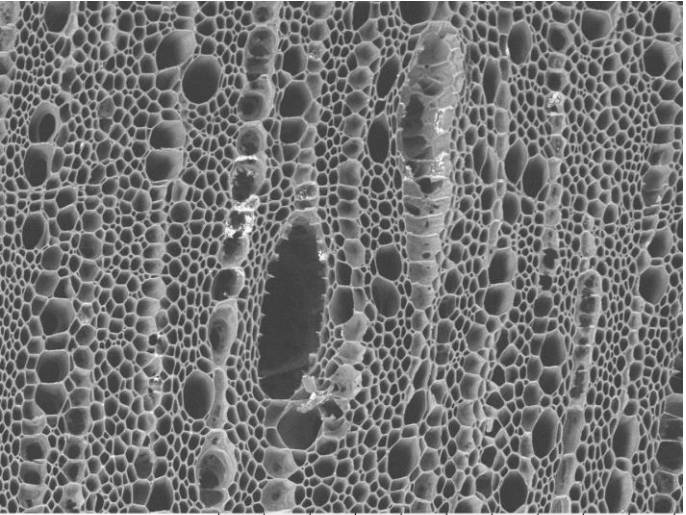
EWC 1663 2022/10/14 15:16 D4.4 x100 1 mm

Vessel Wall



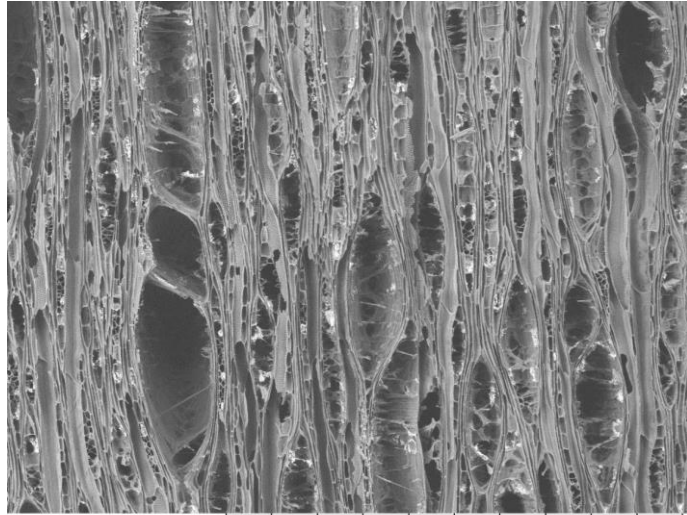
EWC 1663 2022/10/14 15:25 D5.4 x1.0k 100 um

Transverse 200x



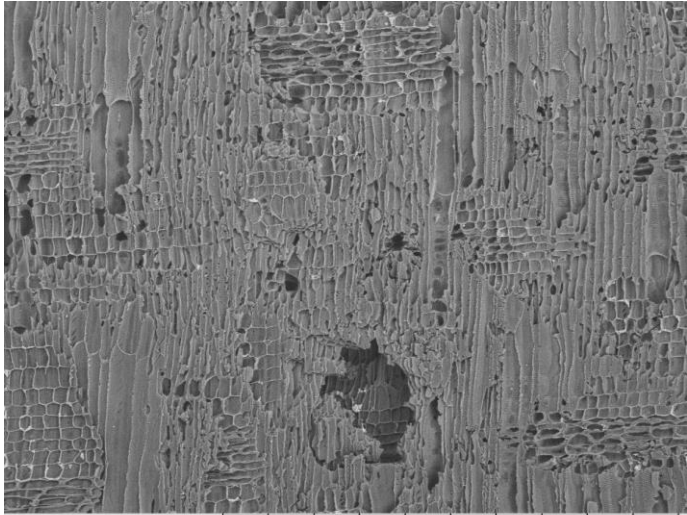
EWC 1663 2022/10/14 15:17 D4.4 x200 500 um

Tangential



EWC 1663 2022/10/14 15:22 D5.3 x100 1 mm

Radial



EWC 1663 2022/10/14 15:19 D5.9 x100 1 mm

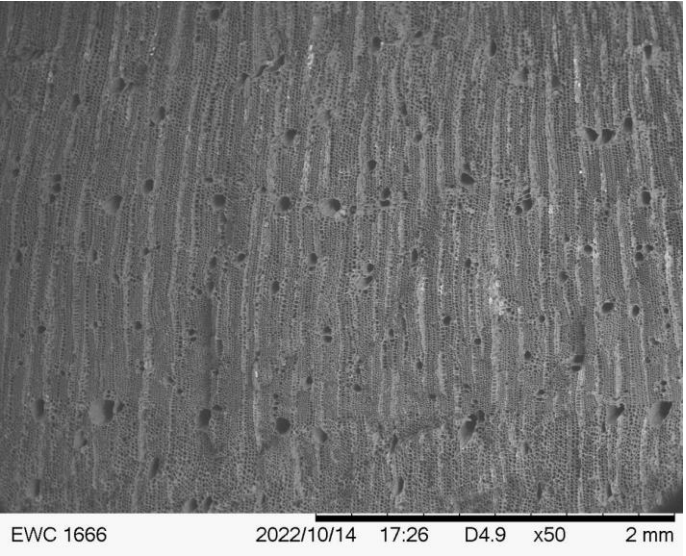
EWC 1666 Unknown Identification

Vessels
Size: <50µm, 50-100µm
Freq.: 5 to 20
Arrangement: solitary, pairs
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Vascentric
(lozenge, confluent) Diffuse
Porosity: diffuse

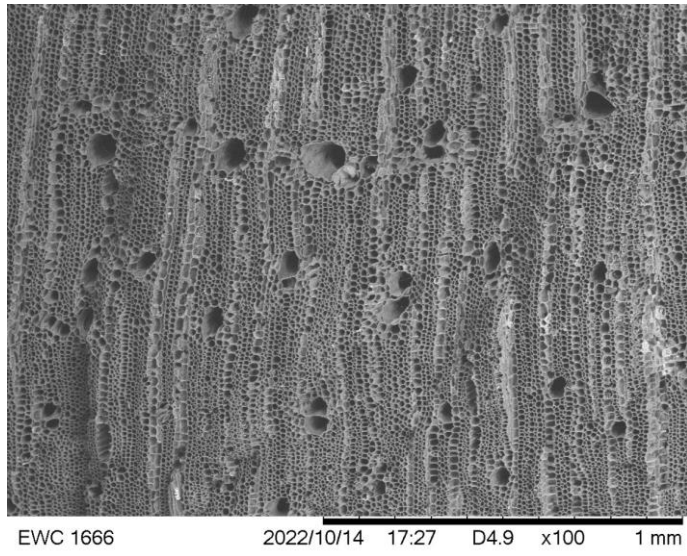
Common Name: "negrito"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



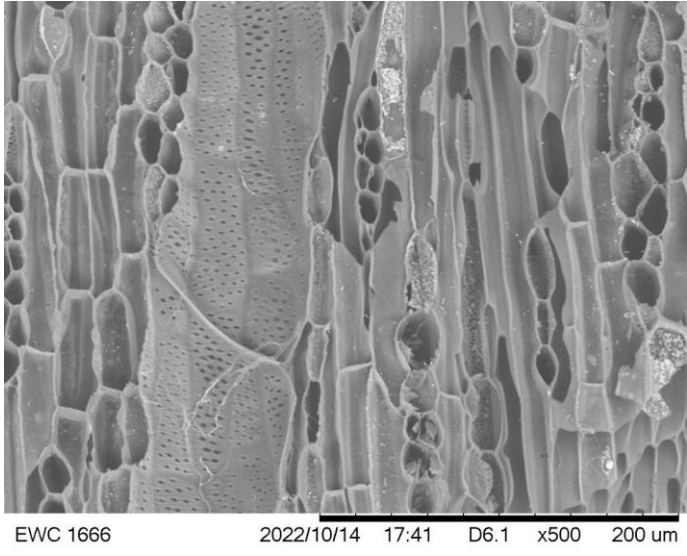
EWC 1666 2022/10/14 17:26 D4.9 x50 2 mm

Transverse 100x



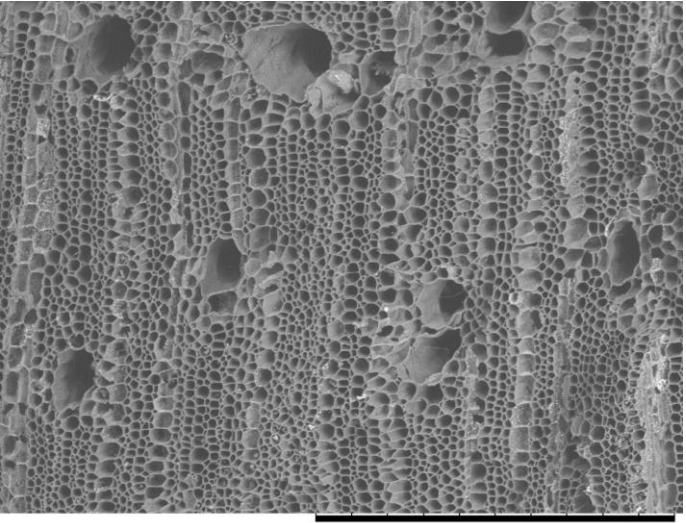
EWC 1666 2022/10/14 17:27 D4.9 x100 1 mm

Vessel Wall 500x



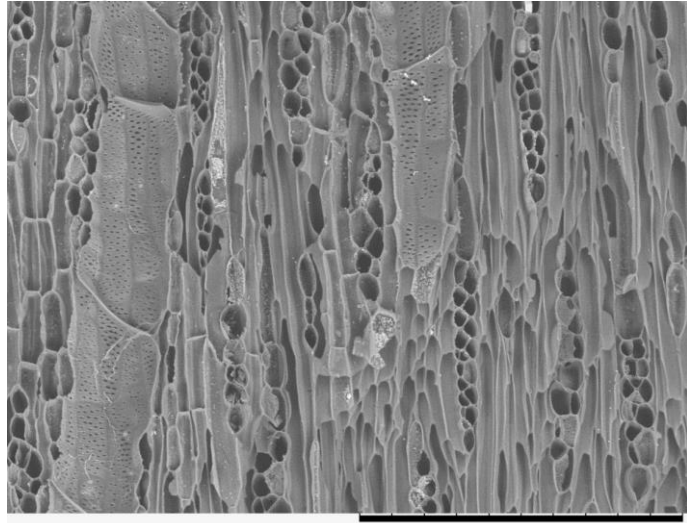
EWC 1666 2022/10/14 17:41 D6.1 x500 200 µm

Transverse 200x



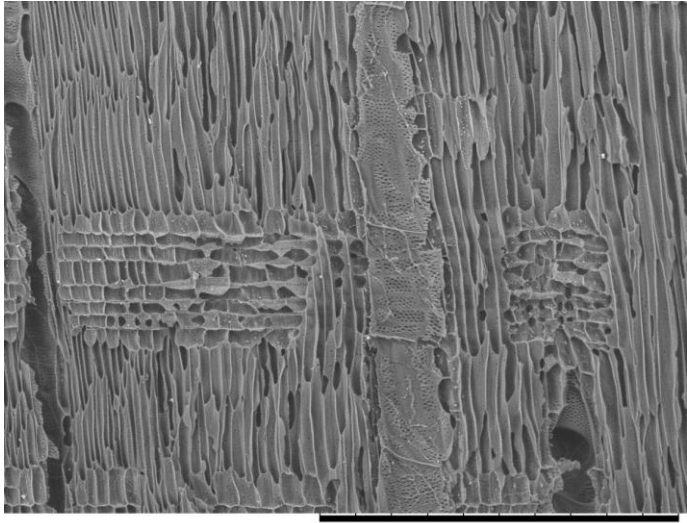
EWC 1666 2022/10/14 17:29 D4.7 x200 500 µm

Tangential 300x



EWC 1666 2022/10/14 17:40 D6.1 x300 300 µm

Radial 200x



EWC 1666 2022/10/14 17:34 D5.1 x200 500 µm

EWC 1667 Unknown Identification

Vessels

Size: 50-100µm, 100-200µm

Freq.: 20 to 40

Arrangement: solitary, pairs, chains

Tyloses: common

Rays:

per mm: 4-12

Thickness (cells): uniseriate

Parenchyma Type: Absent, Scanty, Diffuse

Porosity: diffuse

Common Name: “Zapán de paloma”

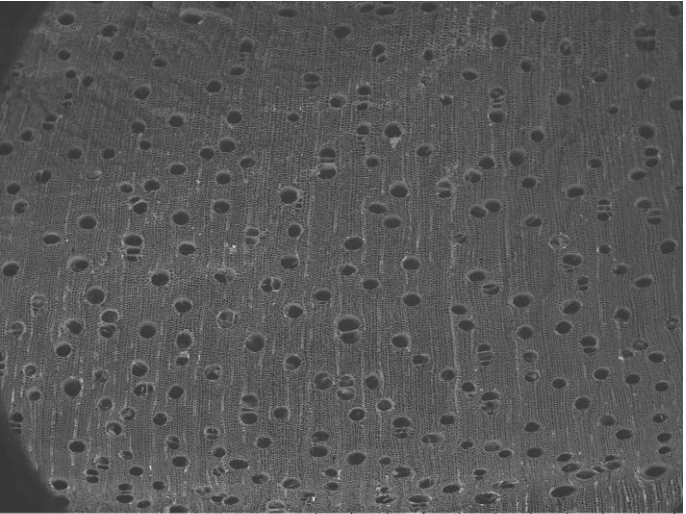
Elevation:

Description:

Location: Ecuador

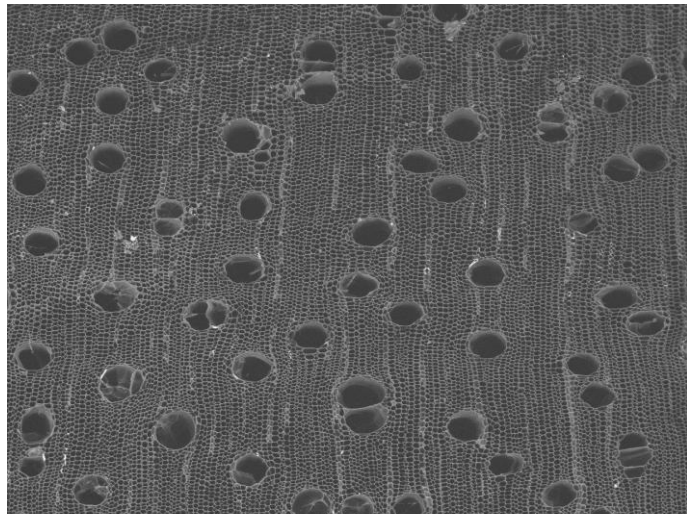
Locality:

Transverse 50x



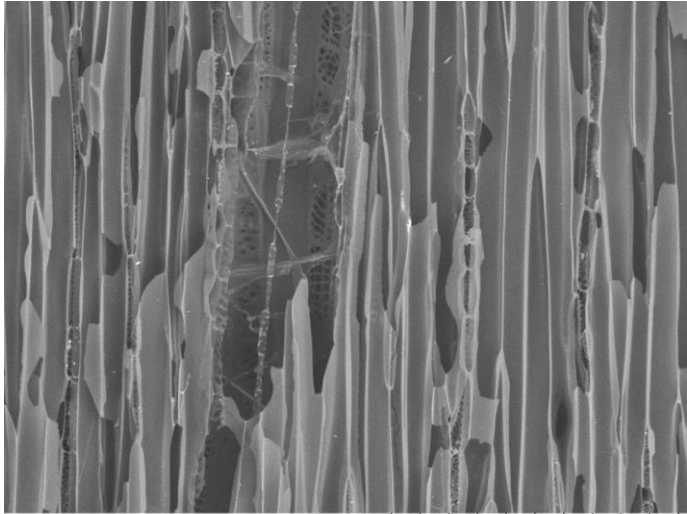
EWC 1667 2022/10/14 17:52 D3.8 x50 2 mm

Transverse 100x



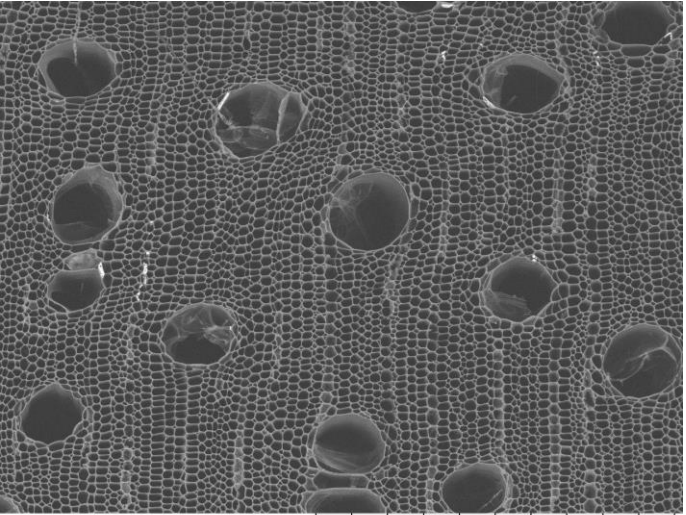
EWC 1667 2022/10/14 17:53 D3.8 x100 1 mm

Vessel Wall 400x



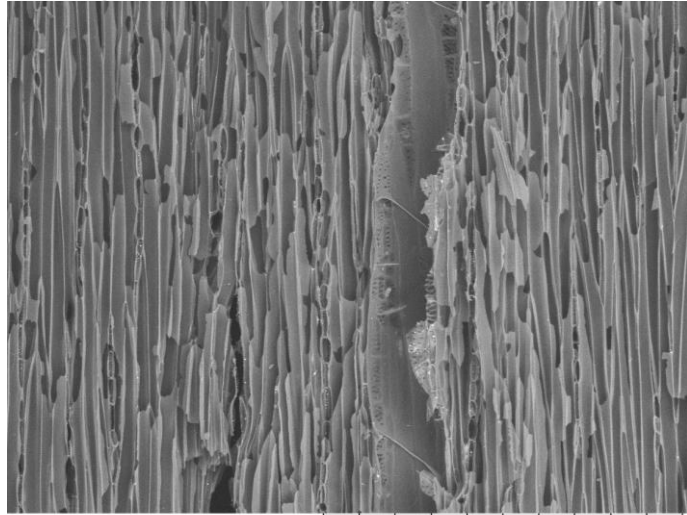
EWC 1667 2022/10/14 17:50 D5.2 x400 200 um

Transverse 200x



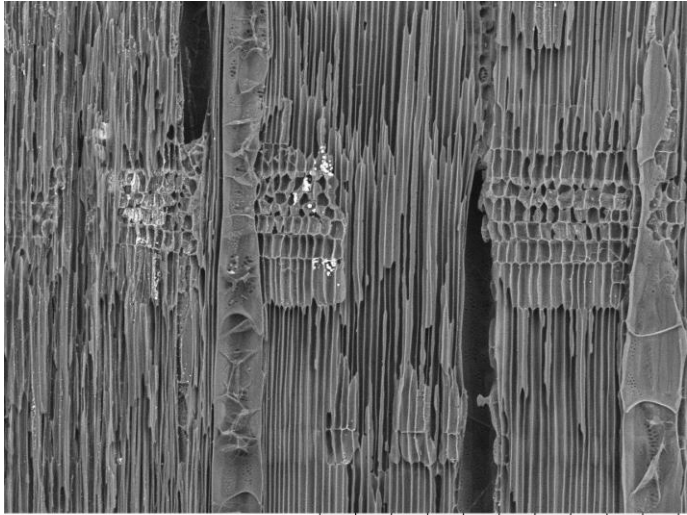
EWC 1667 2022/10/14 17:54 D3.8 x200 500 um

Tangential 200x



EWC 1667 2022/10/14 17:47 D5.2 x200 500 um

Radial



EWC 1667 2022/10/20 17:35 D5.2 x200 500 um

EWC 1668 ASTERACEAE *Vernonia baccharoides* Kunth

Vessels

Size: 50-100µm

Freq.: 20 to 40

Arrangement: solitary, pairs, chains

Tyloses:absent

Rays:

per mm: <4-12

Thickness (cells): 4+

Parenchyma Type: Absent

Porosity: diffuse

Common Name: "Chirca"

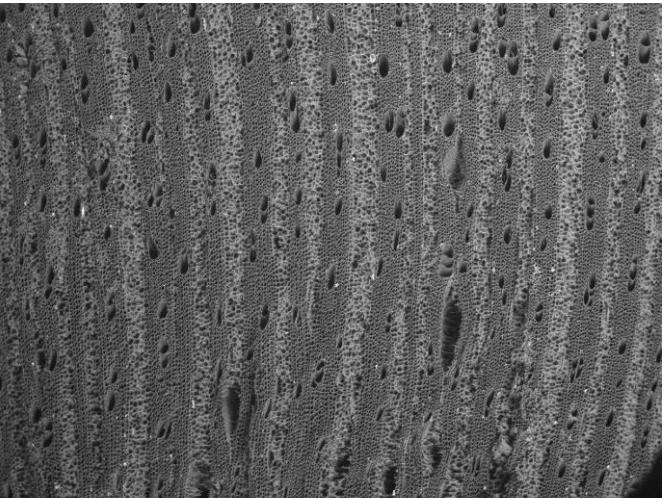
Elevation: 90 m

Description: Lower canopy tree.

Location: Ecuador, Manabí, Jama

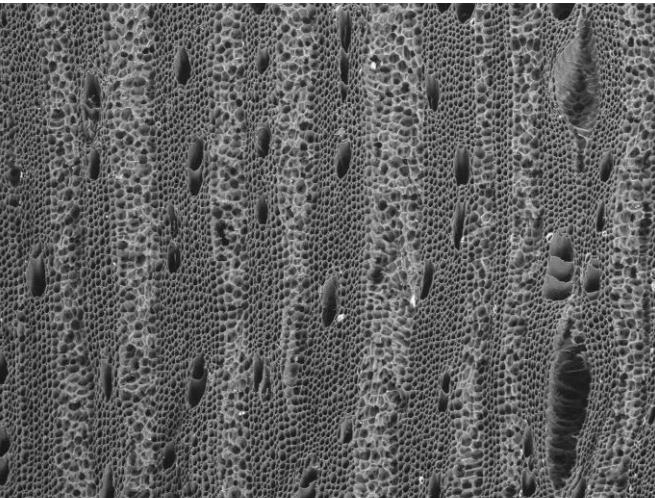
Locality: Campamento, Area 2: Approximately 2 km W by SW of Campamento. Collected from a mature secondary forest with closed canopy. Jama topo map 1:50,000, cuadrícula (block) N75 E74.

Transverse 50x



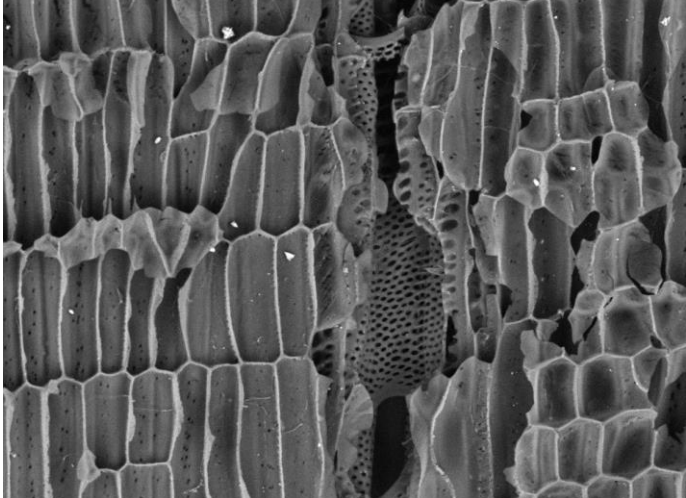
EWC 1668 2022/10/20 17:18 D4.5 x50 2 mm

Transverse 100x



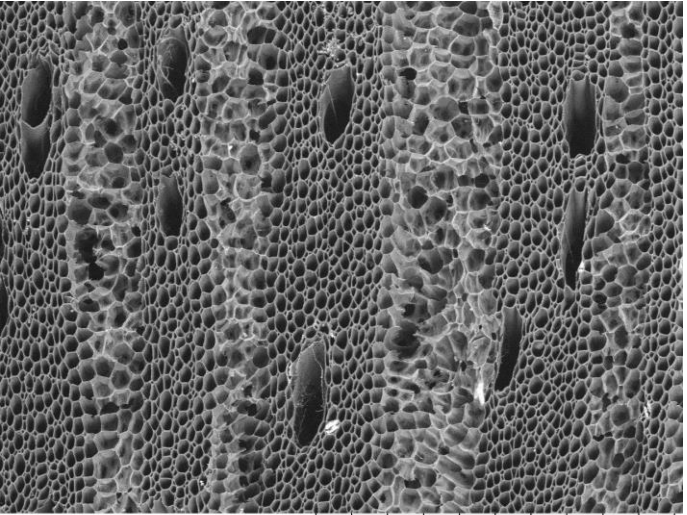
EWC 1668 2022/10/20 17:19 D4.5 x100 1 mm

Vessel Wall



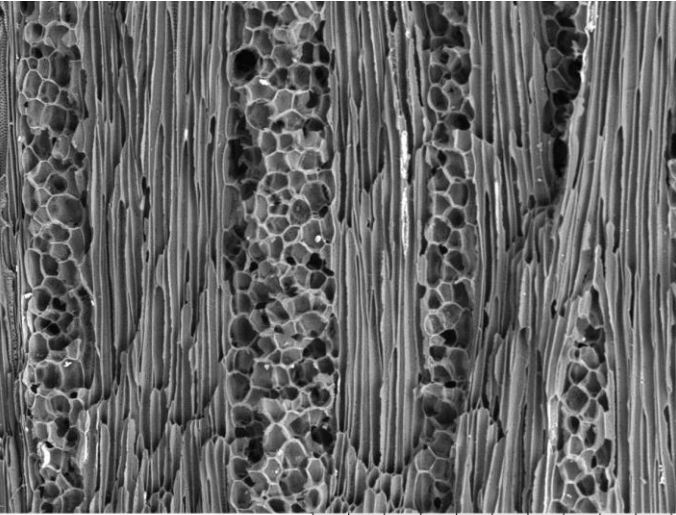
EWC 1668 2022/10/20 17:31 D5.8 x500 200 µm

Transverse 200x



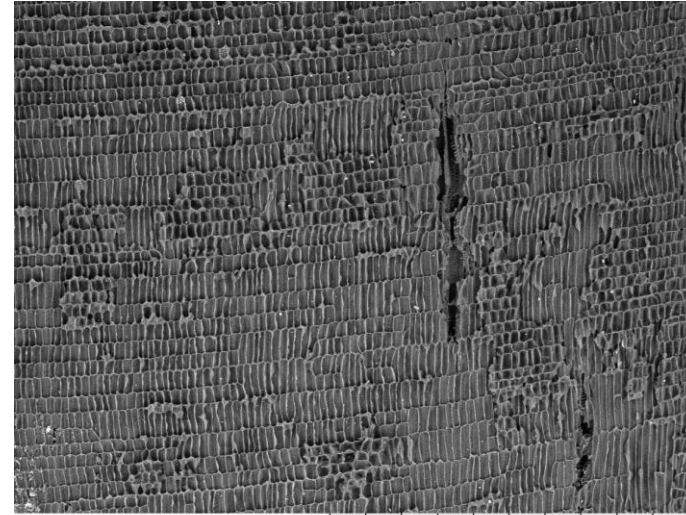
EWC 1668 2022/10/20 17:20 D4.5 x200 500 µm

Tangential



EWC 1668 2022/10/20 17:24 D4.2 x200 500 µm

Radial



EWC 1668 2022/10/20 17:30 D5.8 x100 1 mm

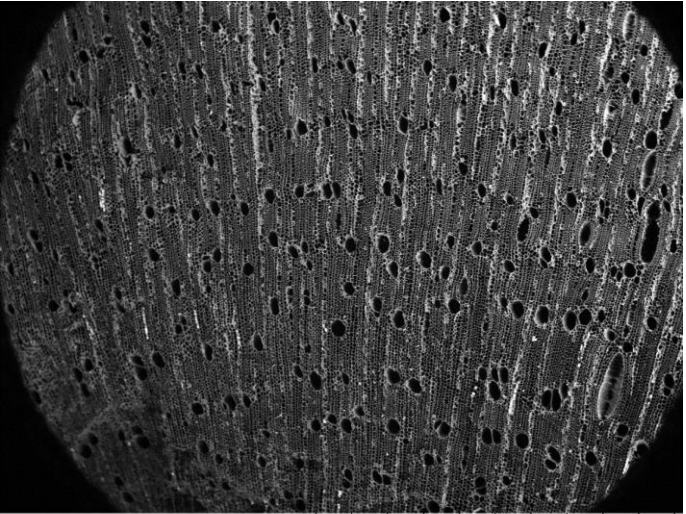
EWC 1669 Unknown Identification

Vessels
Size: 50-100µm, 100-200µm
Freq.: 40 to 100
Arrangement: solitary, pairs
Tyloses: common
Porosity: diffuse

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Vascentric
(confluent, unilateral), Diffuse-in-aggregates

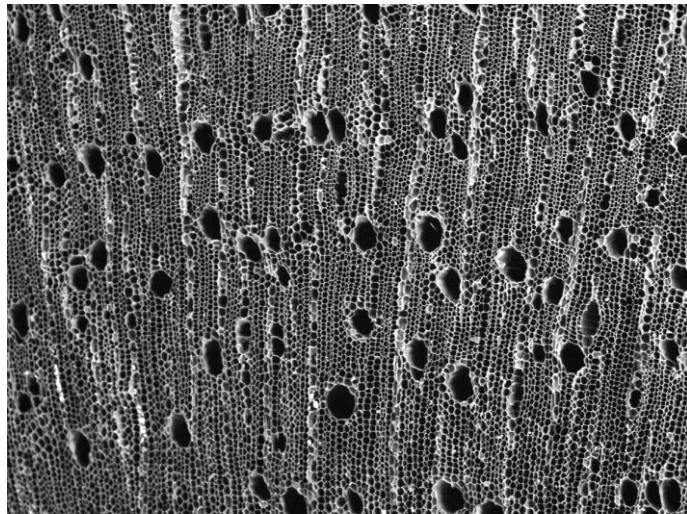
Common Name: "mangle de río"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



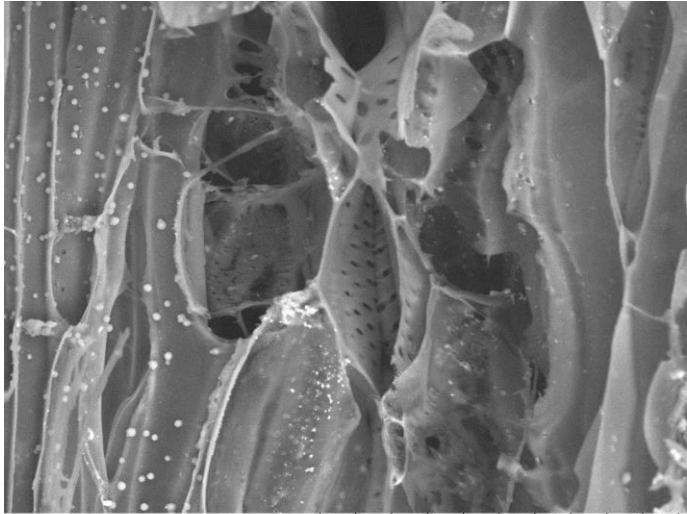
EWC 1669 2022/10/27 09:44 D2.6 x50 2 mm

Transverse 100x



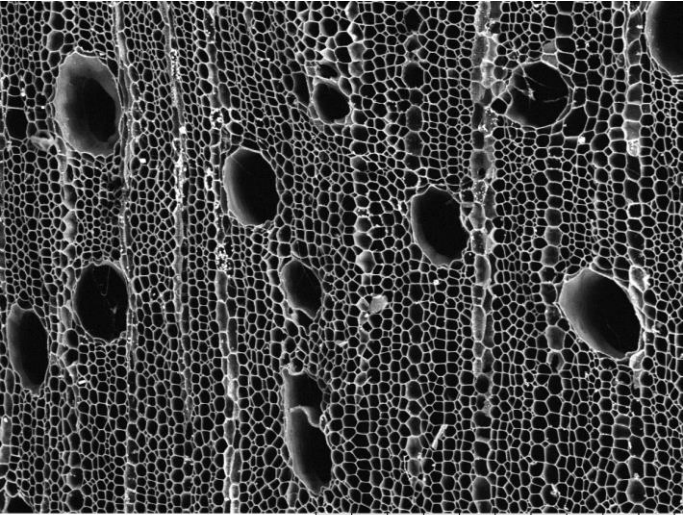
EWC 1669 2022/10/27 09:45 D2.6 x100 1 mm

Vessel Wall



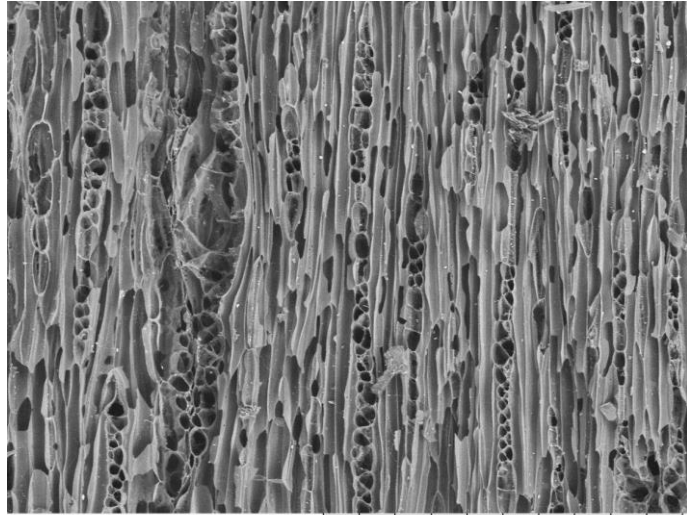
EWC 1669 2022/10/20 10:34 D5.1 x1.0k 100 um

Transverse 200x



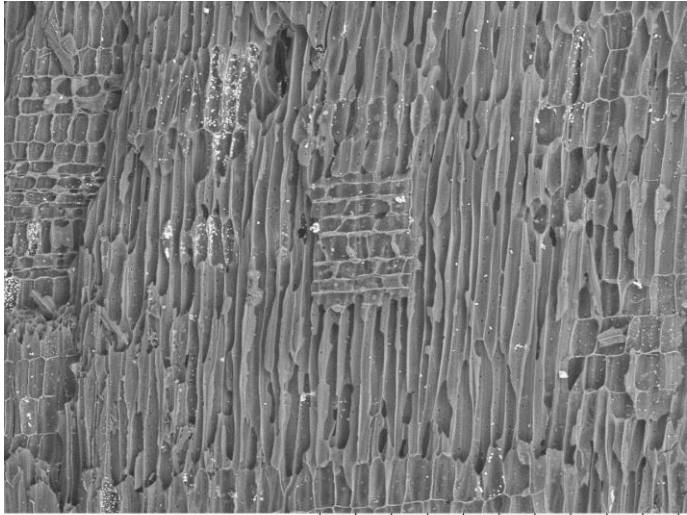
EWC 1669 2022/10/27 09:42 D2.6 x200 500 um

Tangential



EWC 1669 2022/10/20 10:22 D4.9 x200 500 um

Radial



EWC 1669 2022/10/20 10:30 D6.0 x200 500 um

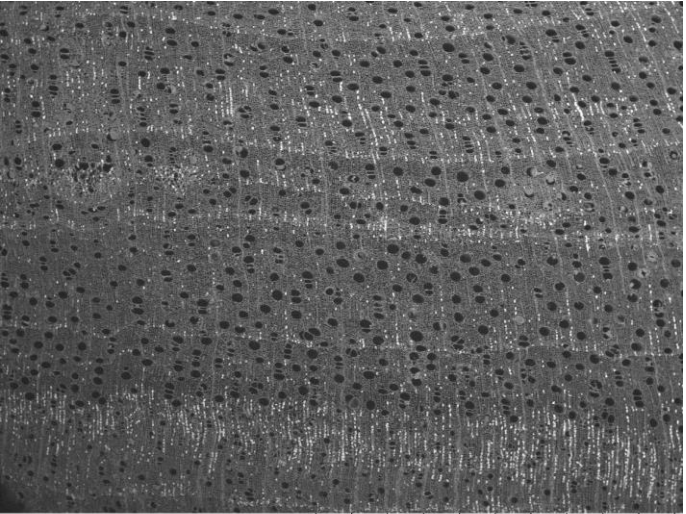
EWC 1670 EUPHORBIACEAE *Croton glabellus* L.

Vessels
Size: <50µm, 50-100µm
Freq.: 100+
Arrangement: solitary, pairs, chains
Tyloses: common

Rays:
per mm: 4-12
Thickness (cells): 1 to 3 cells
Parenchyma Type: Vasicentric
(unilateral), Diffuse-in-aggregates
Porosity: semi-ring porous

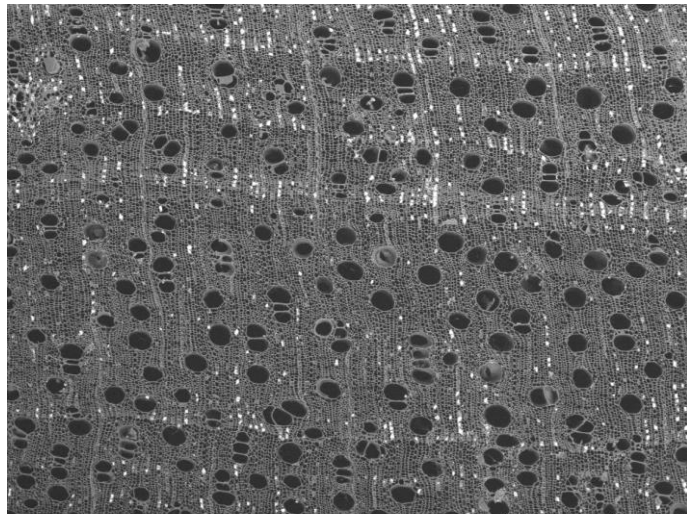
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



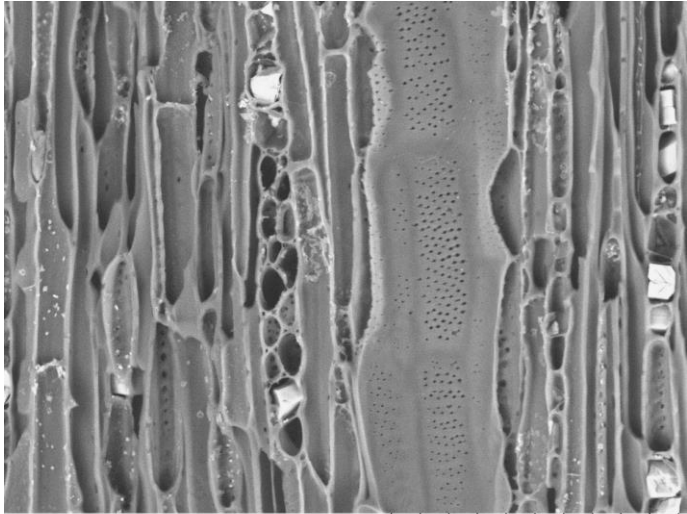
EWC 1670 2022/10/20 11:17 D5.0 x50 2 mm

Transverse 100x



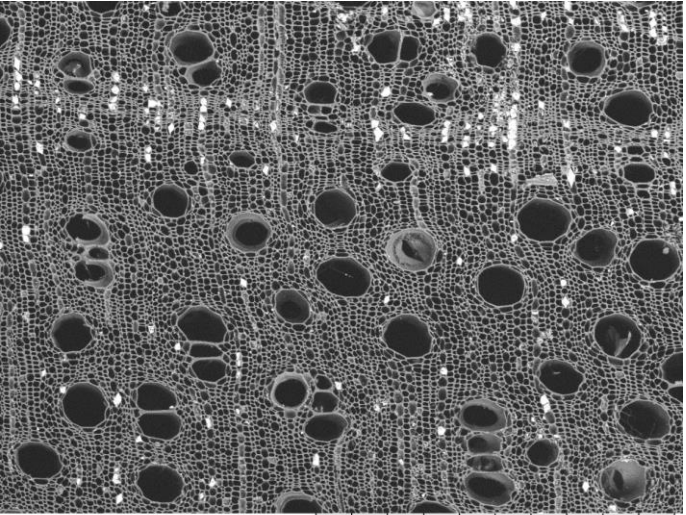
EWC 1670 2022/10/20 11:18 D5.0 x100 1 mm

Vessel Wall



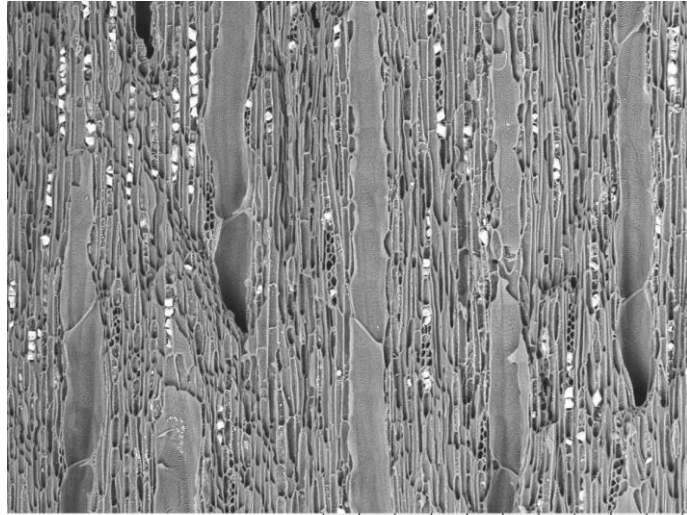
EWC 1670 2022/10/20 11:24 D4.4 x800 100 µm

Transverse 200x



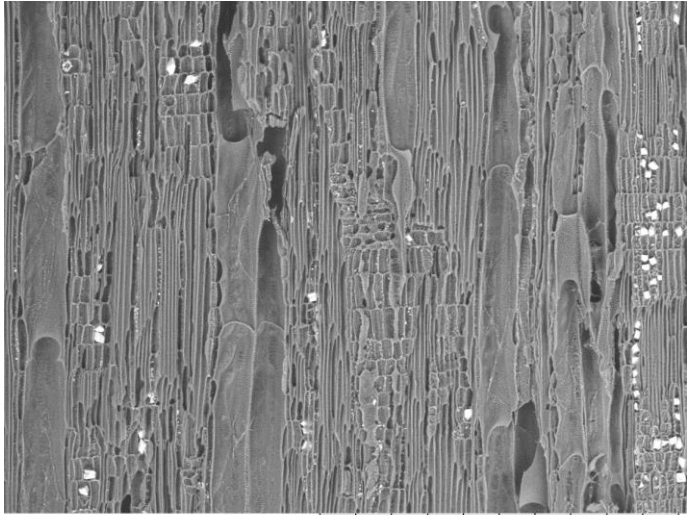
EWC 1670 2022/10/20 11:19 D5.0 x200 500 µm

Tangential



EWC 1670 2022/10/20 11:22 D4.4 x200 500 µm

Radial



EWC 1670 2022/10/20 11:26 D5.4 x200 500 µm

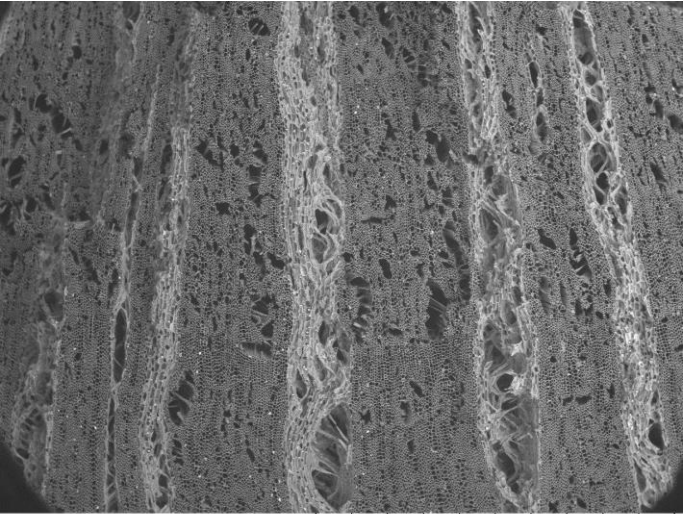
EWC 1671 Unknown Identification

Vessels
Size: <50µm
Freq.: 20 to 40
Arrangement: solitary, pairs, chais
Tyloses: absent

Rays:
per mm: <4
Thickness (cells): 4+
Parenchyma Type: Absent,
Vasicentric (unilateral), Scanty, Diffuse
Porosity: diffuse

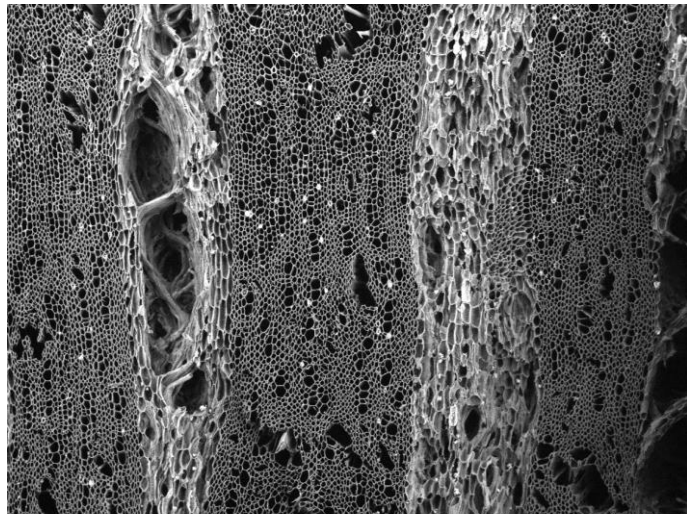
Common Name: "cebo de mico"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



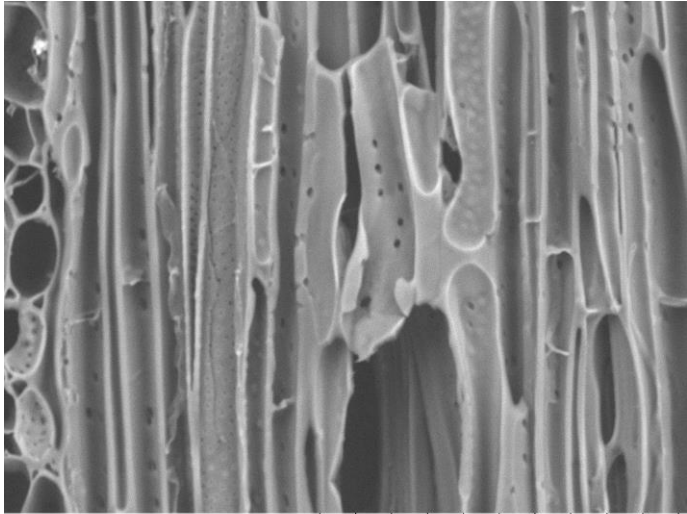
EWC 1671 2022/10/20 10:39 D4.0 x50 2 mm

Transverse 100x



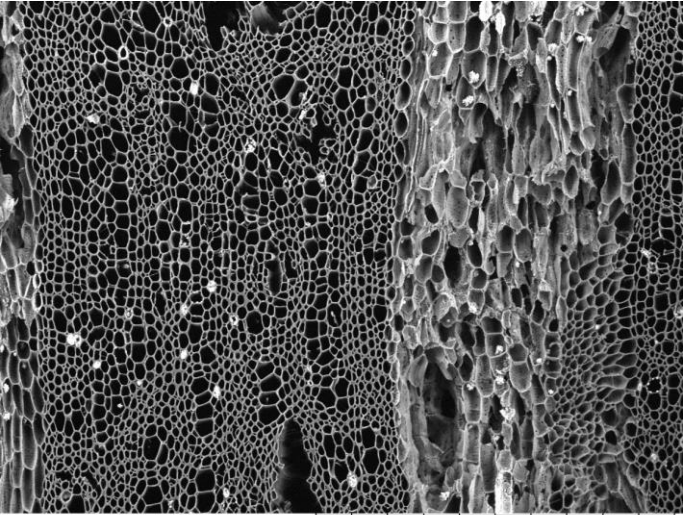
EWC 1671 2022/10/27 09:47 D2.5 x100 1 mm

Vessel Wall



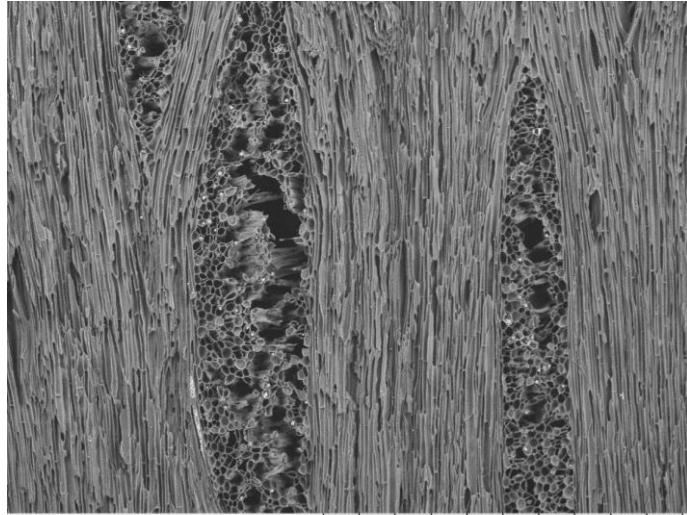
EWC 1671 2022/10/20 10:50 D5.1 x1.0k 100 um

Transverse 200x



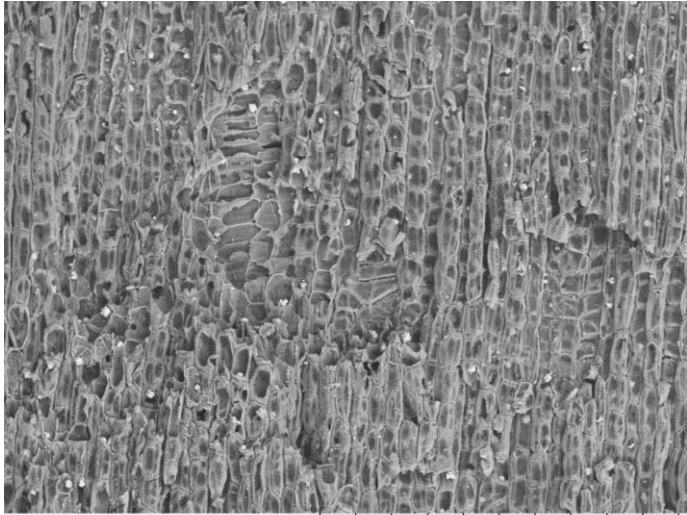
EWC 1671 2022/10/27 09:48 D2.5 x200 500 um

Tangential



EWC 1671 2022/10/20 10:47 D5.0 x100 1 mm

Radial



EWC 1671 2022/10/20 10:45 D5.6 x200 500 um

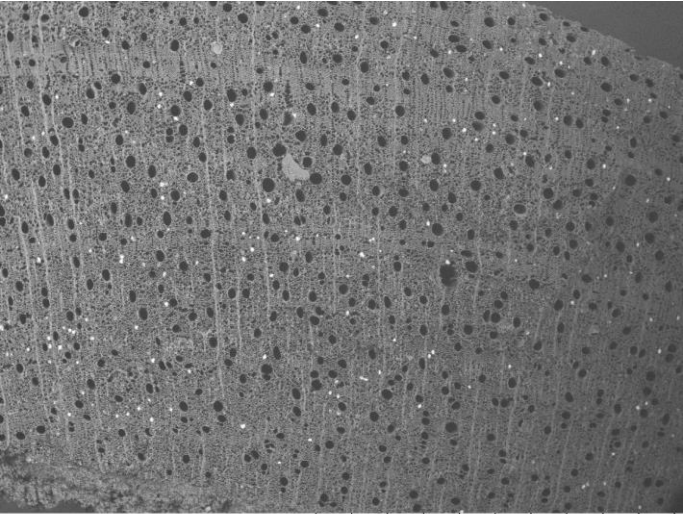
EWC 1672 MYRTACEAE *Eugenia*

Vessels
Size: <50µm, 50-100µm
Freq.: 100+
Arrangement: mostly solitary, some pairs
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Banded (thin),
Vasicentric (confluent), Diffuse-in-aggregates
Porosity: semi-ring porous

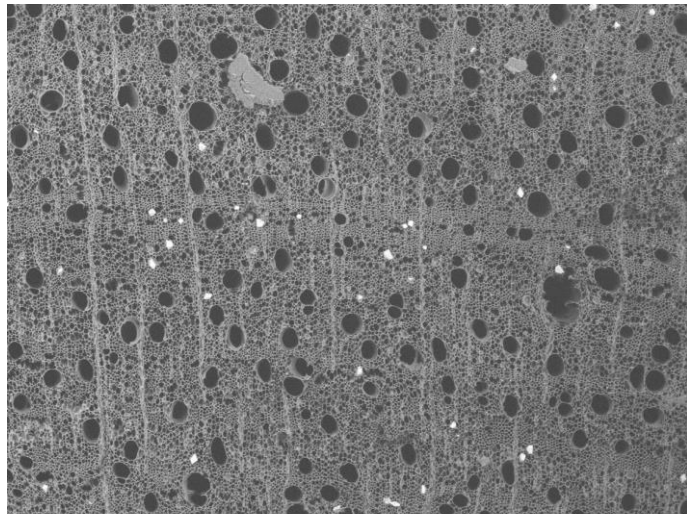
Common Name: "arrayán"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



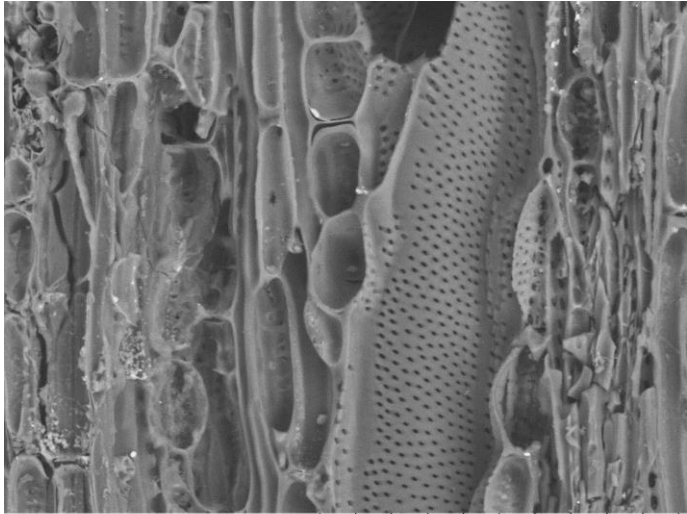
EWC 1672 2022/10/20 11:04 D5.1 x50 2 mm

Transverse 100x



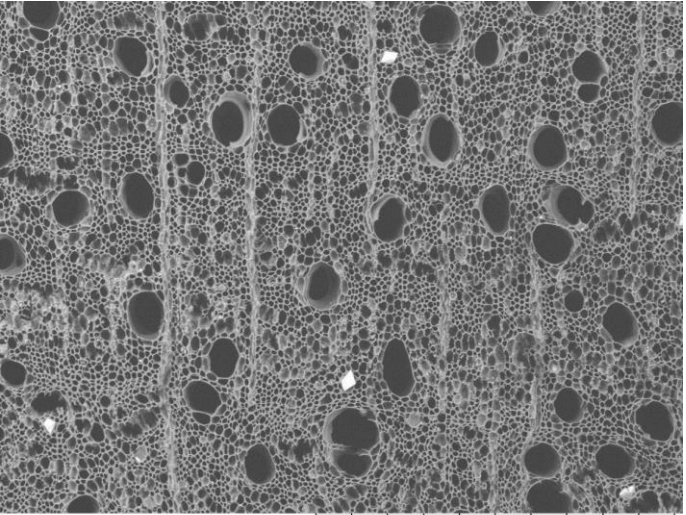
EWC 1672 2022/10/20 11:05 D5.1 x100 1 mm

Vessel Wall



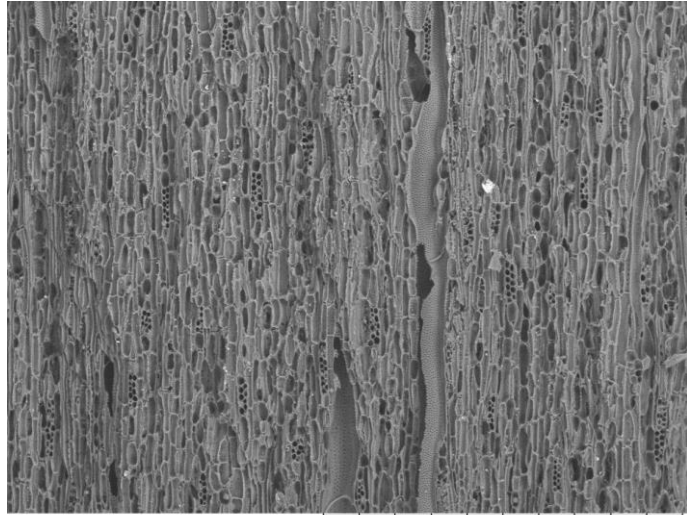
EWC 1672 2022/10/20 11:15 D5.6 x1.0k 100 µm

Transverse 200x



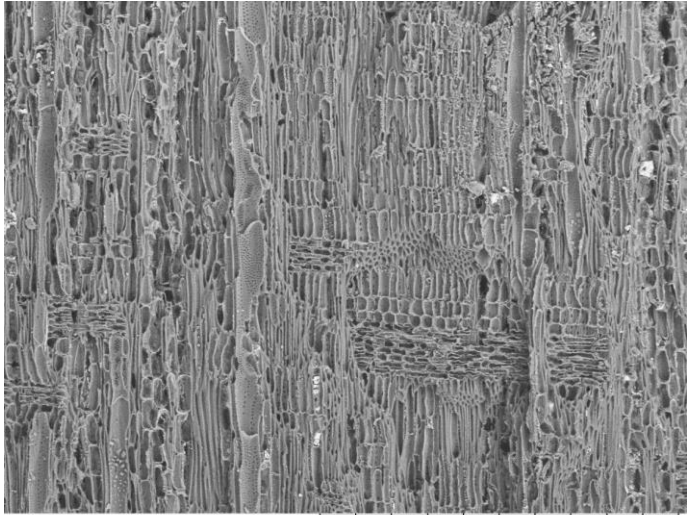
EWC 1672 2022/10/20 11:06 D5.1 x200 500 µm

Tangential



EWC 1672 2022/10/20 11:13 D5.6 x200 500 µm

Radial



EWC 1672 2022/10/20 11:08 D5.2 x200 500 µm

EWC 1673 Unknown identification

Vessels

Size: 50-100µm, 100-200µm

Freq.: 5 to 20

Arrangement: solitary, pairs, chains

Tyloses: common

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Vascentric (aliform), Diffuse-in-aggregates

Porosity: diffuse

Common Name:

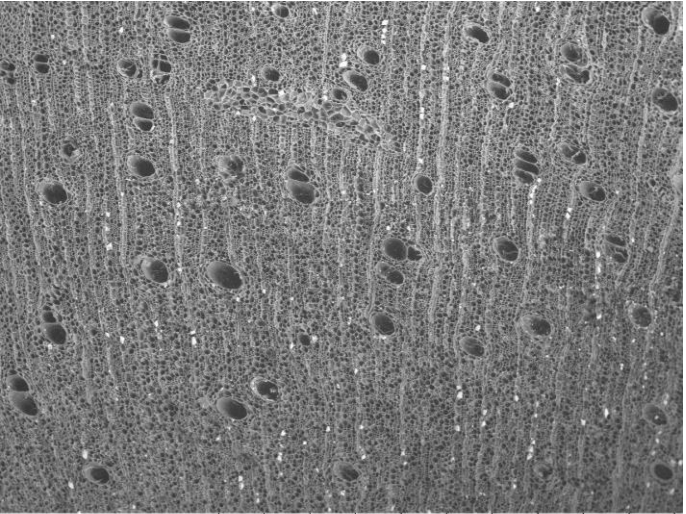
Elevation:

Description:

Location: Ecuador

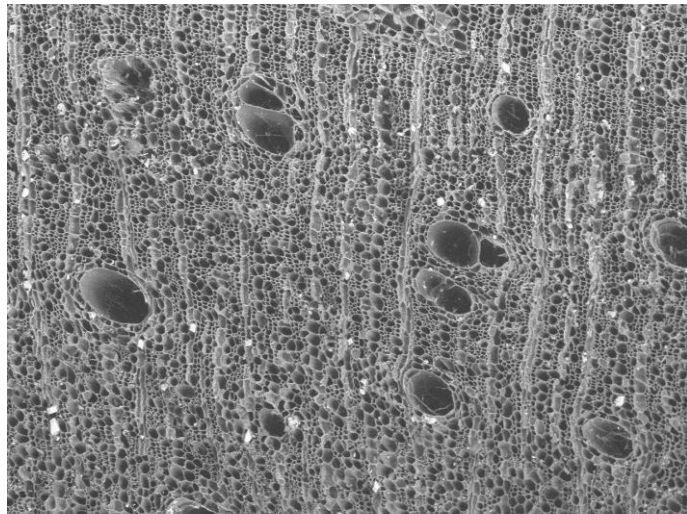
Locality:

Transverse 50x



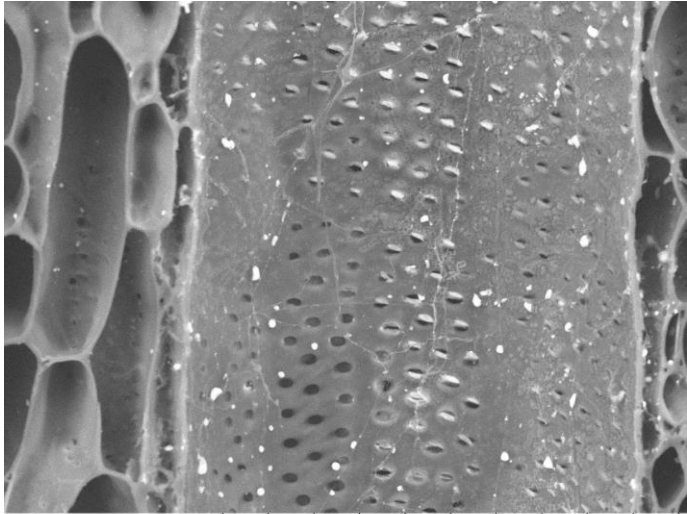
EWC 1673 2022/10/20 14:28 D3.4 x50 2 mm

Transverse 100x



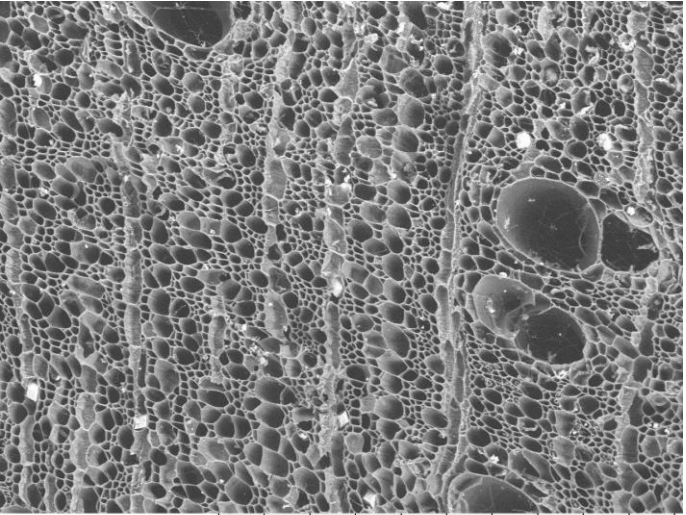
EWC 1673 2022/10/20 14:29 D3.4 x100 1 mm

Vessel Wall



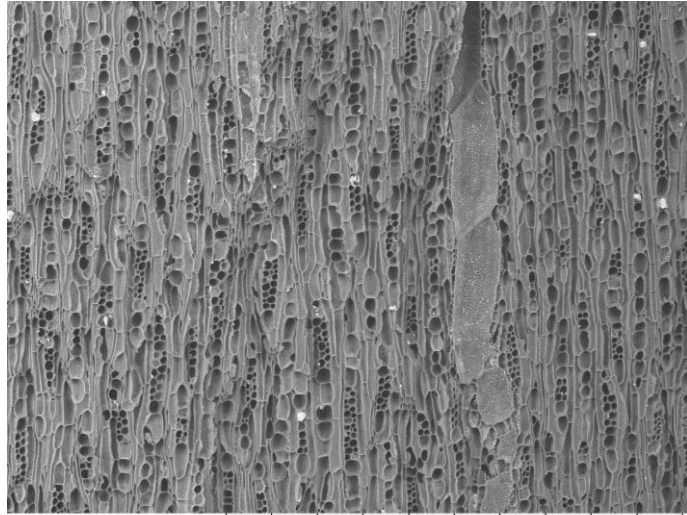
EWC 1673 2022/10/20 14:35 D5.2 x1.0k 100 µm

Transverse 200x



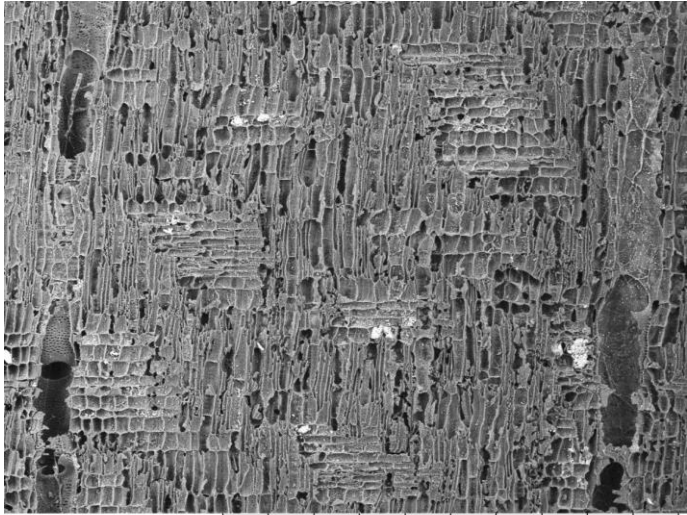
EWC 1673 2022/10/20 14:30 D3.4 x200 500 µm

Tangential



EWC 1673 2022/10/20 14:32 D5.2 x100 1 mm

Radial



EWC 1673 2022/10/20 14:36 D5.5 x100 1 mm

EWC 1674 Unknown identification

Vessels

Size: <50µm, 50-100µm

Freq.: 40 to 100, 100+

Arrangement: solitary, chains, clusters

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Thin bands,
Diffuse-in-aggregates

Porosity: semi-ring porous

Common Name:

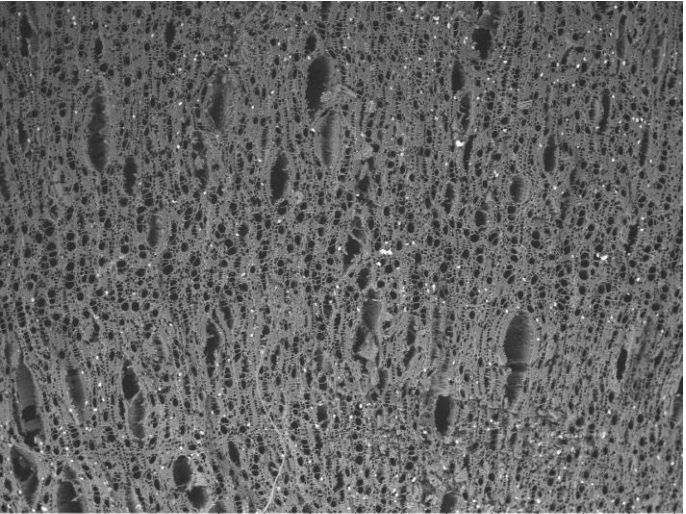
Elevation:

Description:

Location: Ecuador

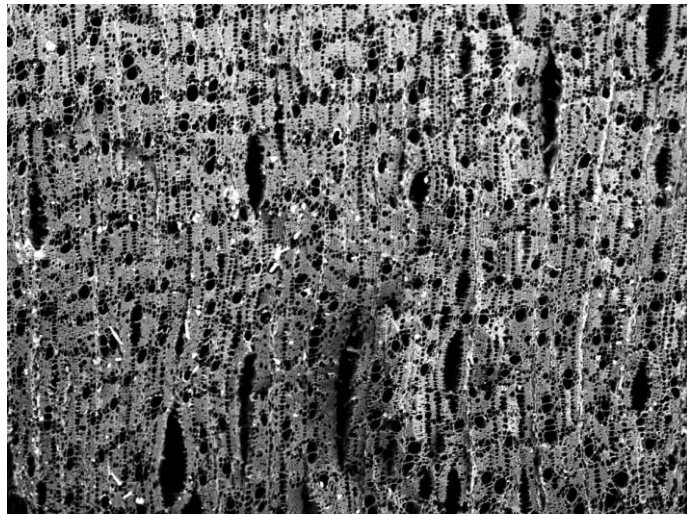
Locality:

Transverse 50x



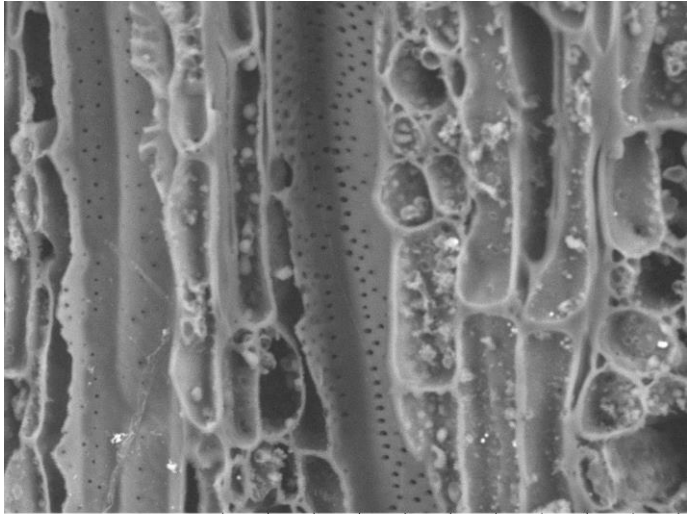
EWC 1674 2022/10/20 14:40 D3.9 x50 2 mm

Transverse 100x



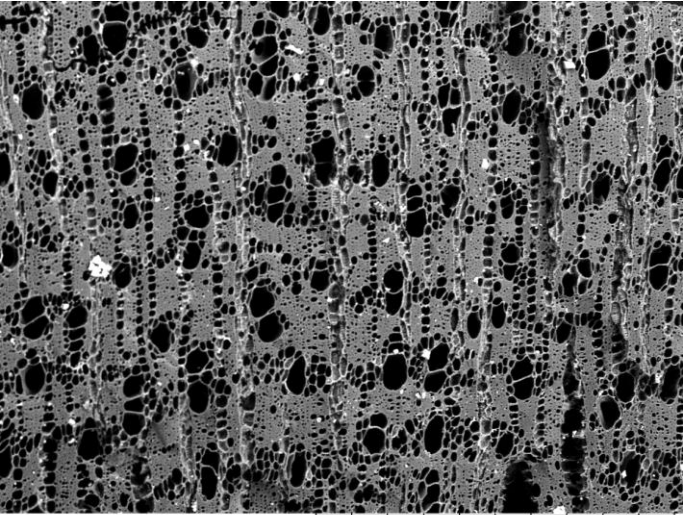
EWC 1674 2022/11/01 09:23 D3.0 x100 1 mm

Vessel Wall



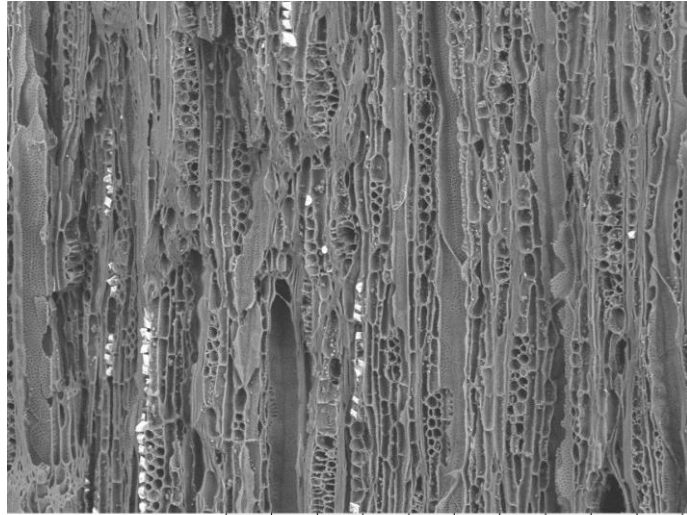
EWC 1674 2022/10/20 14:49 D4.6 x1.0k 100 um

Transverse 200x



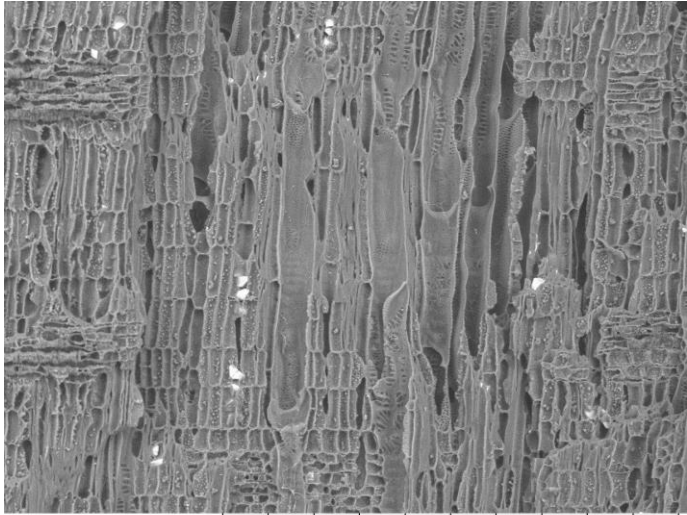
EWC 1674 2022/11/01 09:25 D3.6 x200 500 um

Tangential



EWC 1674 2022/10/20 14:47 D4.6 x200 500 um

Radial



EWC 1674 2022/10/20 14:45 D5.1 x200 500 um

EWC 1675 Unknown identification

Vessels

Size: <50µm, 50-100µm

Freq.: 100+

Arrangement: primarily solitary, some pairs and chains

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Banded (thin), diffuse in aggregates

Porosity: semi ring porous, diffuse

Common Name:

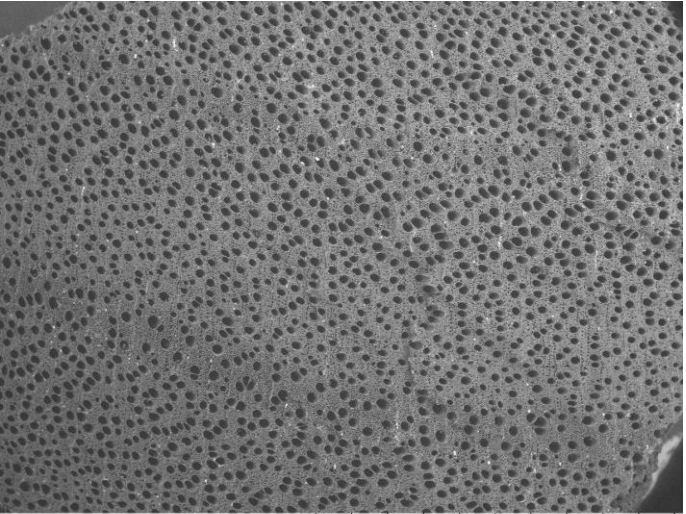
Elevation:

Description:

Location: Ecuador

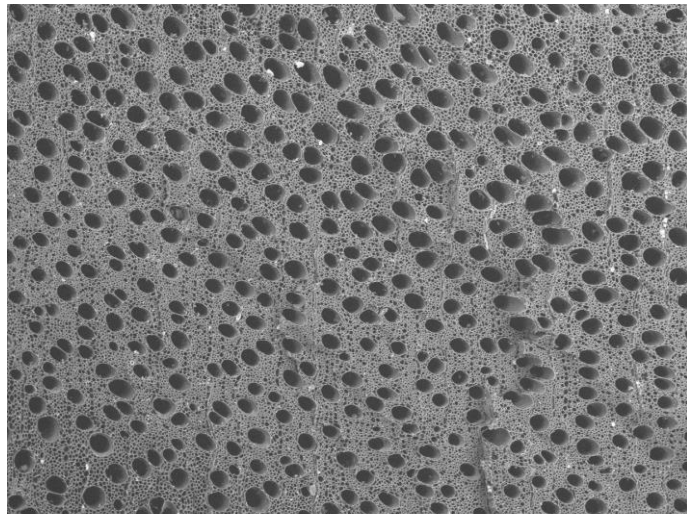
Locality:

Transverse 50x



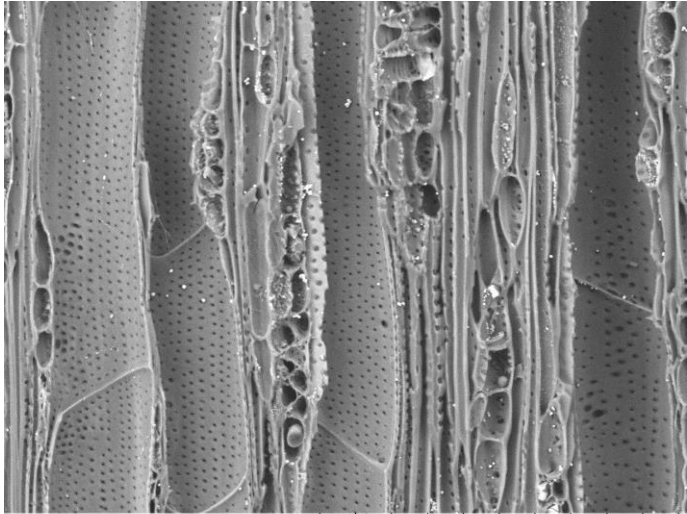
EWC 1675 2022/10/20 17:23 D4.3 x50 2 mm

Transverse 100x



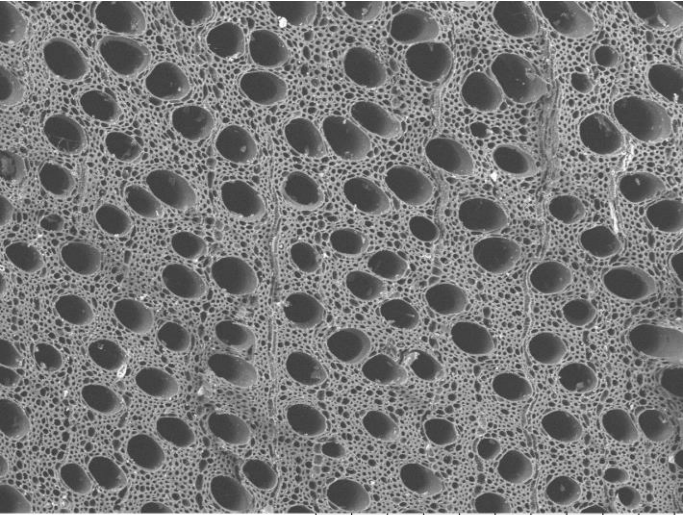
EWC 1675 2022/10/20 17:23 D4.3 x100 1 mm

Vessel Wall 500x



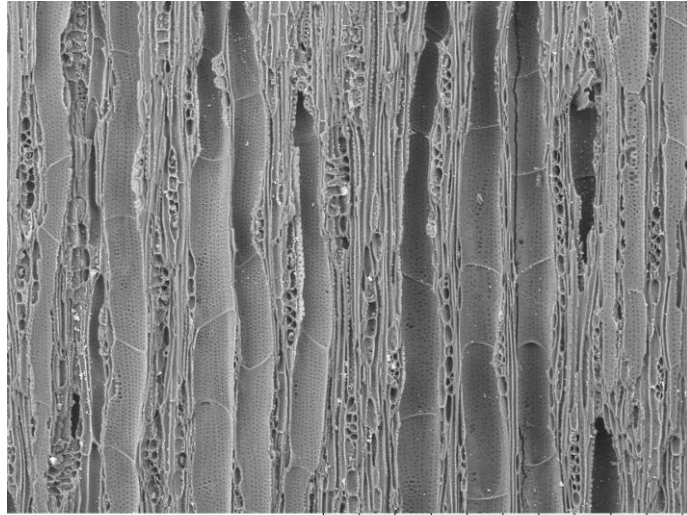
EWC 1675 2022/10/20 17:38 D4.7 x500 200 µm

Transverse 200x



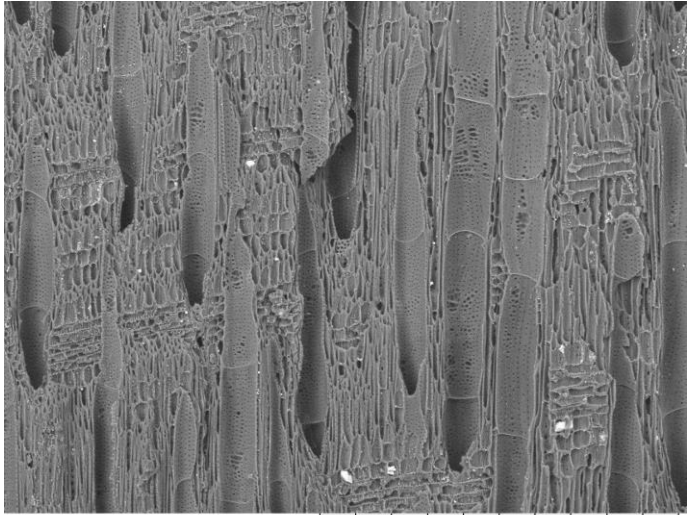
EWC 1675 2022/10/20 17:24 D4.3 x200 500 µm

Tangential 200x



EWC 1675 2022/10/20 17:37 D4.7 x200 500 µm

Radial 200x



EWC 1675 2022/10/20 17:33 D6.1 x200 500 µm

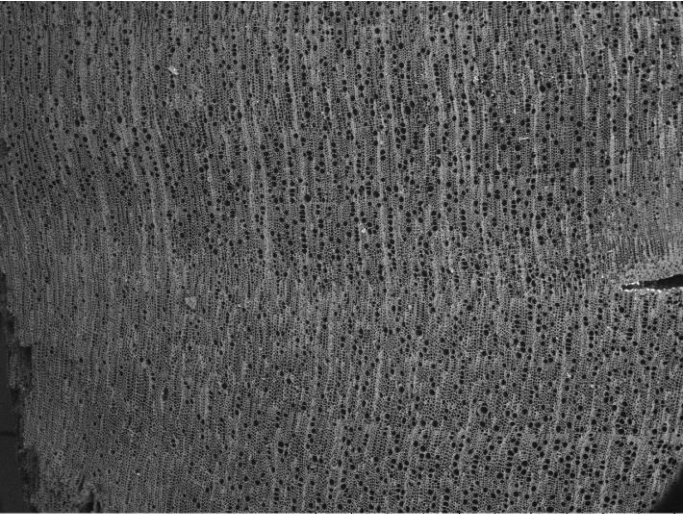
EWC 1676 Unknown identification

Vessels
Size: <50µm
Freq.: 40 to 100
Arrangement: solitary, pairs, chains, clusters
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Diffuse, vasicentric unilateral
Porosity: diffuse, semi ring porous

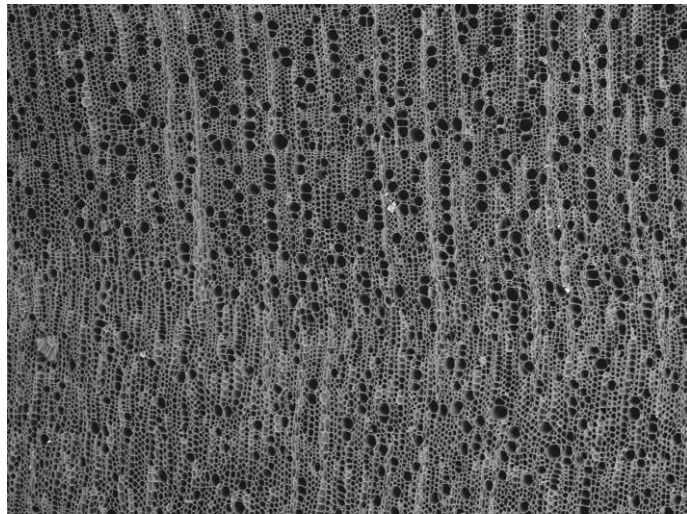
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



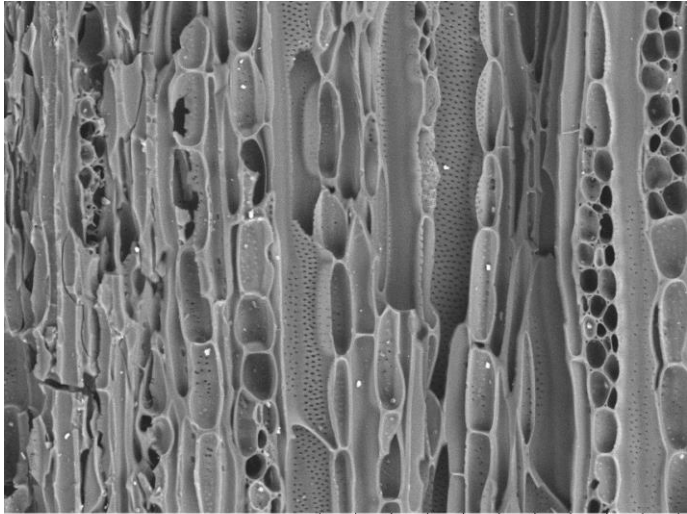
EWC 1676 2022/10/20 17:44 D4.6 x50 2 mm

Transverse 100x



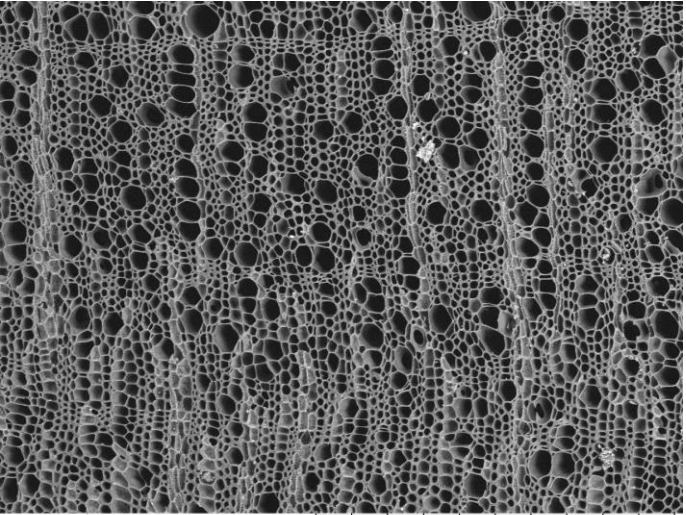
EWC 1676 2022/10/20 17:45 D4.6 x100 1 mm

Vessel Wall 500x



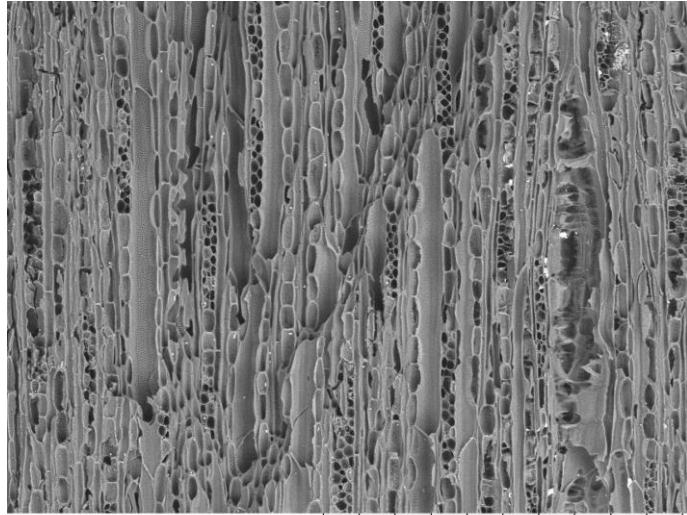
EWC 1676 2022/10/20 17:51 D5.6 x500 200 µm

Transverse 200x



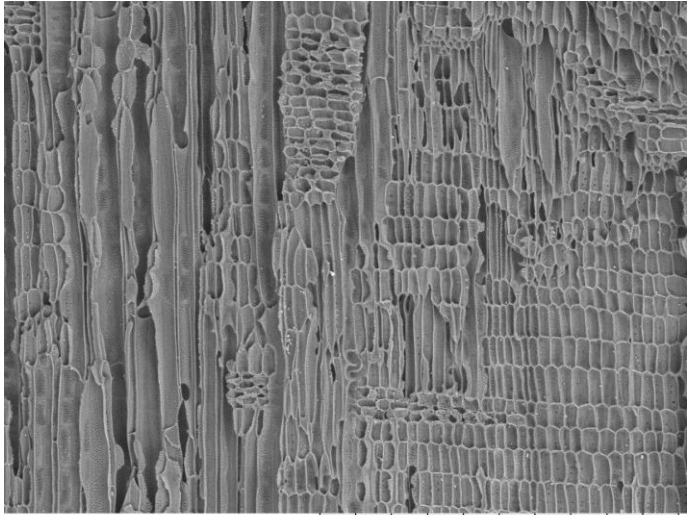
EWC 1676 2022/10/20 17:46 D4.6 x200 500 µm

Tangential 200x



EWC 1676 2022/10/20 17:49 D5.6 x200 500 µm

Radial 200x



EWC 1676 2022/10/20 17:54 D6.3 x200 500 µm

EWC 1678 Unknown identification

Vessels

Size: <50µm, 50-100µm

Freq.: 100+

Arrangement: solitary, pairs, chains, radials

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 1 to 3, 4+,

Parenchyma Type: Absent

Porosity: diffuse

Common Name:

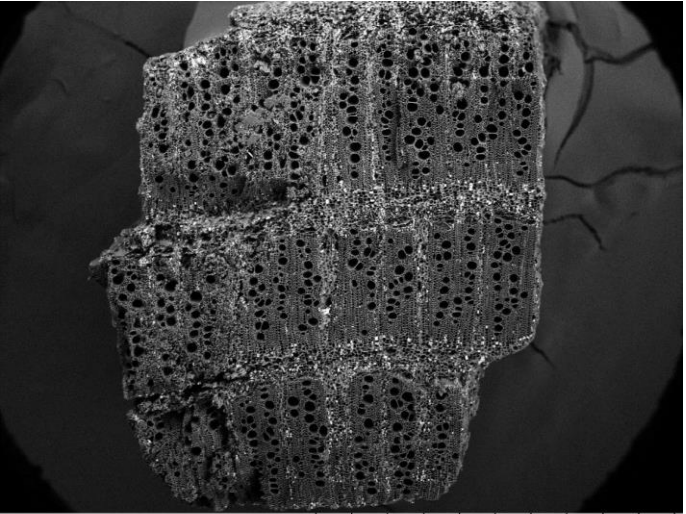
Elevation:

Description:

Location: Ecuador

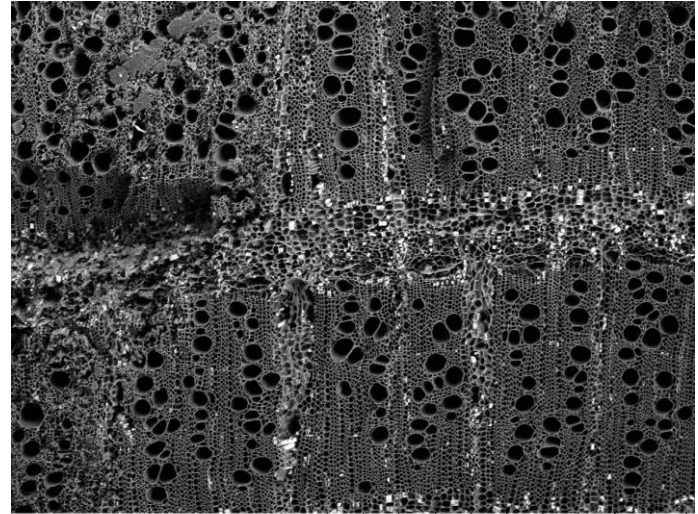
Locality:

Transverse 50x



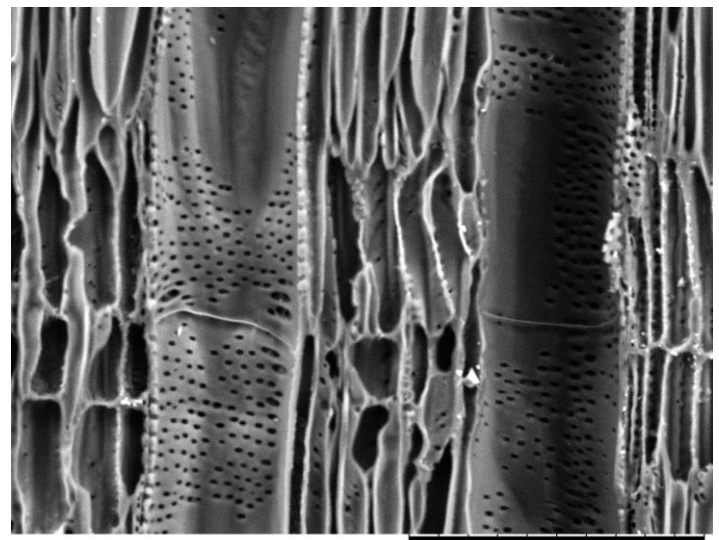
EWC 1678 2022/10/26 17:14 D2.9 x50 2 mm

Transverse 100x



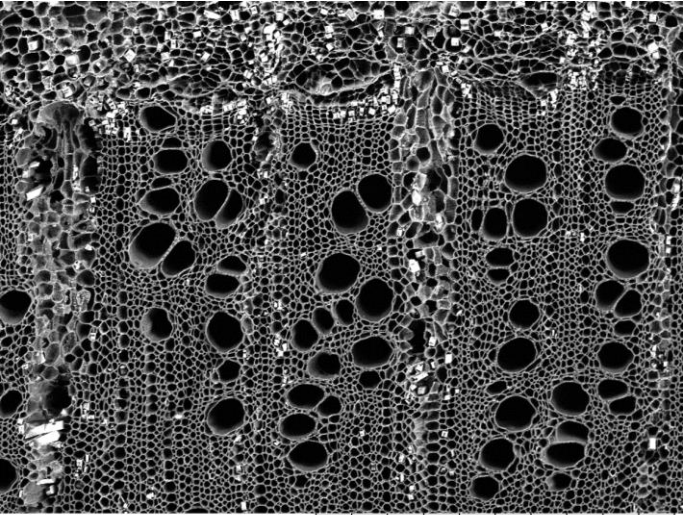
EWC 1678 2022/10/26 17:15 D2.9 x100 1 mm

Vessel Wall



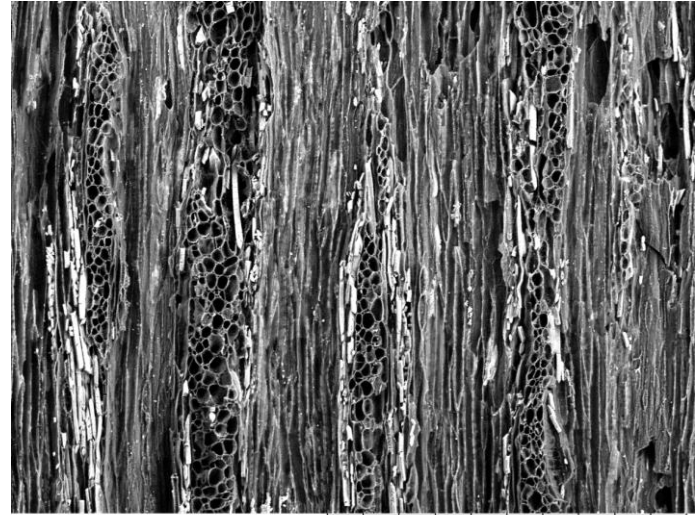
EWC 1678 2022/10/26 17:33 D2.7 x800 100 um

Transverse 200x



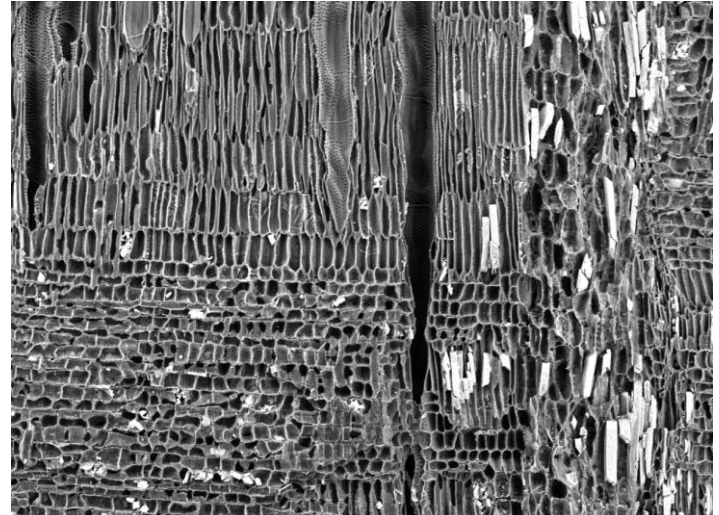
EWC 1678 2022/10/26 17:16 D2.9 x200 500 um

Tangential



EWC 1678 2022/10/26 17:25 D2.5 x200 500 um

Radial



EWC 1678 2022/10/26 17:32 D2.7 x200 500 um

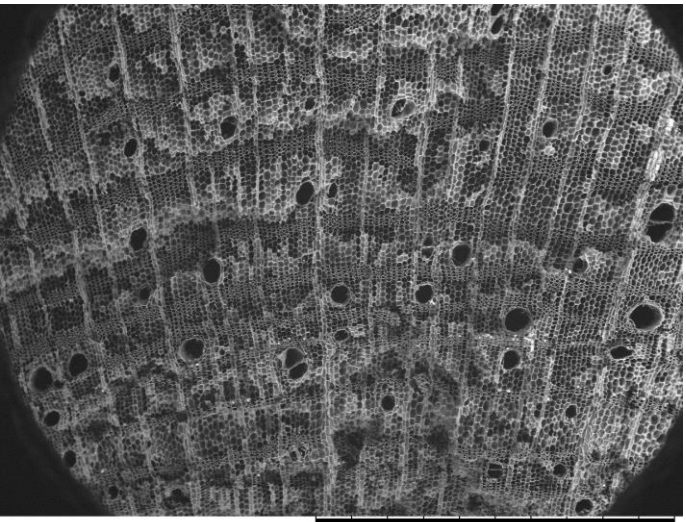
EWC 1679 FABACEAE *Erythrina poeppigiana* (Walp.) O.F. Cook

Vessels
Size: 50-100, 100-200µm
Freq.: 5 to 20
Arrangement: solitary, pairs
Tyloses: absent

Rays:
per mm: 12+
Thickness (cells): 1 to 3
Parenchyma Type: Banded (thick),
Vasicentric (winged, confluent)
Porosity: diffuse

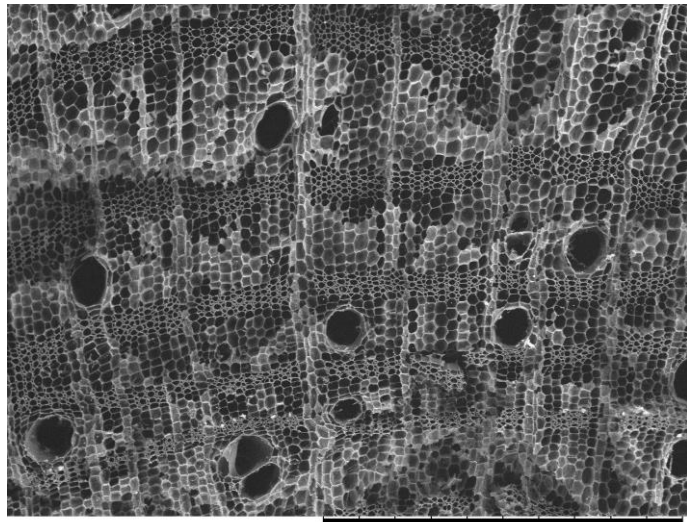
Common Name: "Casaca" or "Palo Prieto"
Elevation: 160 m
Description:
Location: Ecuador, Manabí, Jama
Locality: Jama. El Quemado Area 4. Tree found
in lower canopy of secondary forest on a
southwest facing slope. Convento topo map
1:50,000, cuadrícula (block) N80 E87.

Transverse 50x



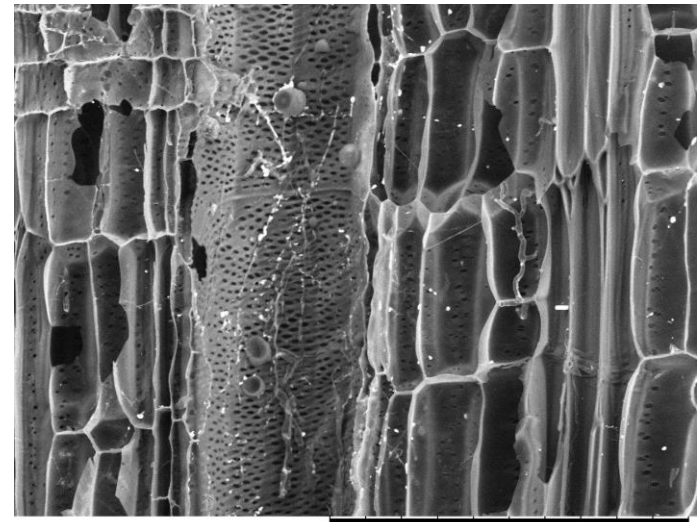
EWC 1679 2022/10/26 16:55 D2.6 x50 2 mm

Transverse 100x



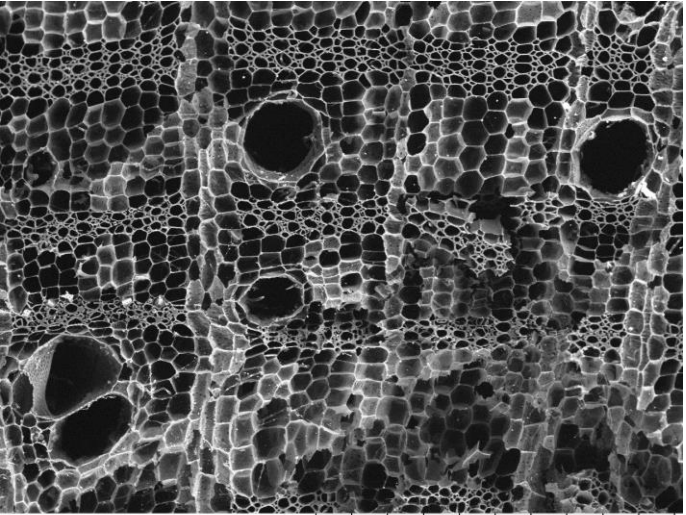
EWC 1679 2022/10/26 16:56 D2.6 x100 1 mm

Vessel Wall



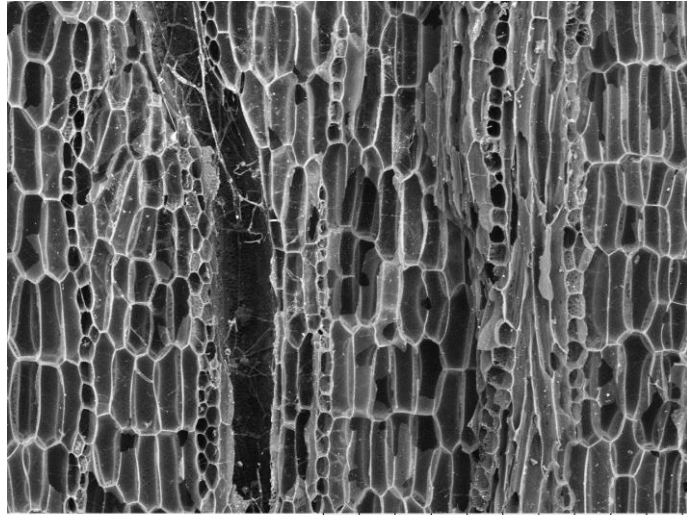
EWC 1679 2022/10/26 17:09 D4.0 x500 200 µm

Transverse 200x



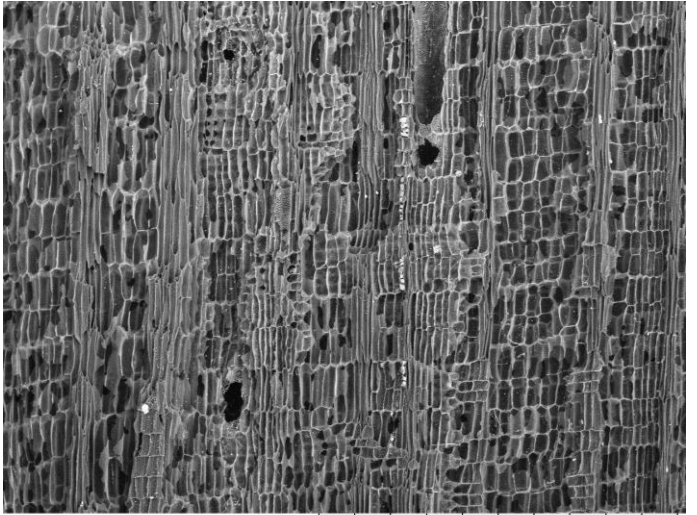
EWC 1679 2022/10/26 16:57 D2.6 x200 500 µm

Tangential



EWC 1679 2022/10/26 17:02 D3.8 x200 500 µm

Radial



EWC 1679 2022/10/26 17:07 D4.0 x100 1 mm

EWC 1680 Unknown Identification

Vessels

Size: <50µm

Freq: 40-100, 100+

Arrangement: solitary, pairs, chains, clusters

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type Diffuse, Vasicentric, Unilateral

Porosity: semi-ring porous

Common Name: "negrito"

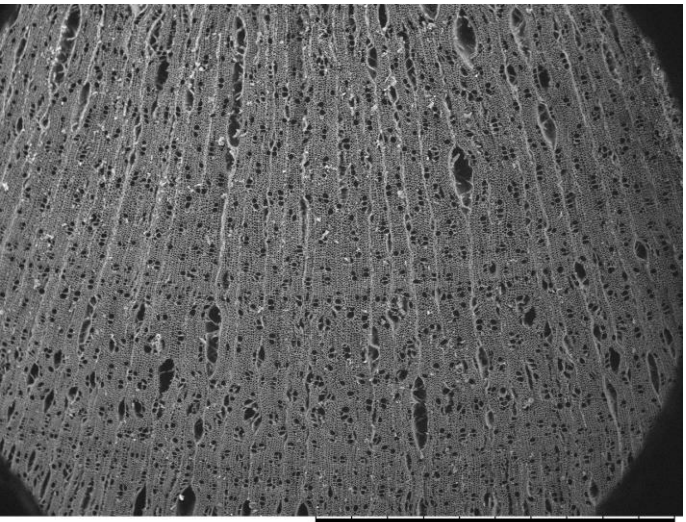
Elevation:

Description:

Location: Ecuador

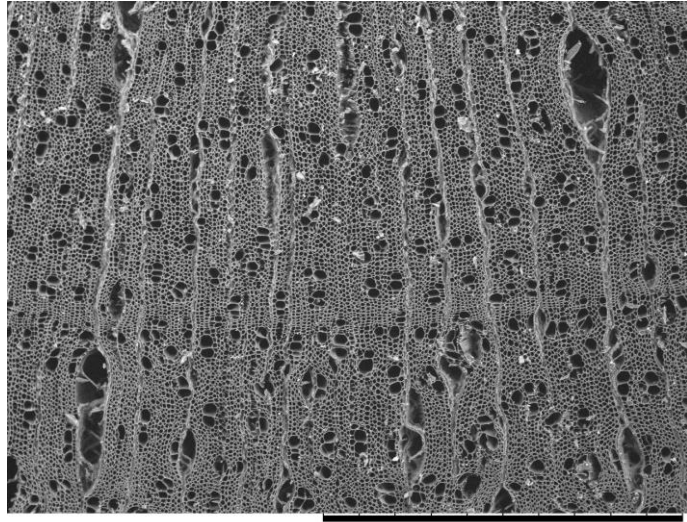
Locality:

Transverse 50x



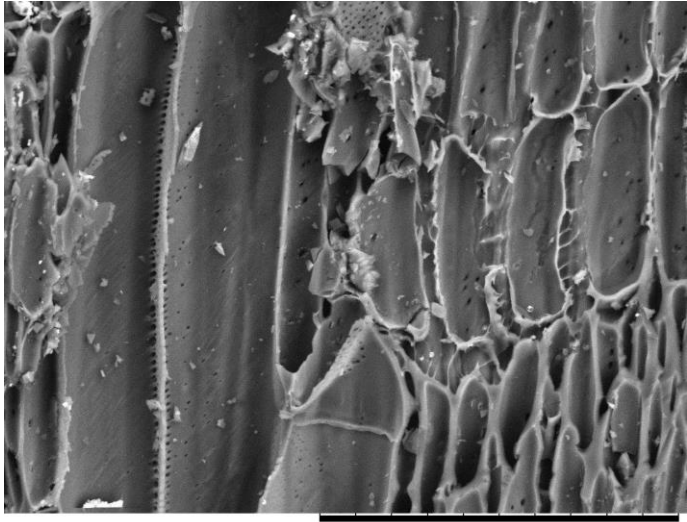
EWC 1680 2022/10/26 17:48 D3.1 x50 2 mm

Transverse 100x



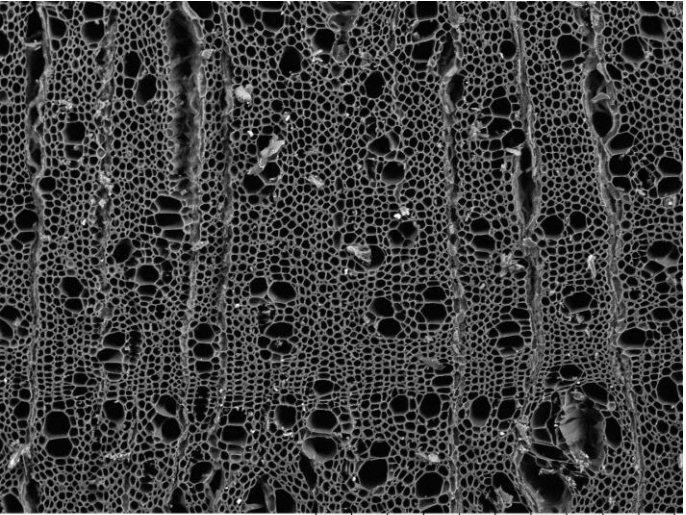
EWC 1680 2022/10/26 17:49 D3.1 x100 1 mm

Vessel Wall



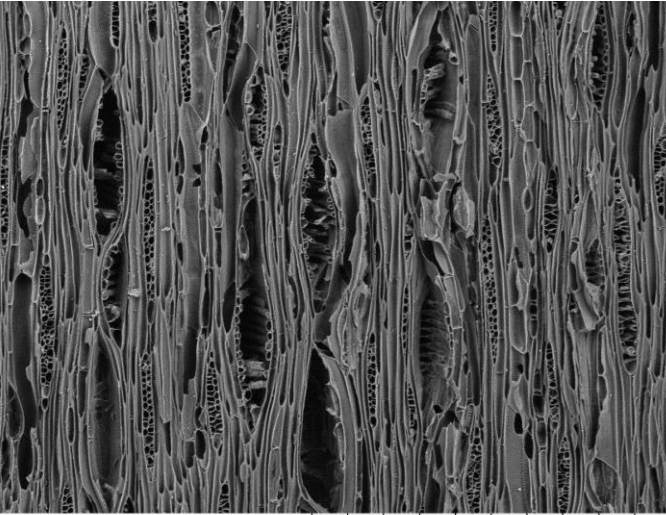
EWC 1680 2022/10/26 18:02 D4.0 x1.0k 100 um

Transverse 200x



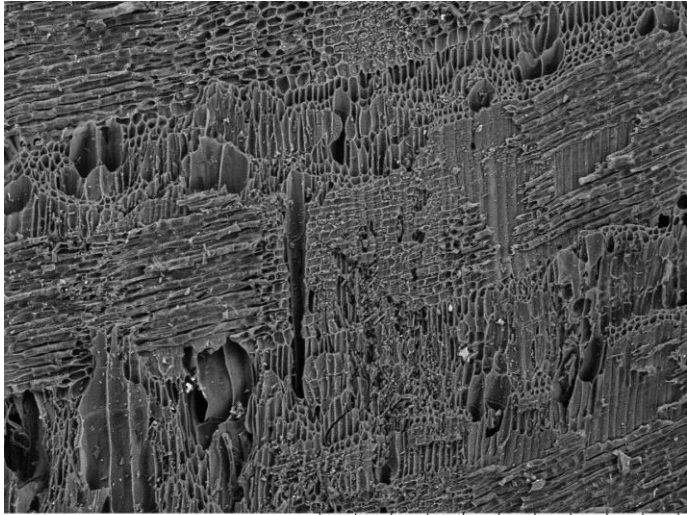
EWC 1680 2022/10/26 17:50 D3.1 x200 500 um

Tangential



EWC 1680 2022/10/26 17:57 D3.9 x200 500 um

Radial



EWC 1680 2022/10/26 17:54 D4.1 x200 500 um

EWC 1682 cf. CAPPARIDACEAE

Vessels

Size: 50-100µm

Freq.: 5 to 20, 20 to 40

Arrangement: solitary, pairs, chains

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type, Absent, Scanty,
Diffuse, Vasicentric (winged)

Porosity: semi-ring porous

Common Name:

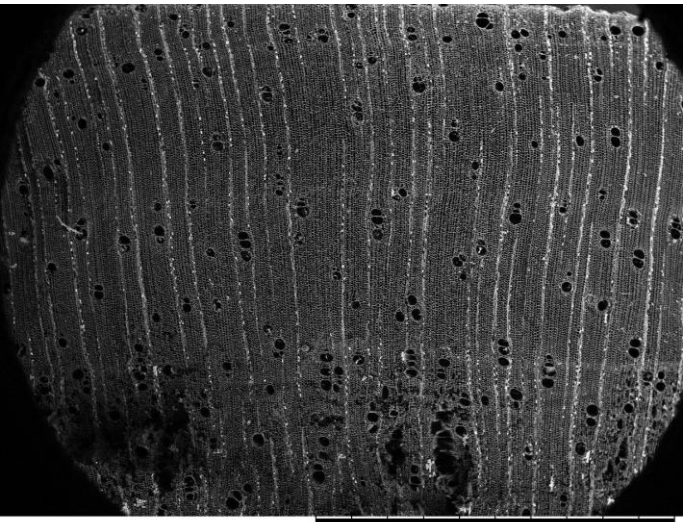
Elevation:

Description:

Location: Ecuador

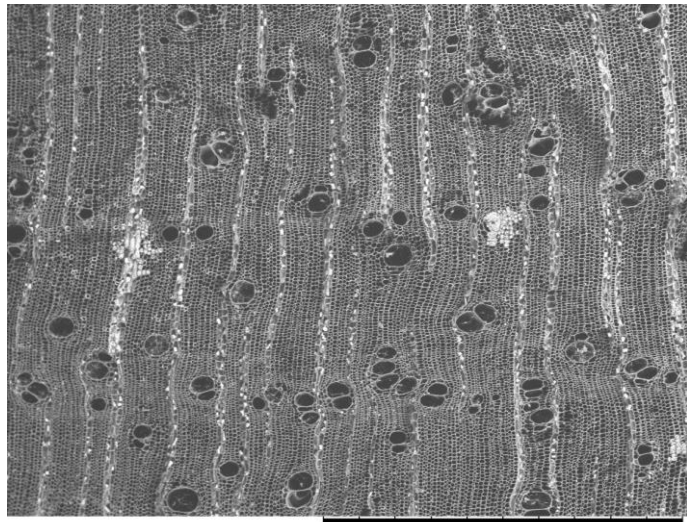
Locality:

Transverse 50x



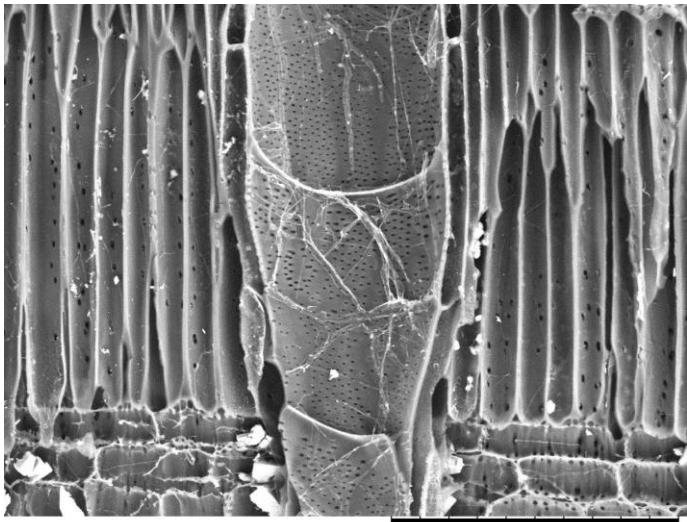
EWC 1682 2022/10/26 18:08 D2.5 x50 2 mm

Transverse 100x



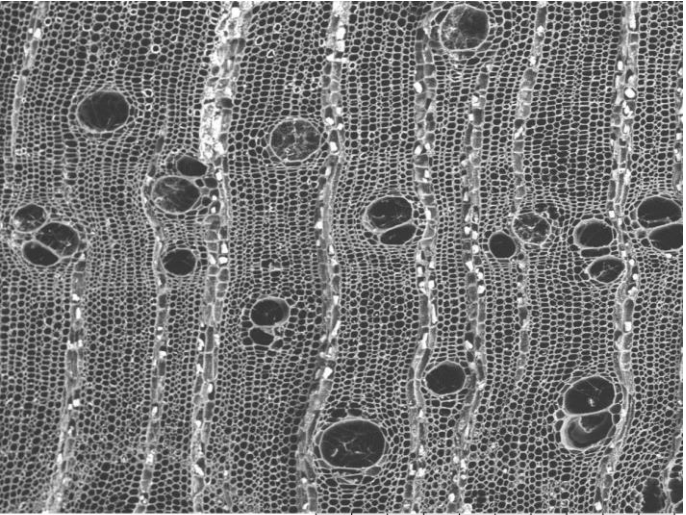
EWC1682 2022/11/09 14:25 D2.2 x100 1 mm

Vessel Wall



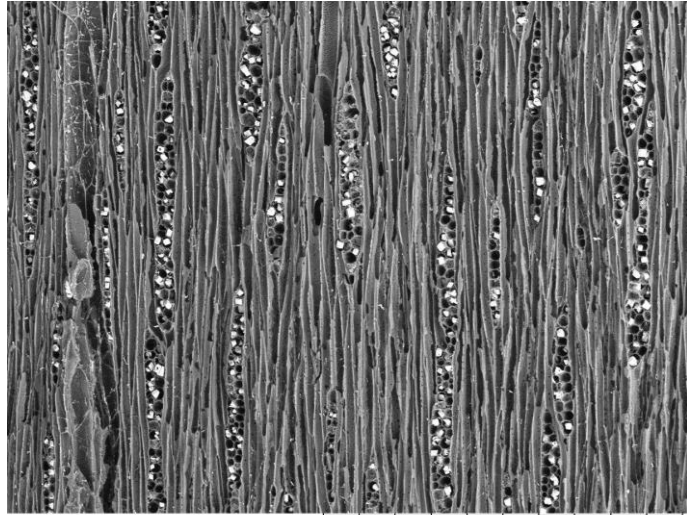
EWC 1682 2022/10/26 18:13 D3.0 x800 100 um

Transverse 200x



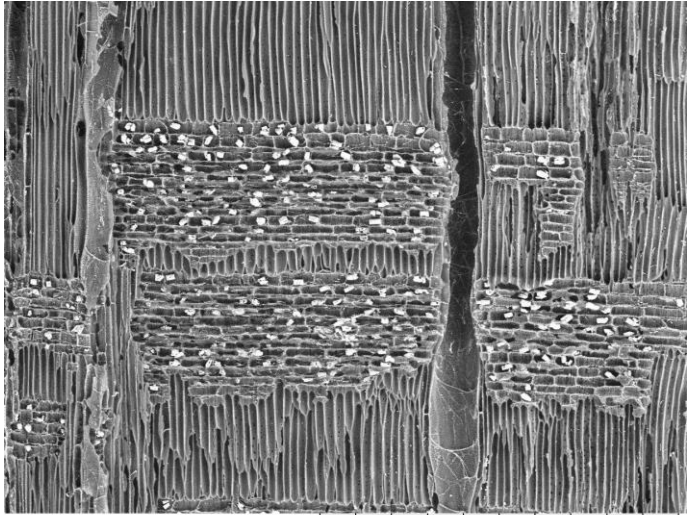
EWC1682 2022/11/09 14:27 D2.2 x200 500 um

Tangential



EWC 1682 2022/10/26 18:16 D3.7 x200 500 um

Radial



EWC 1682 2022/10/26 18:12 D3.0 x200 500 um

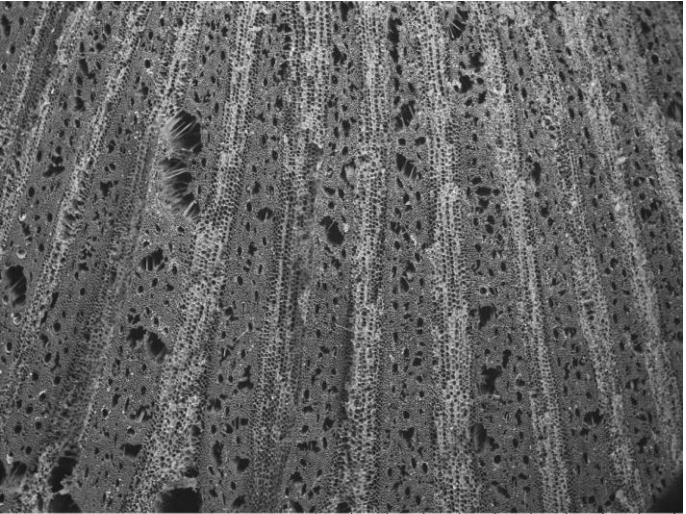
EWC 1683 Unknown Identification

Vessels
Size: <50µm
Freq.: 100+
Arrangement: solitary
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 4+
Parenchyma Type: Absent, Scanty,
Diffuse
Porosity: diffuse

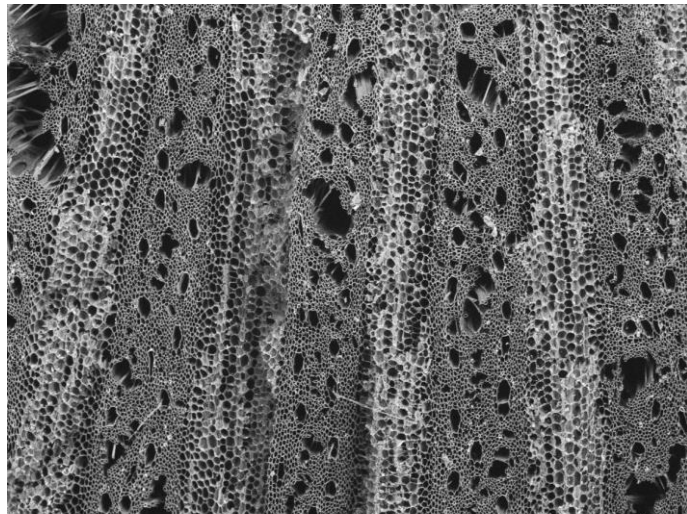
Common Name: "gordoncillo"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



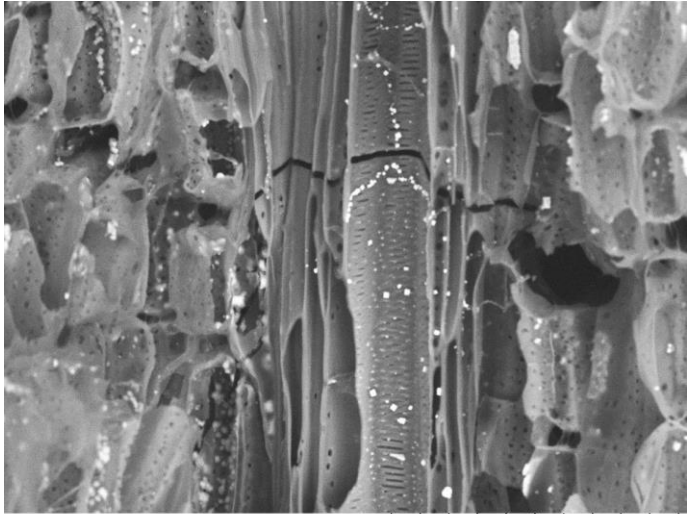
EWC 1683 2022/10/27 10:11 D4.7 x50 2 mm

Transverse 100x



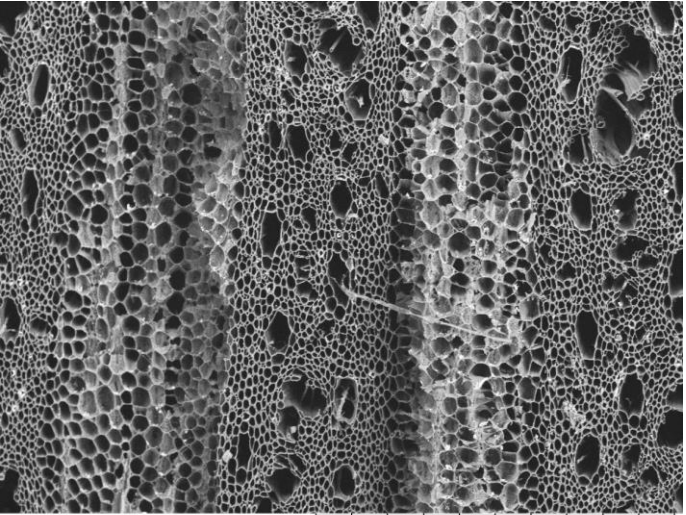
EWC 1683 2022/10/27 10:12 D4.7 x100 1 mm

Vessel Wall



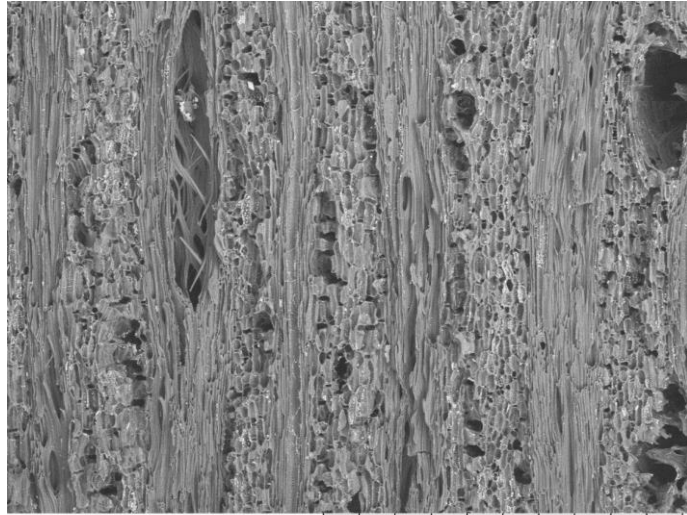
EWC 1683 2022/10/27 10:29 D6.8 x800 100 µm

Transverse 200x



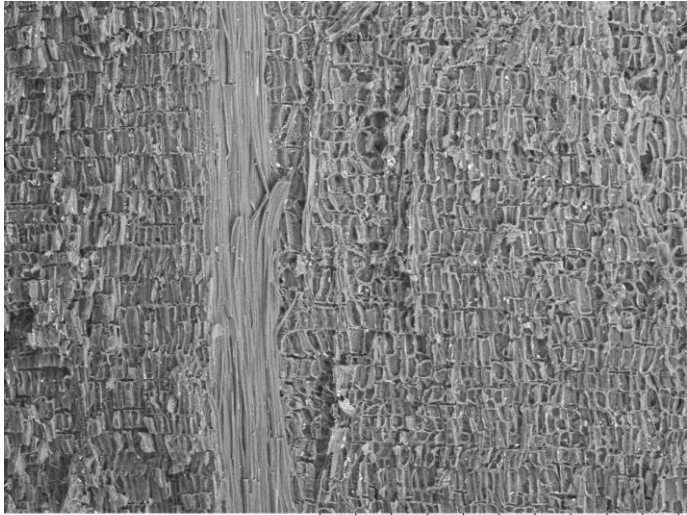
EWC 1683 2022/10/27 10:13 D4.7 x200 500 µm

Tangential



EWC 1683 2022/10/27 10:16 D6.3 x100 1 mm

Radial



EWC 1683 2022/10/27 10:21 D7.2 x100 1 mm

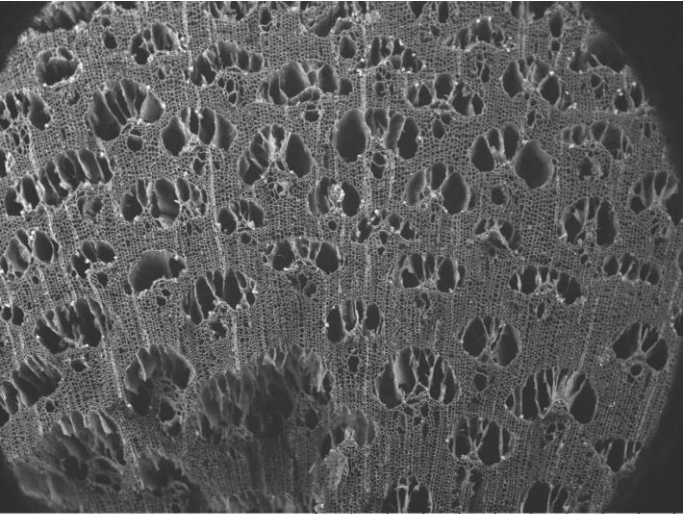
EWC 1686 Unknown Identification

Vessels
Size: 50-100µm, 100-200µm, 200+µm
Freq.: 100+
Arrangement: clusters
Tyloses: common

Rays:
per mm: <4, 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Vascentric
(confluent, unilateral), Diffuse
Porosity: semi-ring porous

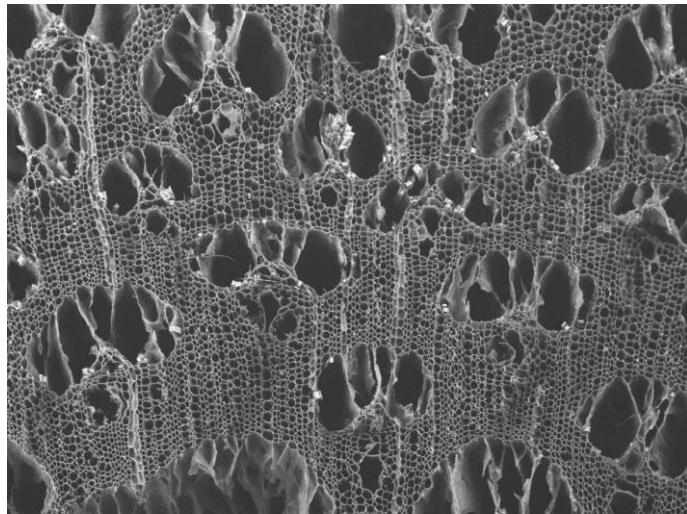
Common Name: "uñito"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



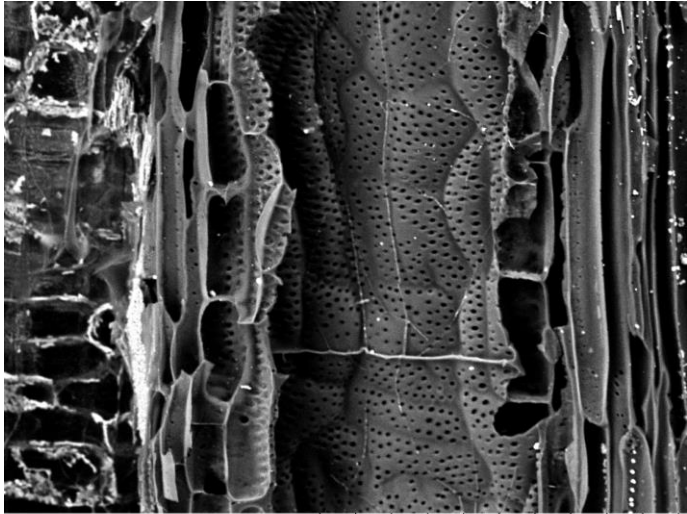
EWC 1686 2022/10/27 10:32 D2.8 x50 2 mm

Transverse 100x



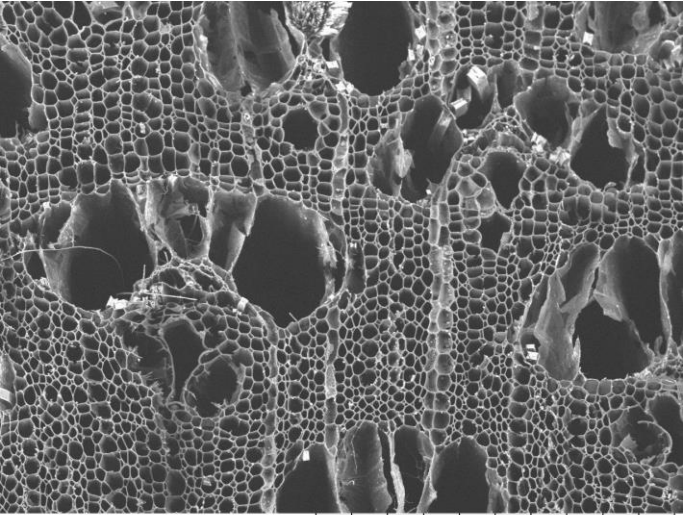
EWC 1686 2022/10/27 10:33 D2.8 x100 1 mm

Vessel Wall



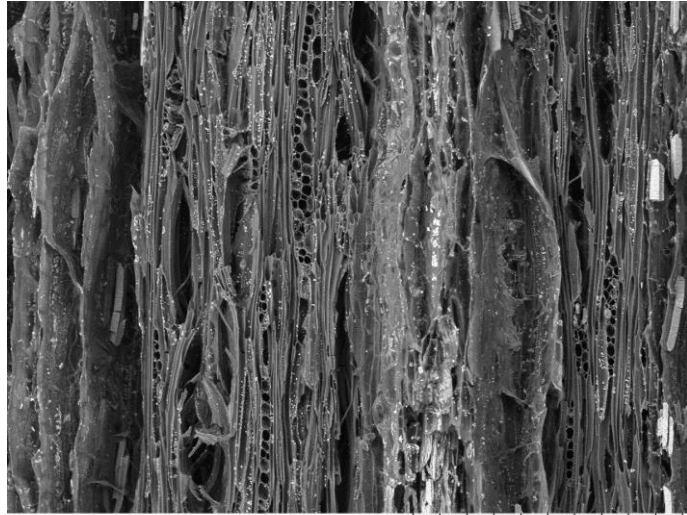
EWC 1686 2022/11/01 09:32 D3.7 x500 200 µm

Transverse 200x



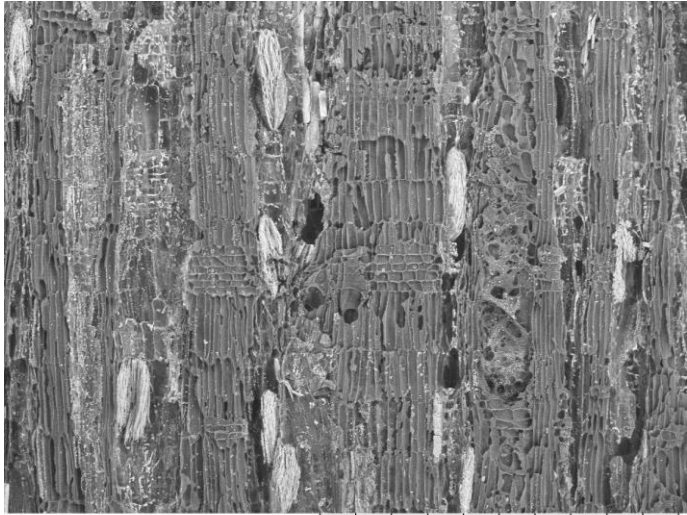
EWC 1686 2022/10/27 10:34 D2.8 x200 500 µm

Tangential



EWC 1686 2022/11/01 09:29 D4.6 x150 500 µm

Radial



EWC 1686 2022/10/27 10:45 D5.5 x100 1 mm

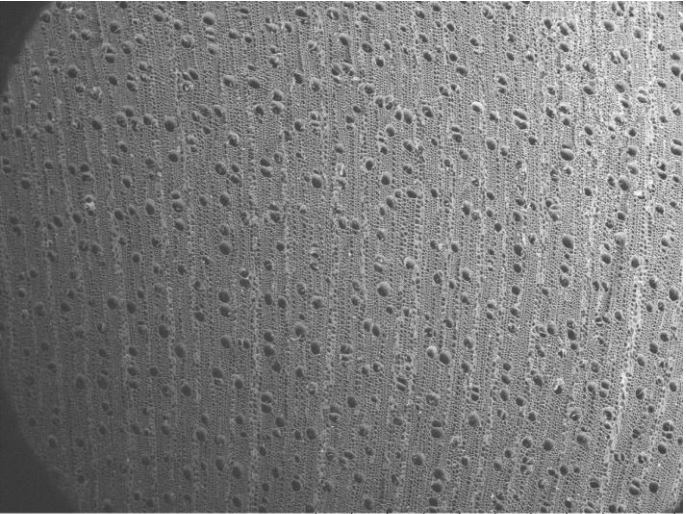
EWC 1687 THEACEAE *Pelliciera rhizophorae* Planch. & Triana

Vessels
Size: <50µm, 50-100µm
Freq.: 100+
Arrangement: solitary, pairs
Tyloses: common

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: scanty, diffuse
Porosity: diffuse

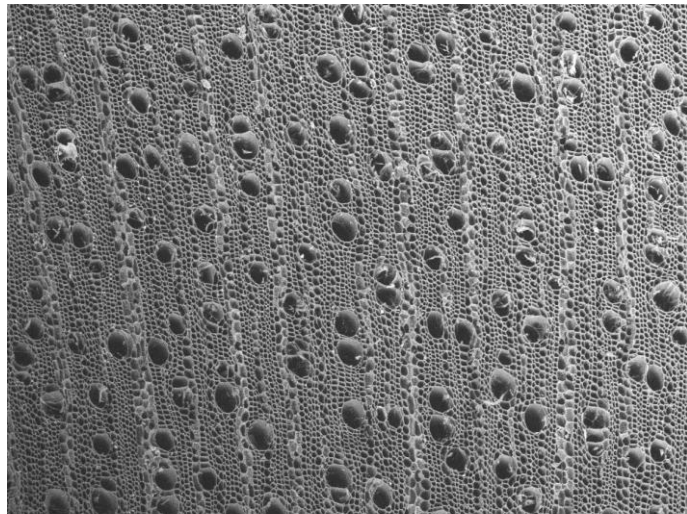
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



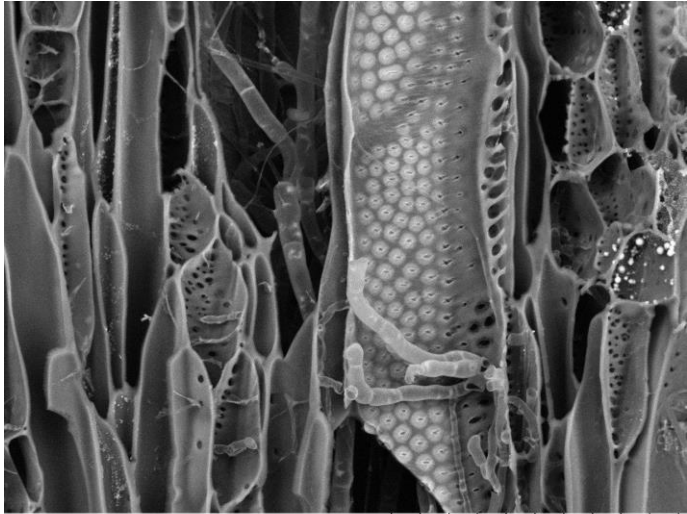
EWC 1687 2022/10/27 11:00 D3.6 x50 2 mm

Transverse 100x



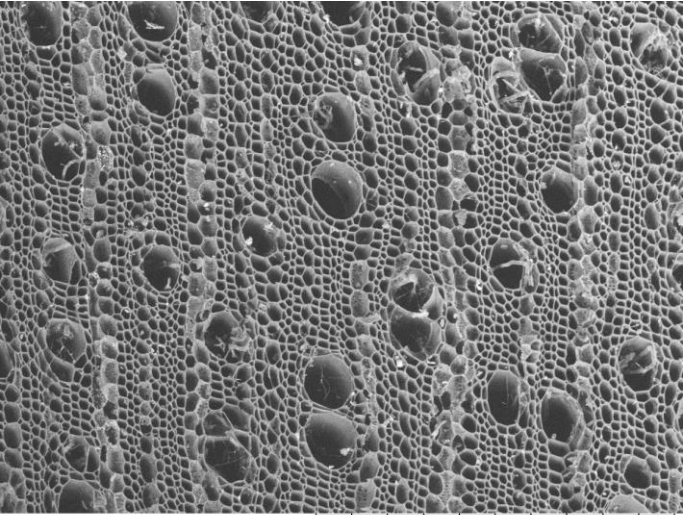
EWC 1687 2022/10/27 11:01 D3.6 x100 1 mm

Vessel Wall



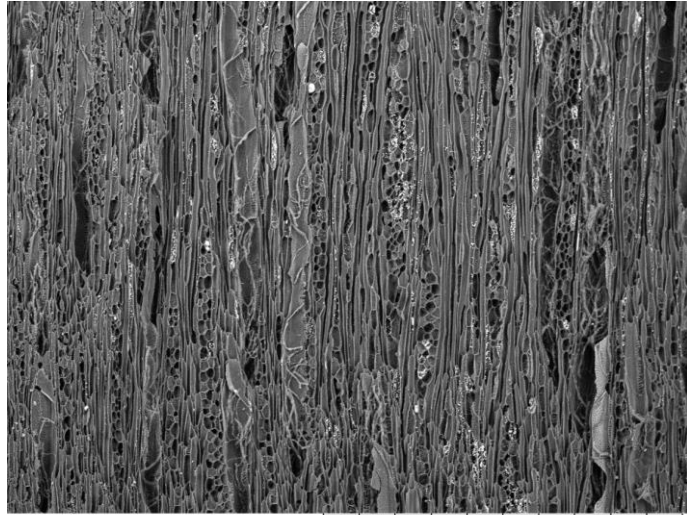
EWC 1687 2022/11/01 09:37 D4.5 x800 100 µm

Transverse 200x



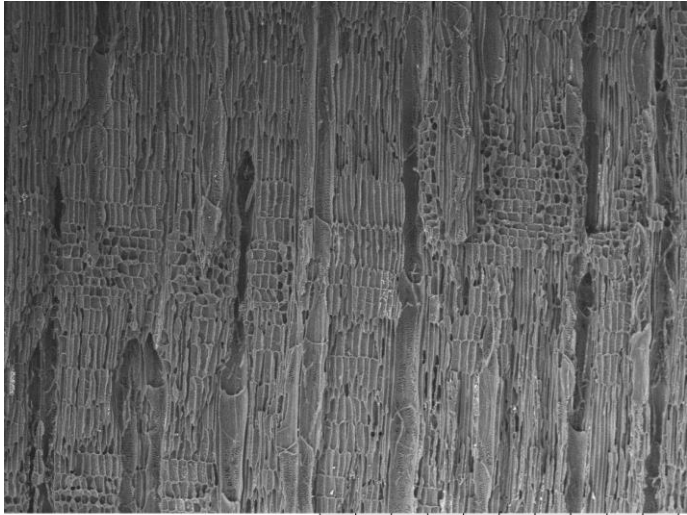
EWC 1687 2022/10/27 11:02 D3.6 x200 500 µm

Tangential



EWC 1687 2022/11/01 09:35 D4.4 x100 1 mm

Radial



EWC 1687 2022/10/27 11:12 D4.4 x100 1 mm

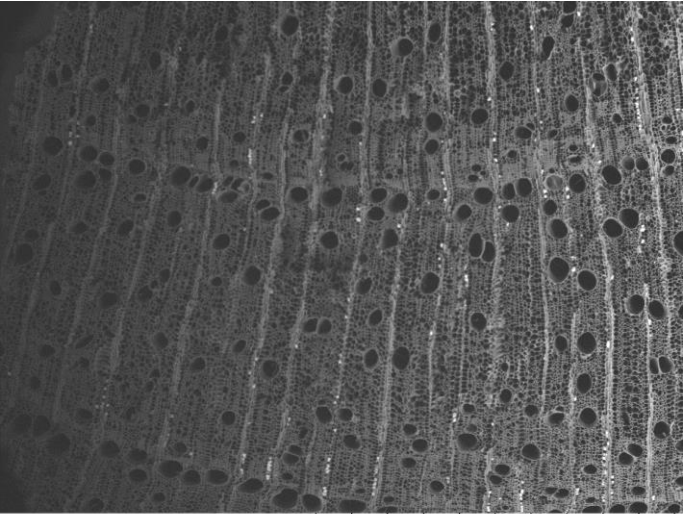
EWC 1688 CORDIACEAE *Cordia alliodora* (R. & P.) Oken.

Vessels
Size: <50µm, 50-100µm
Freq.: 20-40 40 to 100
Arrangement: solitary, pairs
Tyloses: absent
Porosity: ring porous

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Vasicentric
(aliform, unilateral), Diffuse-in-aggregates

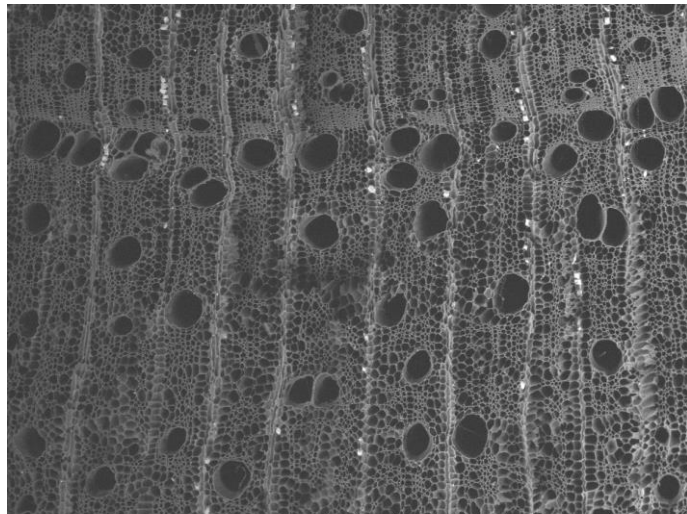
Parenchyma Type: Vasicentric
(aliform, unilateral), Diffuse-in-aggregates
Porosity: ring porous

Transverse 50x



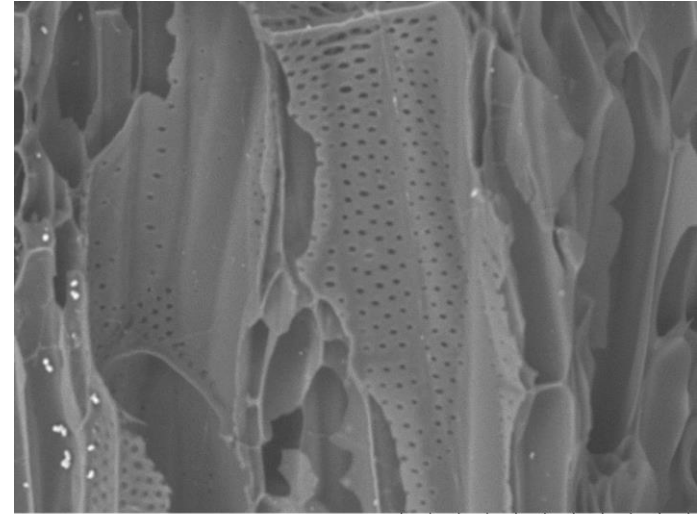
EWC 1688 2022/10/27 11:17 D4.3 x50 2 mm

Transverse 100x



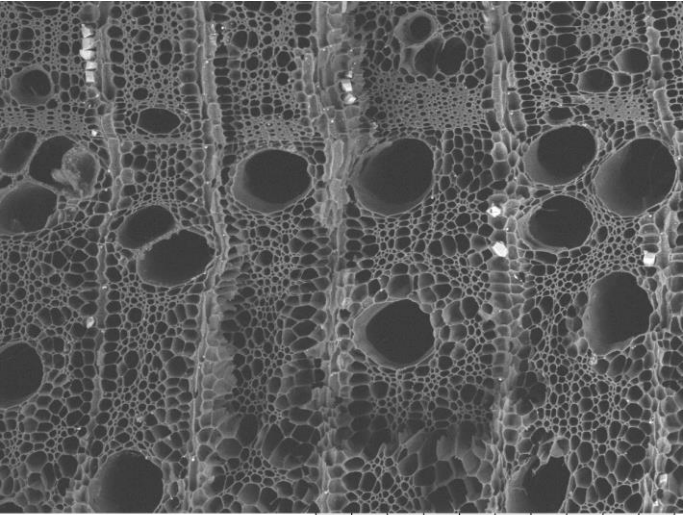
EWC 1688 2022/10/27 11:18 D3.3 x100 1 mm

Vessel Wall



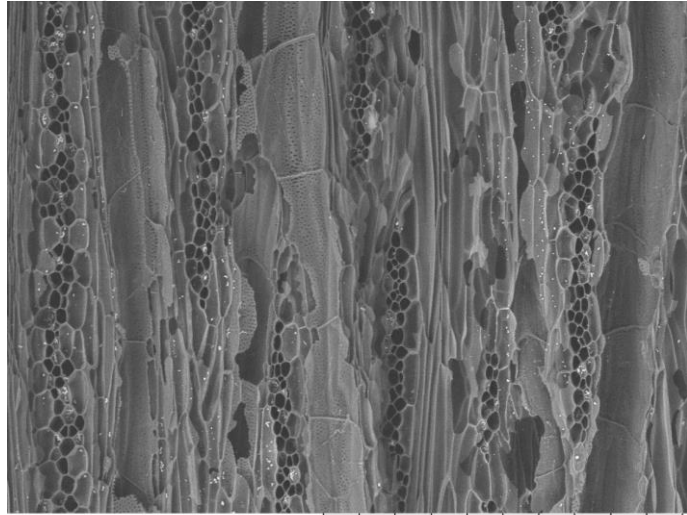
EWC 1688 2022/10/27 11:27 D5.3 x800 100 µm

Transverse 200x



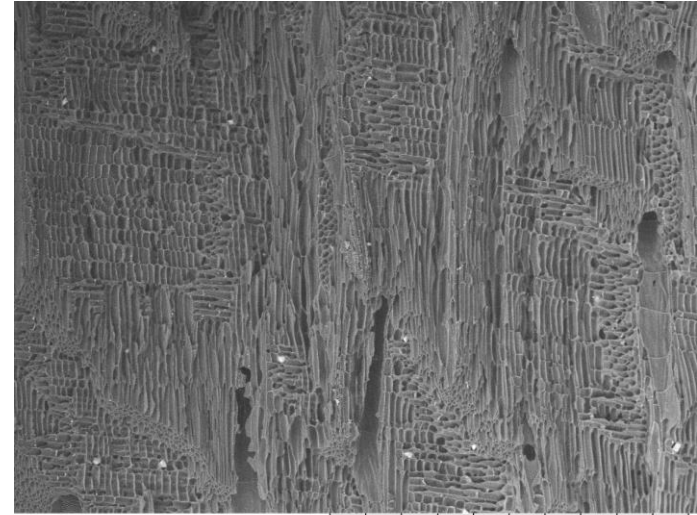
EWC 1688 2022/10/27 11:19 D3.3 x200 500 µm

Tangential



EWC 1688 2022/10/27 11:25 D5.3 x200 500 µm

Radial



EWC 1688 2022/10/27 11:21 D6.0 x100 1 mm

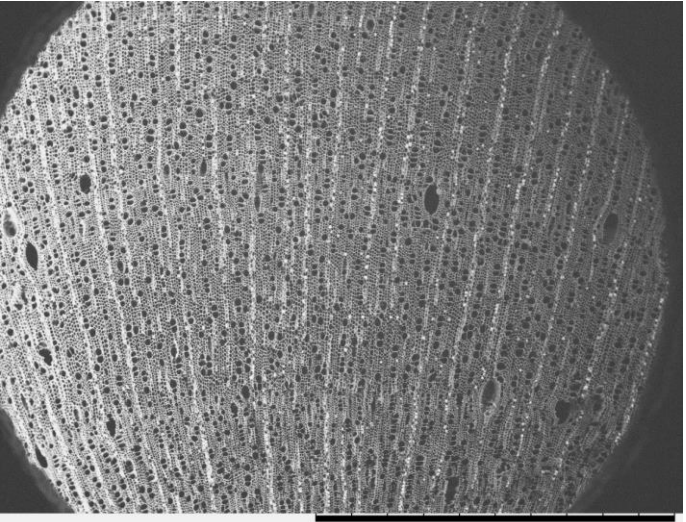
EWC 1692 MALPIGHIACEAE *Bunchosia cornifolia* Kunth

Vessels
Size: <50µm
Freq.: 100+
Arrangement: solitary, pairs, chains
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Diffuse, Scanty
Porosity: diffuse

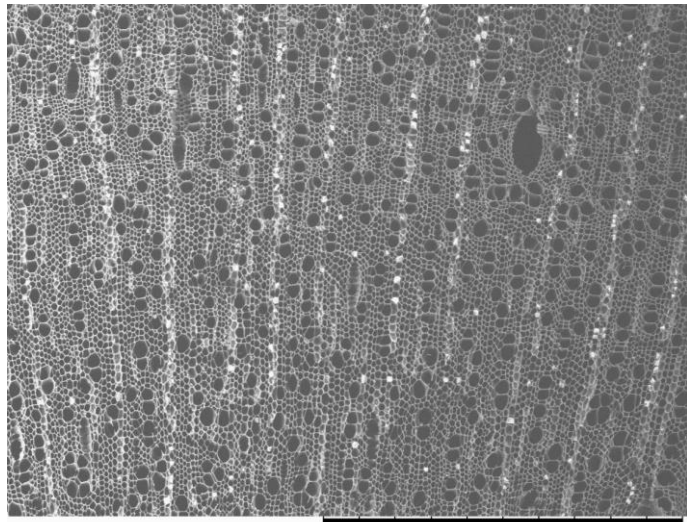
Common Name: "Cerzo" "Cereza de Monte"
Elevation: 220 m
Description: Small tree with red fruit.
Location: Ecuador, Manabí, Jama
Locality: La Humidad, area 2: Approximately 8 km E of Jama. Collected from a south facing slope in a low, wet forest. Convento topo map 1:50,000, cuadrícula (block) N78 E90.

Transverse 50x



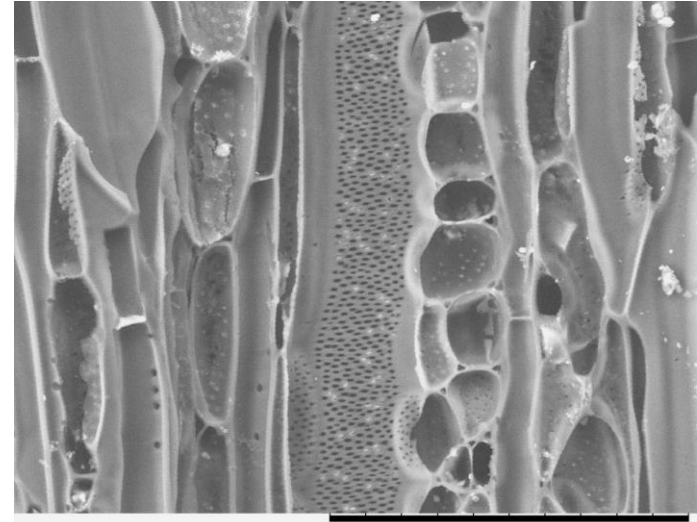
EWC 1692 2022/10/27 14:46 D2.2 x50 2 mm

Transverse 100x



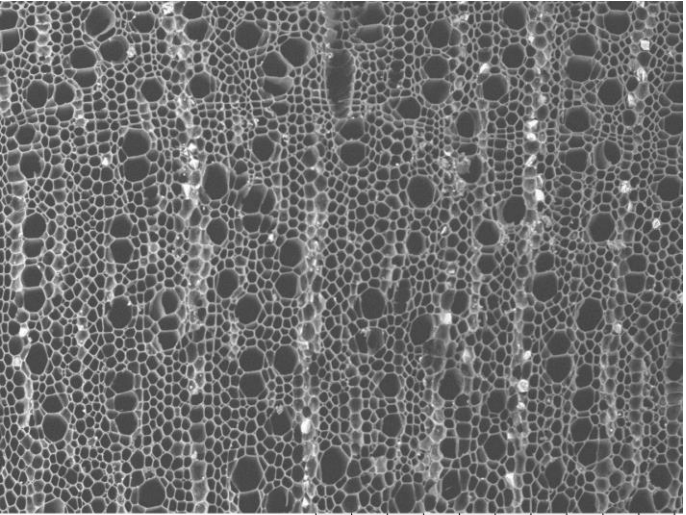
EWC 1692 2022/10/27 14:47 D2.2 x100 1 mm

Vessel Wall



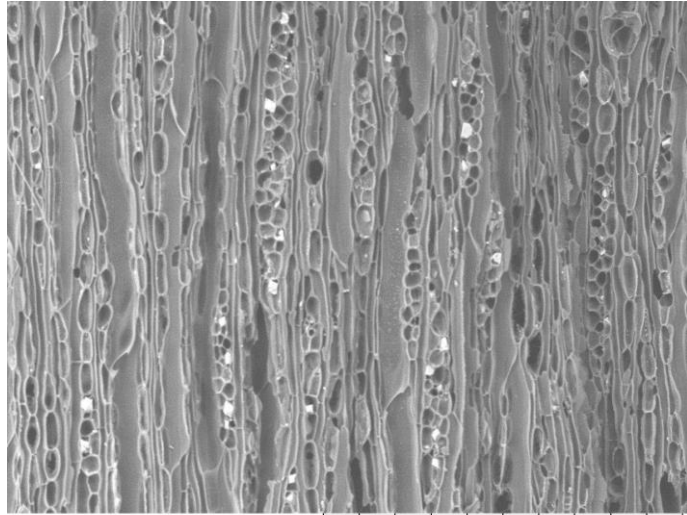
EWC 1692 2022/10/27 14:56 D2.9 x1.0k 100 µm

Transverse 200x



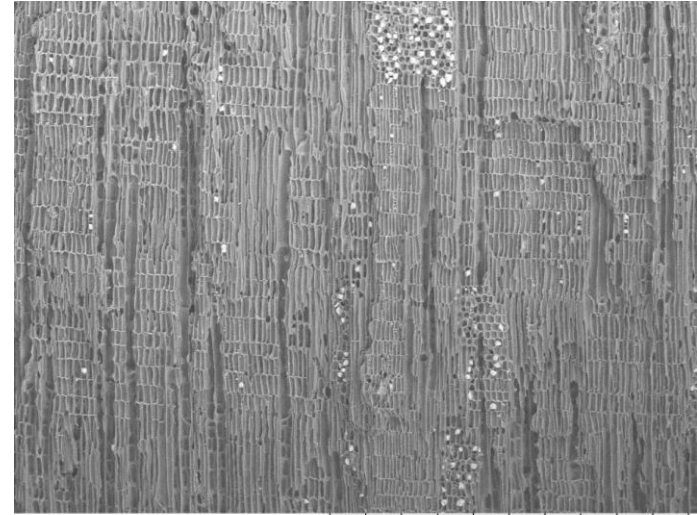
EWC 1692 2022/10/27 14:48 D2.2 x200 500 µm

Tangential



EWC 1692 2022/10/27 14:54 D3.2 x200 500 µm

Radial



EWC 1692 2022/10/27 14:50 D4.0 x100 1 mm

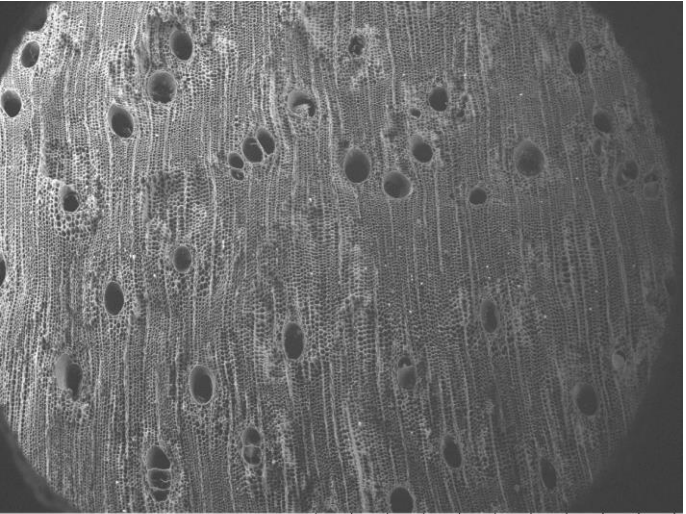
EWC 1694 FABACEAE *Inga ynga* (Vell.) J.W. Moore

Vessels
Size: 100-200µm
Freq.: <5
Arrangement: solitary, pairs, chains
Tyloses: absent

Rays:
per mm: 12+
Thickness (cells): 1 to 3
Parenchyma Type: Vasicentric
(confluent, lozenge)
Porosity: semi-ring porous

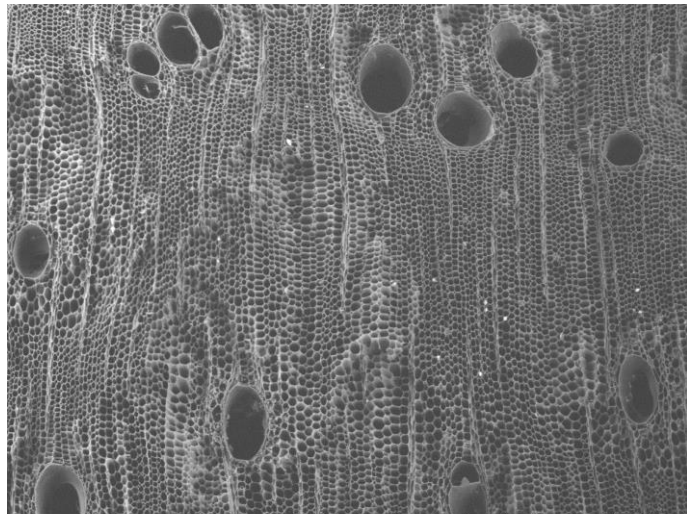
Common Name: "Guaba de Machete"
Elevation: 220 m
Description: Tree of medium height with greenish-yellow fls.
Location: Ecuador, Manabí, Jama
Locality: La Humedad, area 2: Approximately 8 km E of Jama. Collected from a south facing slope in a low, wet forest. Convento topo map 1:50,000, cuadrícula (block) N78 E90.

Transverse 50x



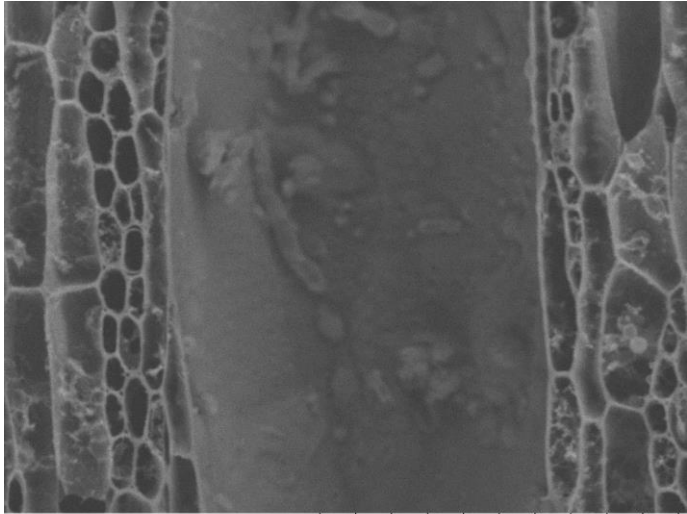
EWC 1694 2022/10/27 15:00 D2.5 x50 2 mm

Transverse 100x



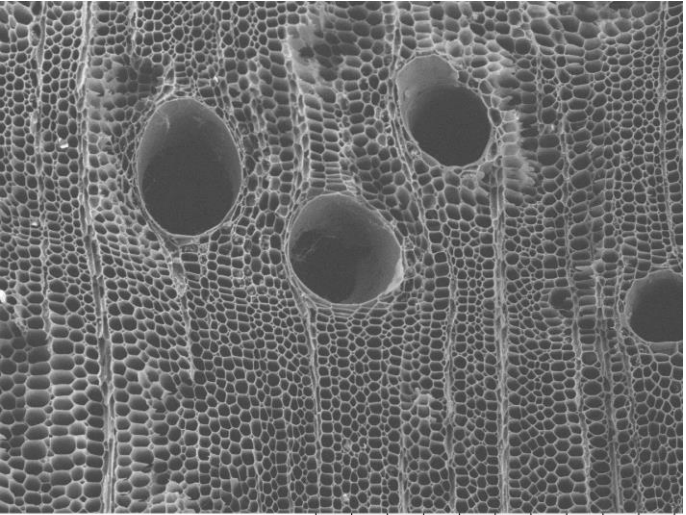
EWC 1694 2022/10/27 15:00 D2.5 x100 1 mm

Vessel Wall



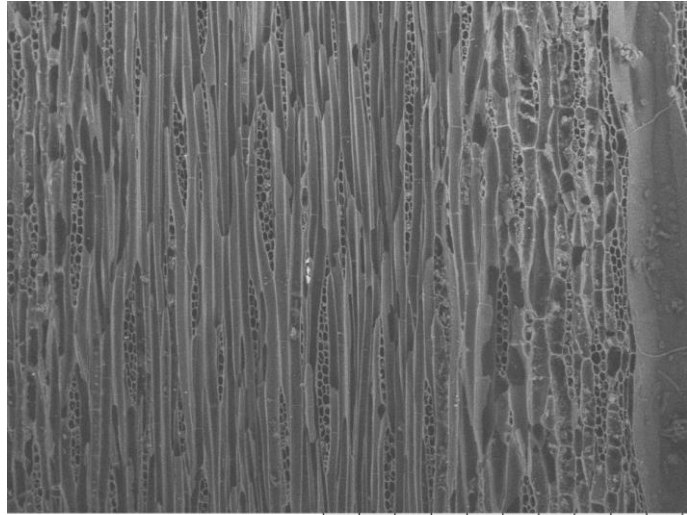
EWC 1694 2022/10/27 15:15 D2.4 x1.0k 100 um

Transverse 200x



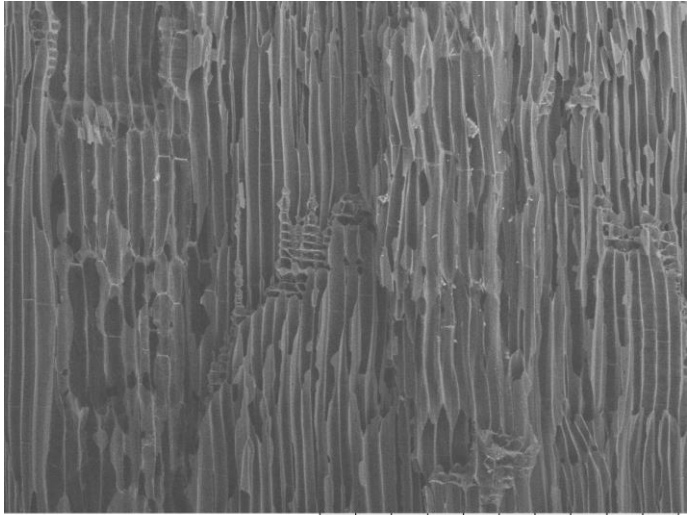
EWC 1694 2022/10/27 15:01 D2.5 x200 500 um

Tangential



EWC 1694 2022/10/27 15:13 D2.5 x200 500 um

Radial



EWC 1694 2022/10/27 15:19 D2.0 x200 500 um

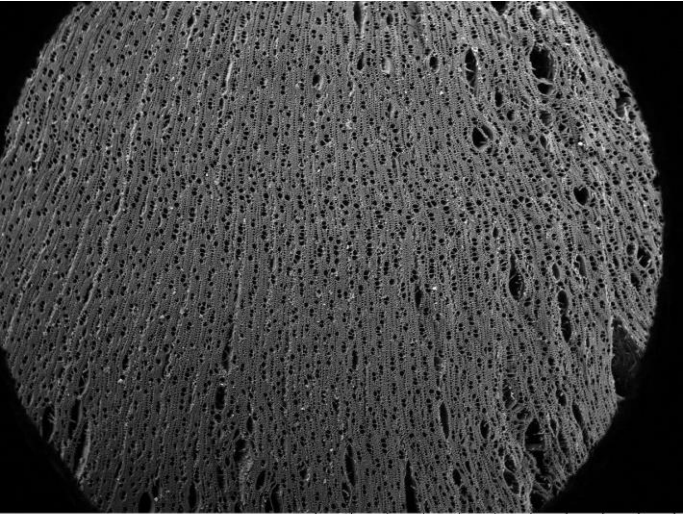
EWC 1696 Unknown Identification

Vessels
Size: <50µm
Freq.: 100+
Arrangement: solitary, pairs, chains, clusters
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Diffuse, scanty
Porosity: semi porous

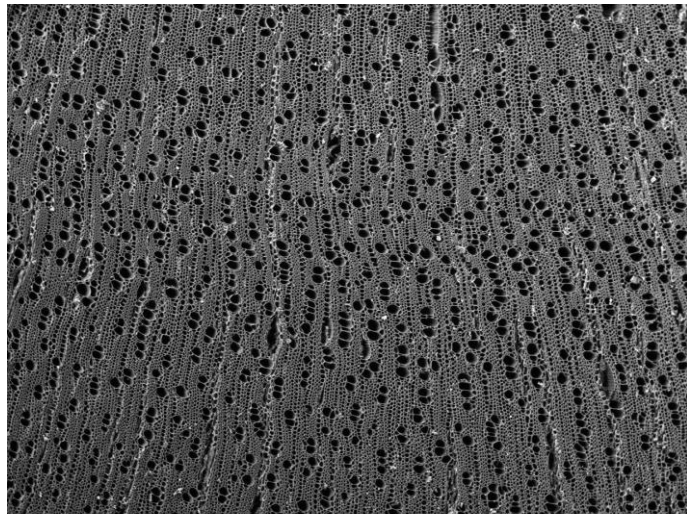
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



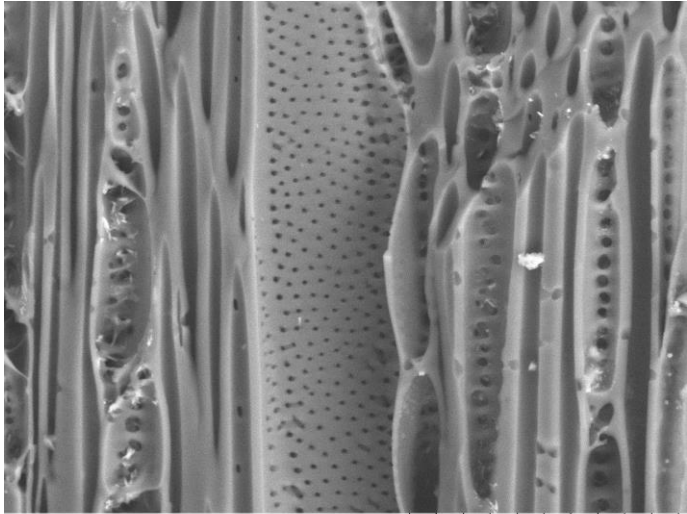
EWC 1696 2022/10/27 17:22 D2.0 x50 2 mm

Transverse 100x



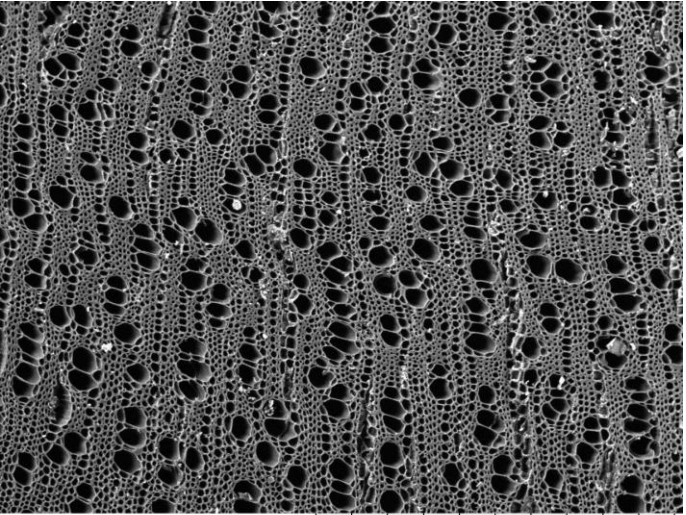
EWC 1696 2022/10/27 17:27 D2.0 x100 1 mm

Vessel Wall 600x



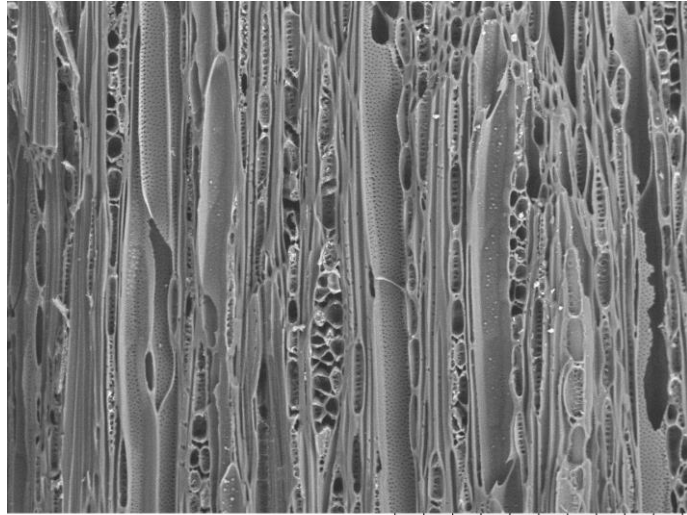
EWC 1696 2022/11/02 14:55 D2.8 x1.5k 50 µm

Transverse 200x



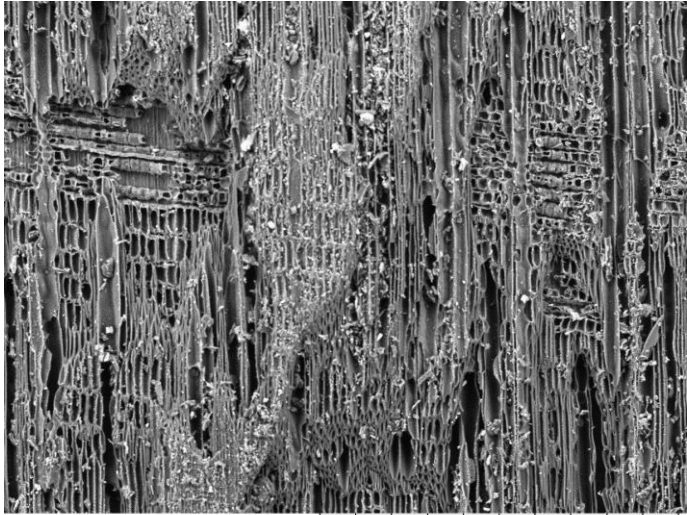
EWC 1696 2022/10/27 17:25 D2.0 x200 500 µm

Tangential 200x



EWC 1696 2022/11/02 14:56 D2.8 x400 200 µm

Radial 200x



EWC 1696 2022/10/27 17:33 D3.1 x200 500 µm

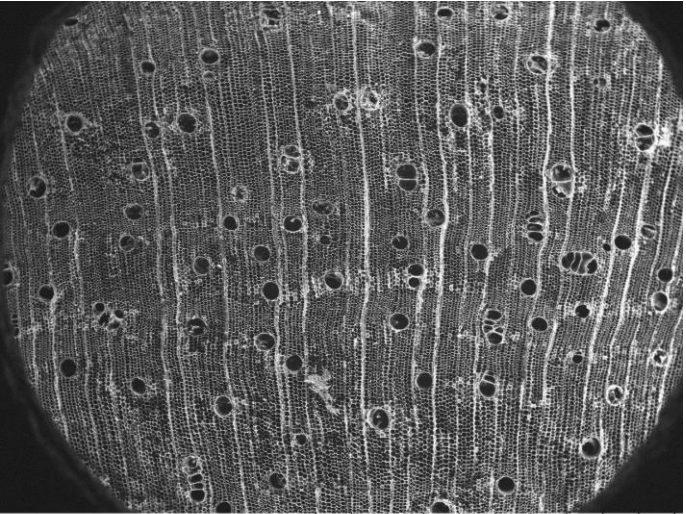
EWC 1697 MORACEAE *Castilla tunu* Hemsl.

Vessels
Size: 50-100µm, 100-200µm
Freq.: 5 to 20
Arrangement: solitary, pairs, clusters
Tyloses: common

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Vascentric (winged), confluent, aliform
Porosity: diffuse

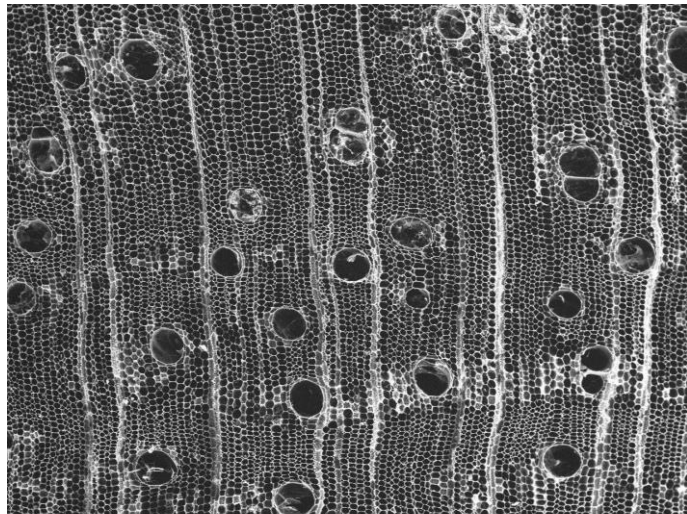
Common Name: "Caucho"
Elevation: 220 m
Description: Tall upper story tree with milky sap.
Location: Ecuador, Manabí, Jama
Locality: La Humidad, area 1: Approximately 8 km E of Jama. Collected from a N facing slope (very steep) of primary forest. Convento topo map 1:50,000, cuadrícula (block) N78 E90.

Transverse 50x



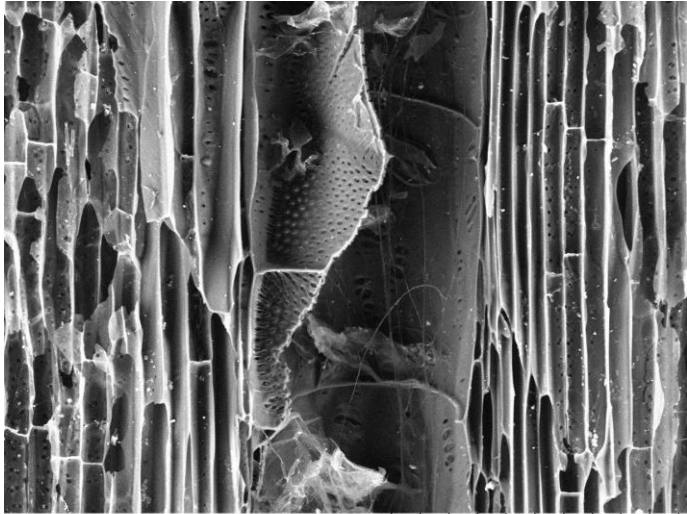
EWC 1697 2022/10/27 17:52 D2.2 x50 2 mm

Transverse 100x



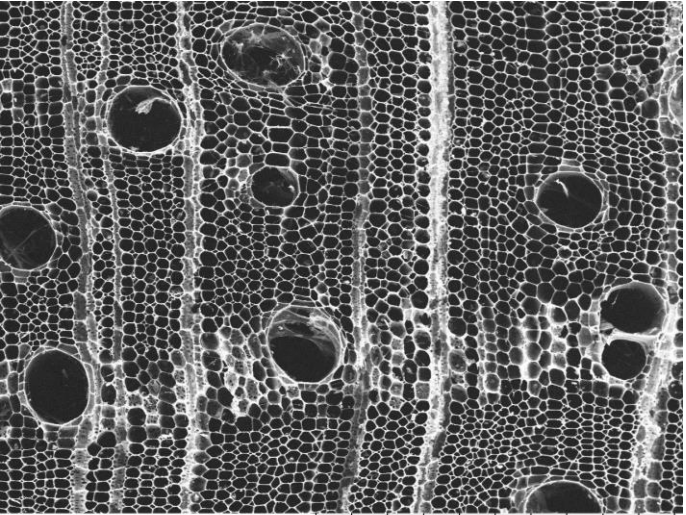
EWC 1697 2022/10/27 17:56 D2.2 x100 1 mm

Vessel Wall 400x



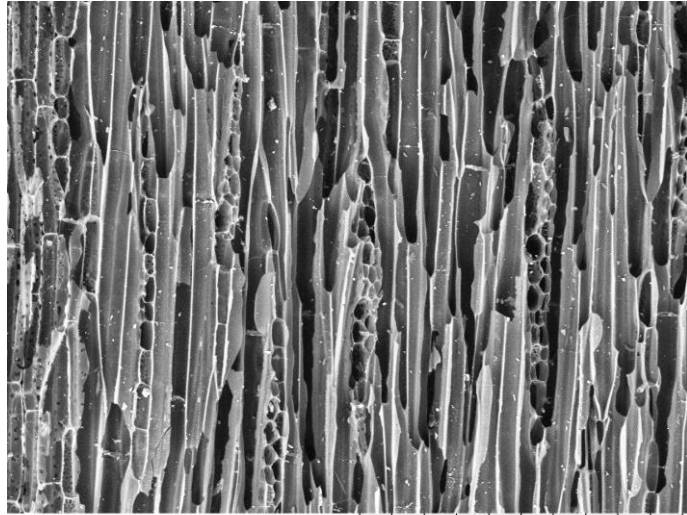
EWC 1697 2022/10/27 18:08 D2.1 x400 200 µm

Transverse 200x



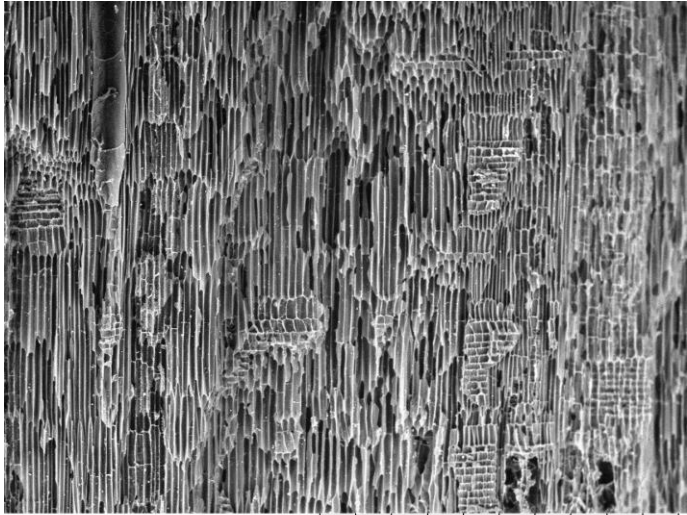
EWC 1697 2022/10/27 17:54 D2.2 x200 500 µm

Tangential 300x



EWC 1697 2022/10/27 18:01 D3.0 x300 300 µm

Radial 100x



EWC 1697 2022/10/27 18:05 D2.1 x100 1 mm

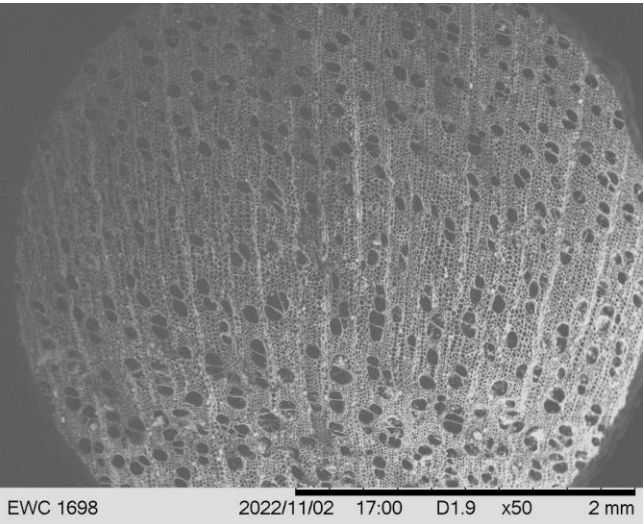
EWC 1698 PHYLLANTHACEAE *Phyllanthus juglandifolius* Willd.

Vessels
Size: 50-100, 100-200µm
Freq.: 420-40
Arrangement: solitary, pairs, chains
Tyloses: absent
Porosity: semi ring porous

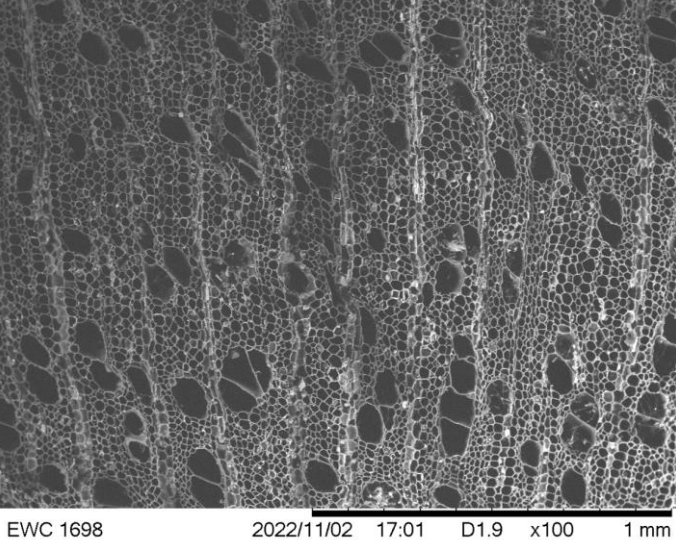
Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Tyloses: absent
Parenchyma Type: Absent, Scanty, Diffuse

Common Name: "Culo Pesado"
Elevation: 220 m
Description: Upper canopy tree with green, spherical fruits which arise from the leaf apices.
Location: Ecuador, Manabí, Jama
Locality: La Humidad, area 1: Approximately 8 km E of Jama. Collected along roadside in coffee field. Convento topo map 1:50,000, cuadrícula (block) N78 E90.

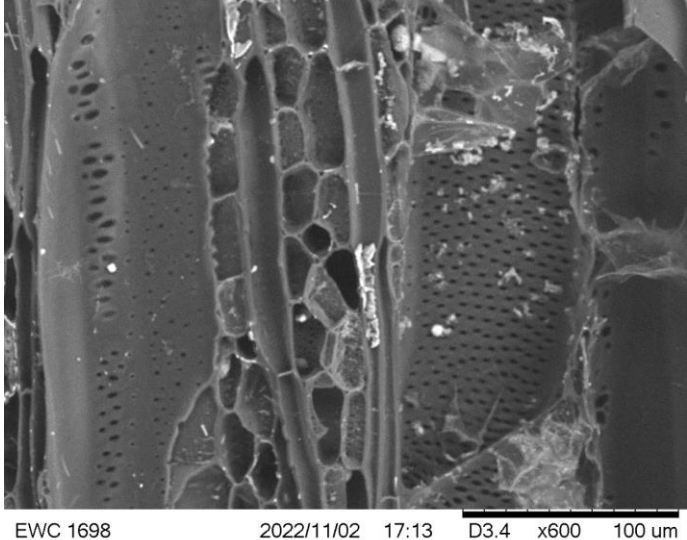
Transverse 50x



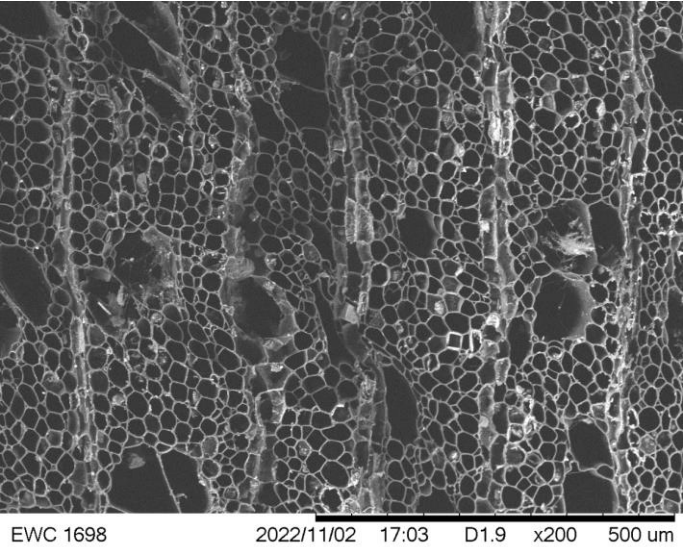
Transverse 100x



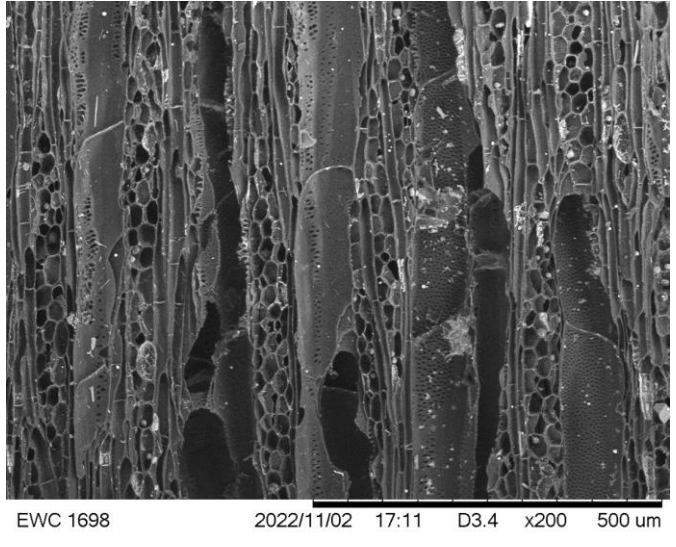
Vessel Wall



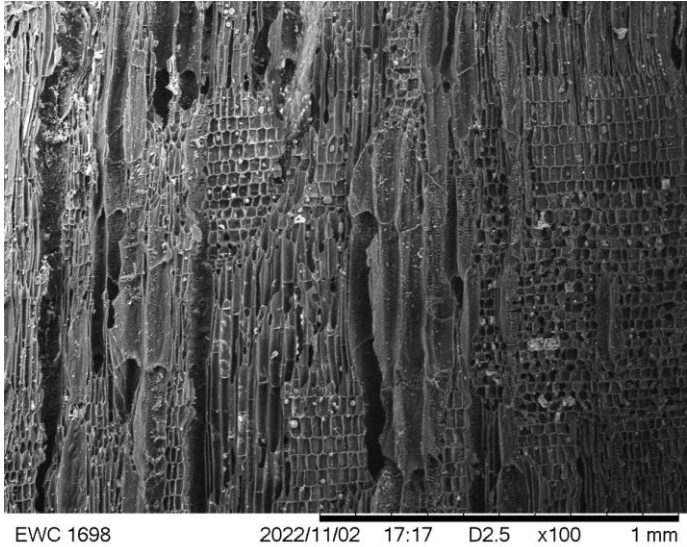
Transverse 200x



Tangential



Radial



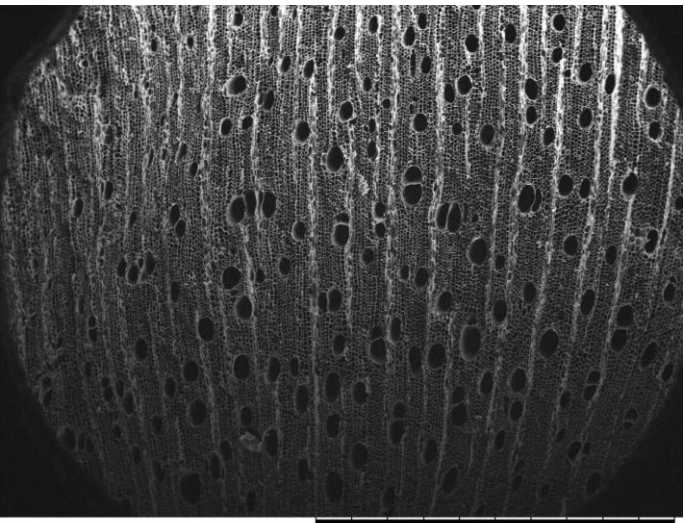
EWC 1699 LAMIACEAE *Vitex gigantea* Kunth

Common Name: "Pechiche"
Elevation: 220 m
Description: Very tall upper canopy tree with shredding bark
Location: Ecuador, Manabí, Jama
Locality: La Humidad, area 1: Approximately 8 km E of Jama. Collected from a north facing slope (very steep) of primary forest. Convento topo cuadrícula (block) N78 E90.

Vessels
Size: 50-100µm
Freq.: 20 to 40
Arrangement: solitary, pairs
Porosity: diffuse

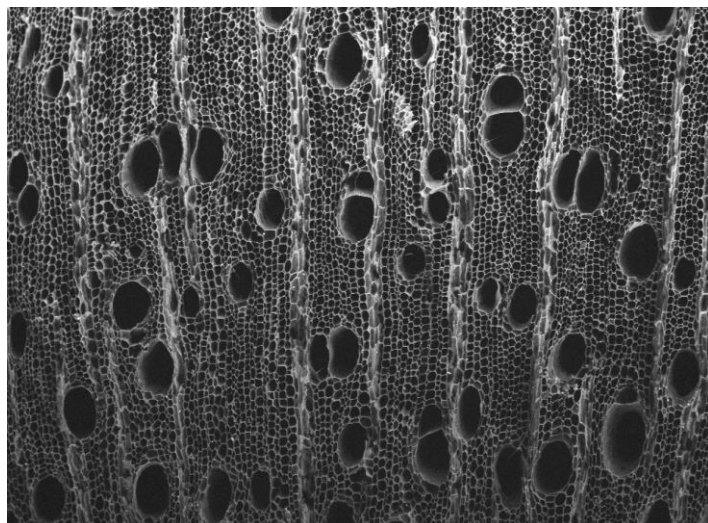
Rays:
per mm: 4-12
Thickness (cells): 1 to 3, 4+
Tyloses: absent
Parenchyma Type: Absent, Scanty

Transverse 50x



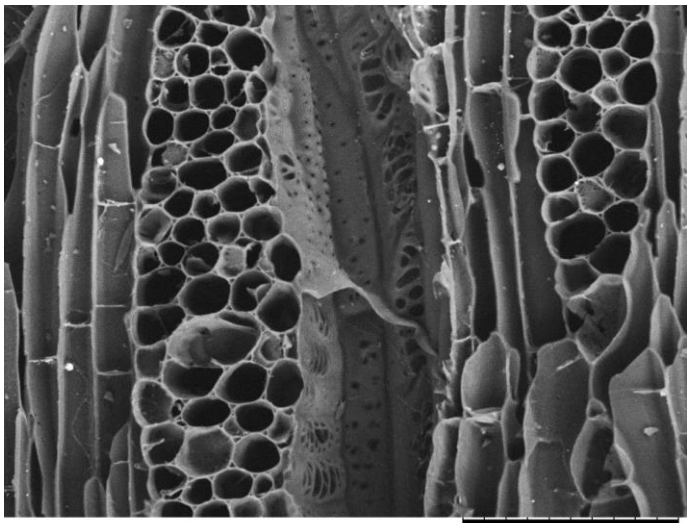
EWC 1699 2022/11/02 17:22 D2.2 x50 2 mm

Transverse 100x



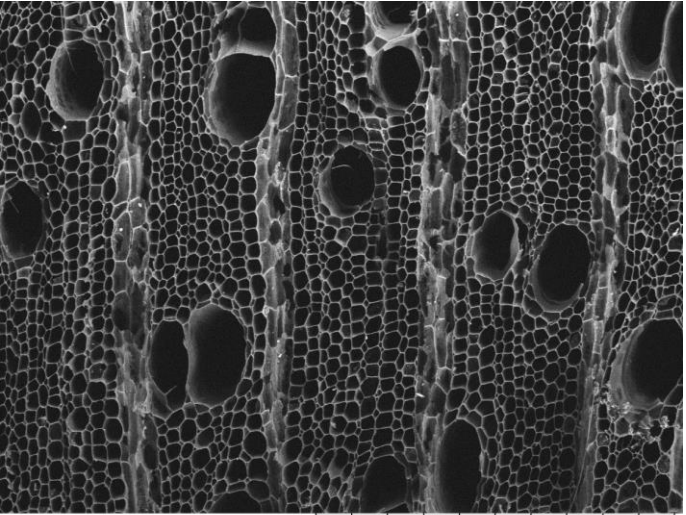
EWC 1699 2022/11/02 17:24 D2.2 x100 1 mm

Vessel Wall



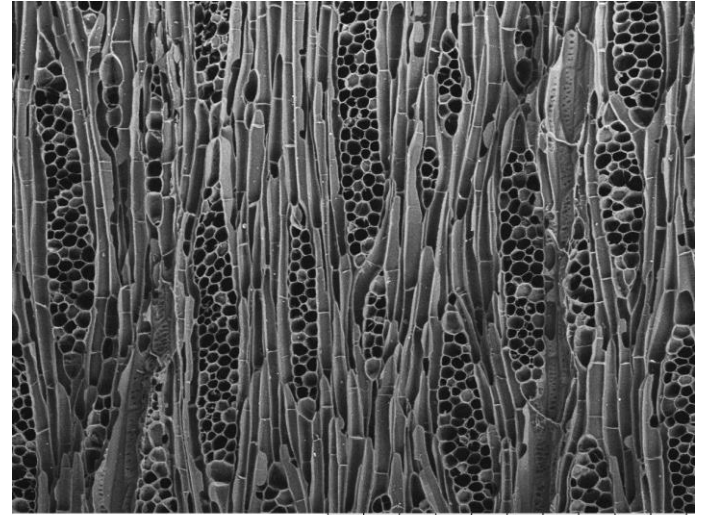
EWC 1699 2022/11/02 17:32 D2.5 x600 100 um

Transverse 200x



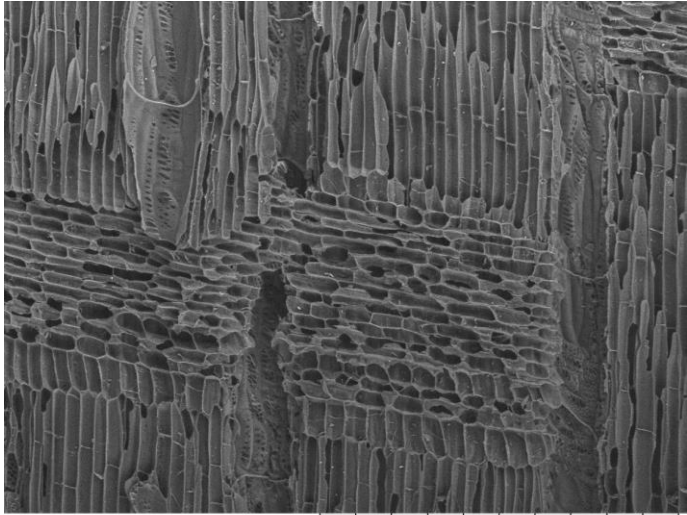
EWC 1699 2022/11/02 17:25 D2.2 x200 500 um

Tangential



EWC 1699 2022/11/02 17:29 D2.5 x200 500 um

Radial



EWC 1699 2022/11/02 17:35 D3.5 x200 500 um

EWC 1701 SOLANACEAE *Solanum ochraceoferrugineum* Fernald

Vessels

Size: <50, 50-100µm

Freq.: 40 to 100

Arrangement: solitary, pairs, chains, clusters

Tyloses: absent

Rays:

per mm: 12+

Thickness (cells): uniseriate, 1 to 3

Parenchyma Type: Absent

Porosity: diffuse

Common Name: "Boroquera"

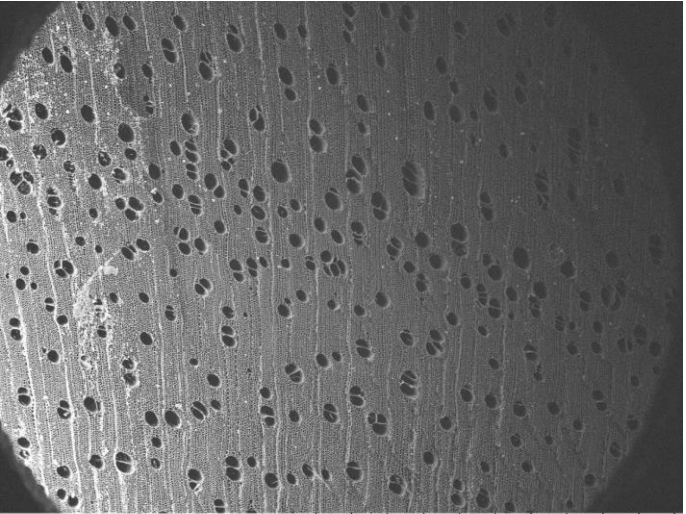
Elevation: 160 m

Description: Small tree with white flrs.

Location: Ecuador, Manabí, Jama

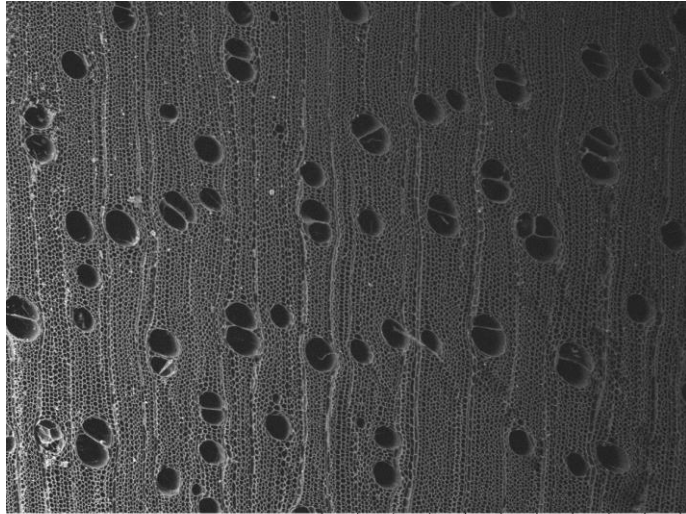
Locality: Jama River, Area 1: Approximately 3 km NE of San Isidro, just west of the river and north of the road. Area with farms and houses. San Isidro topo map 1:50,000, cuadrícula (block) N60 E93.

Transverse 50x



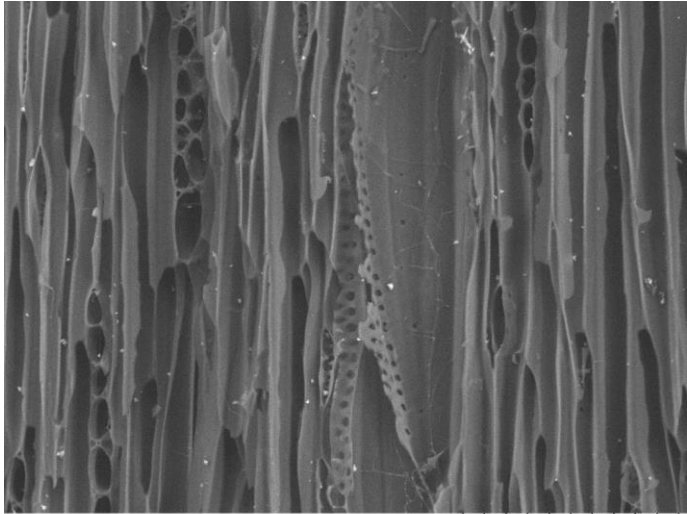
EWC 1701 2022/11/02 17:51 D2.4 x50 2 mm

Transverse 100x



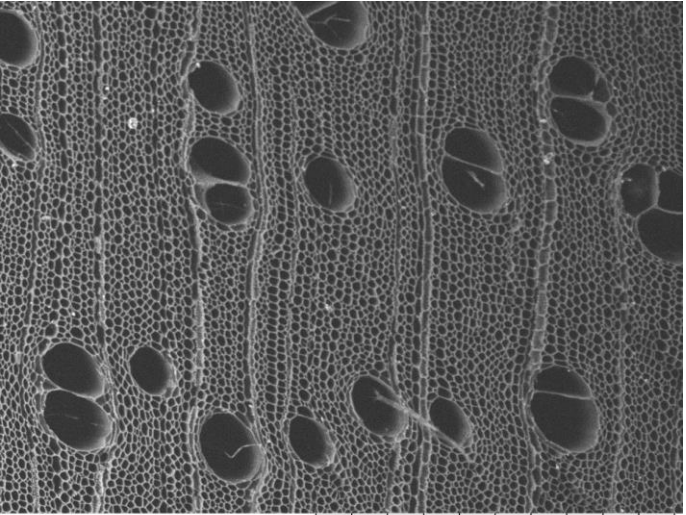
EWC 1701 2022/11/02 17:53 D2.4 x100 1 mm

Vessel Wall



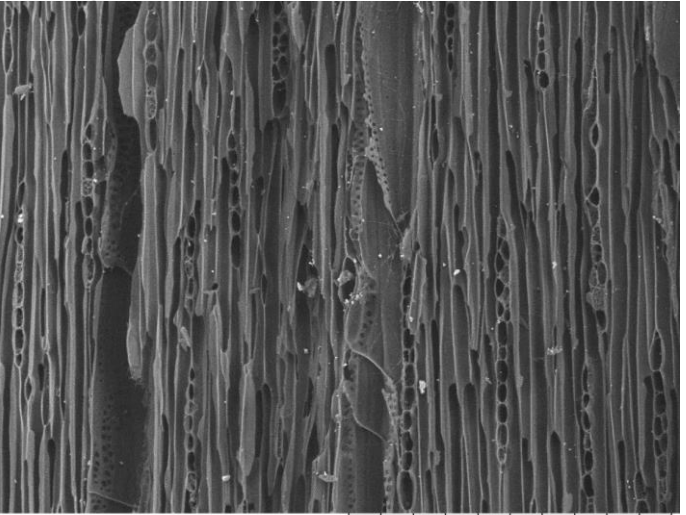
EWC 1701 2022/11/02 18:03 D3.1 x600 100 um

Transverse 200x



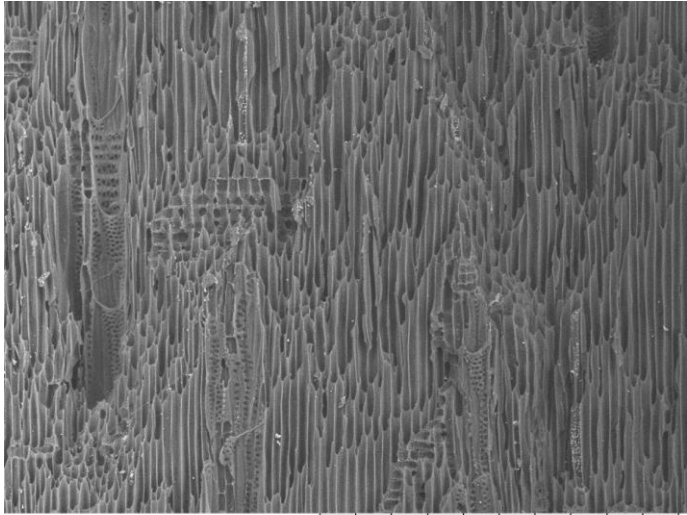
EWC 1701 2022/11/02 17:53 D2.4 x200 500 um

Tangential



EWC 1701 2022/11/02 18:02 D3.1 x300 300 um

Radial



EWC 1701 2022/11/02 18:06 D3.3 x200 500 um

EWC 1702 MALVACEAE *Guazuma ulmifolia* Lam.

Common Name: "Guasmo" or "Guazmo"

Elevation: 160 m

Description: Large tree with shredding bark and black fruit.

Location: Ecuador, Manabí, Jama

Locality: Jama River, Area 1: Approximately 3 km NE of San Isidro, just west of the river and north of the road. Area with farms and houses. San Isidro topo map 1:50,000, cuadrícula (block) N60 E93.

Vessels

Size: 50-100, 100-200µm

Freq.: 20 to 40

Arrangement: solitary, pairs, chains

Porosity: diffuse

Rays:

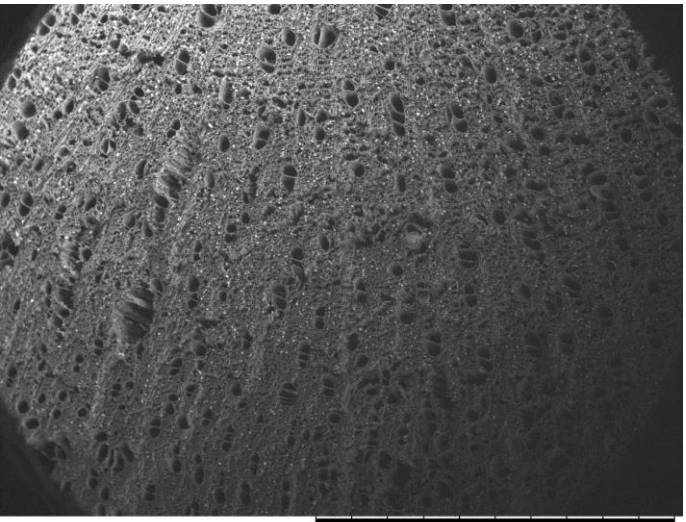
per mm: 4-12

Thickness (cells): 1 to 3, 4+,

Tyloses: absent

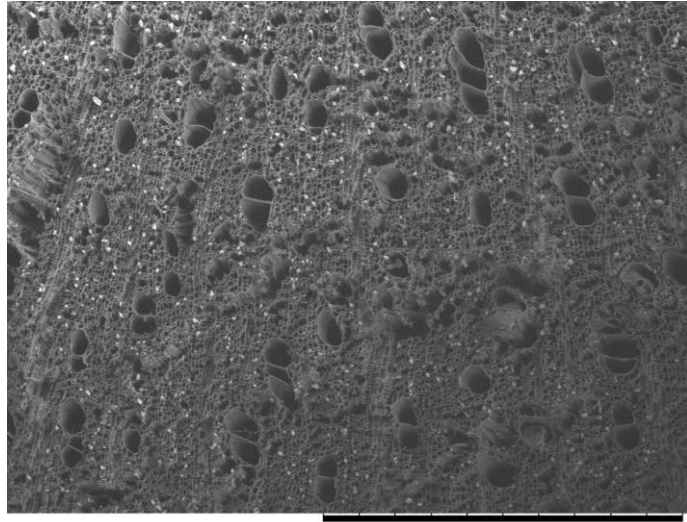
Parenchyma Type: Diffuse-in-aggregates, thin bands

Transverse 50x



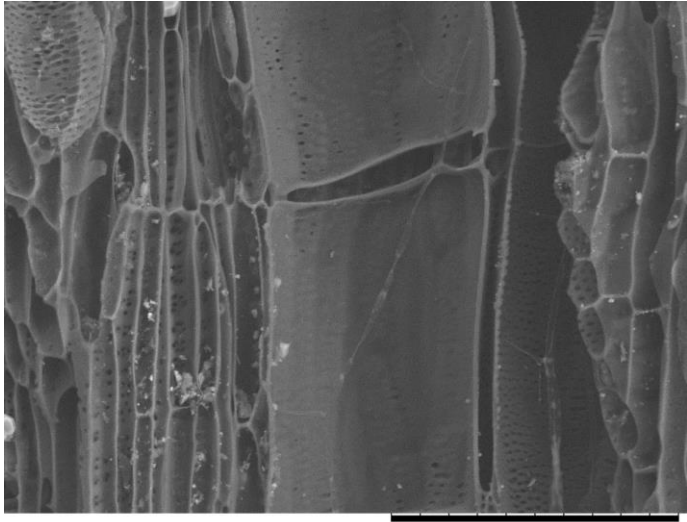
EWC 1702 2022/11/02 18:15 D2.6 x50 2 mm

Transverse 100x



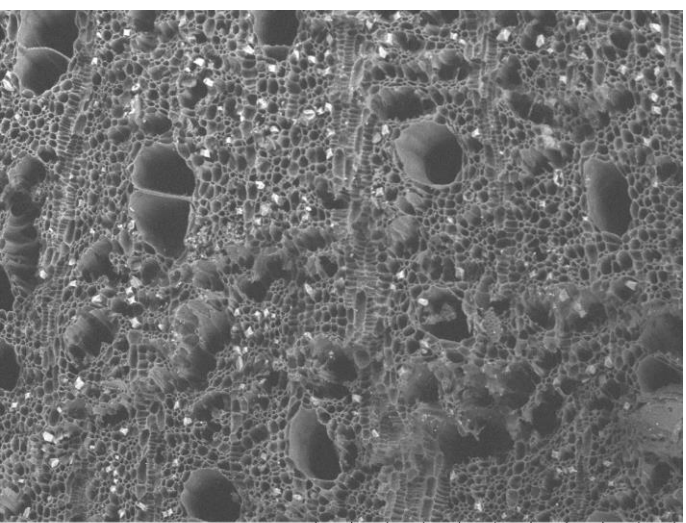
EWC 1702 2022/11/02 18:17 D2.6 x100 1 mm

Vessel Wall



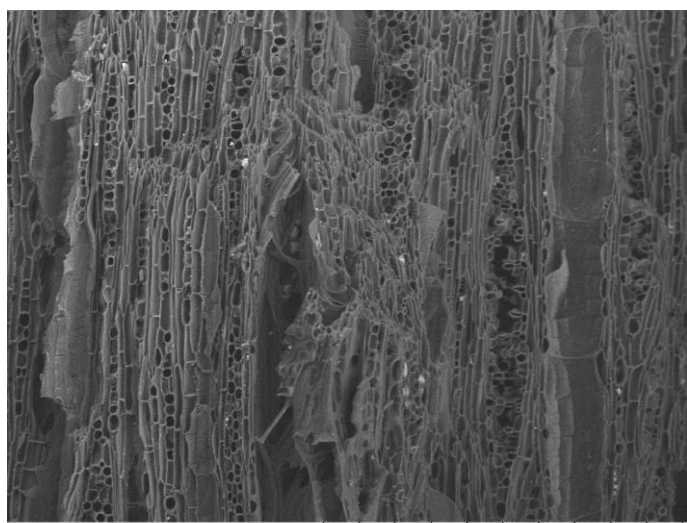
EWC 1702 2022/11/02 18:33 D3.0 x800 100 µm

Transverse 200x



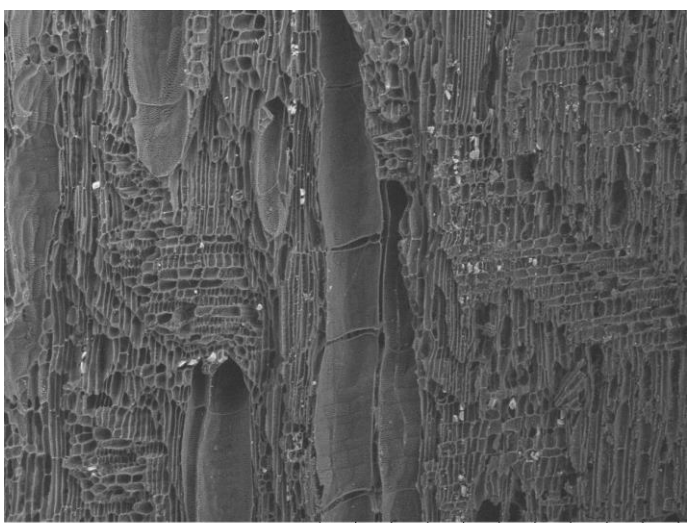
EWC 1702 2022/11/02 18:18 D2.6 x200 500 µm

Tangential



EWC 1702 2022/11/02 18:23 D2.6 x200 500 µm

Radial



EWC 1702 2022/11/02 18:32 D3.0 x200 500 µm

EWC 1703 ANACARDIACEAE *Spondias mombin* L.

Common Name: "Jobo, Ovo"

Elevation: 160 m

Description: Medium sized tree with slightly wrinkled fruits

Location: Ecuador, Manabí, Jama

Locality: Jama River, Area 1: Approximately 3 km NE of San Isidro, just west of the river and north of road. Area with farms and houses. San Isidro topo map 1:50,000, cuadrícula (block) N60 E93

Vessels

Size: 50-100µm

Freq.: 5 to 20

Arrangement: solitary, pairs

Tyloses: common

Rays:

per mm: 4-12

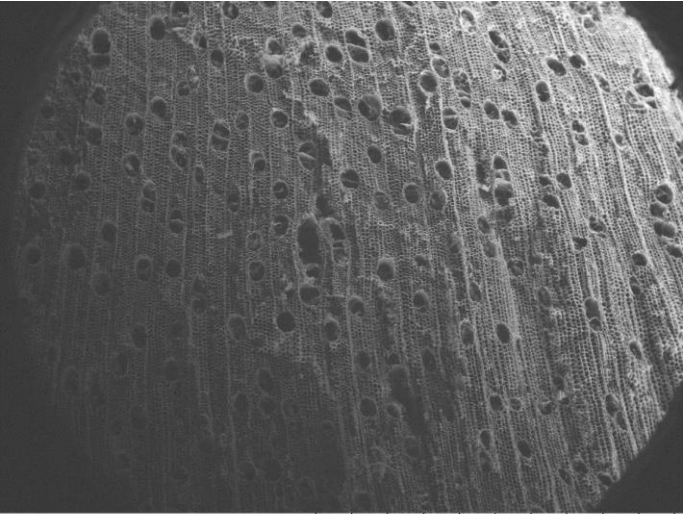
Thickness (cells): 1 to 3

Parenchyma Type: Vasicentric (unilateral), Diffuse-in-aggregates

Porosity: diffuse

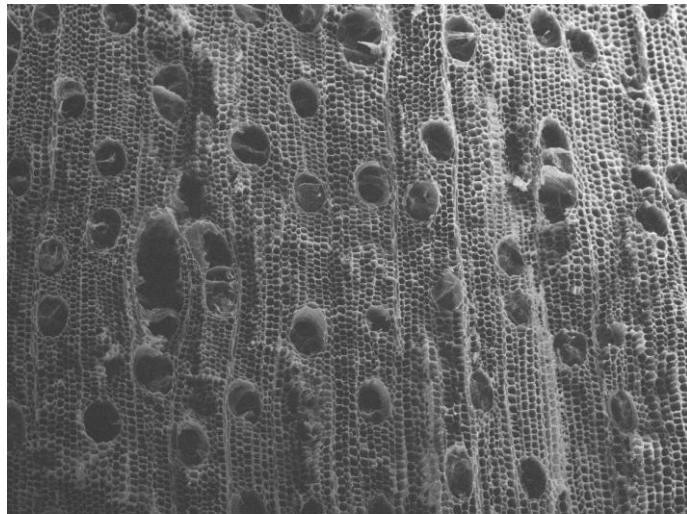
Vessel Wall

Transverse 50x

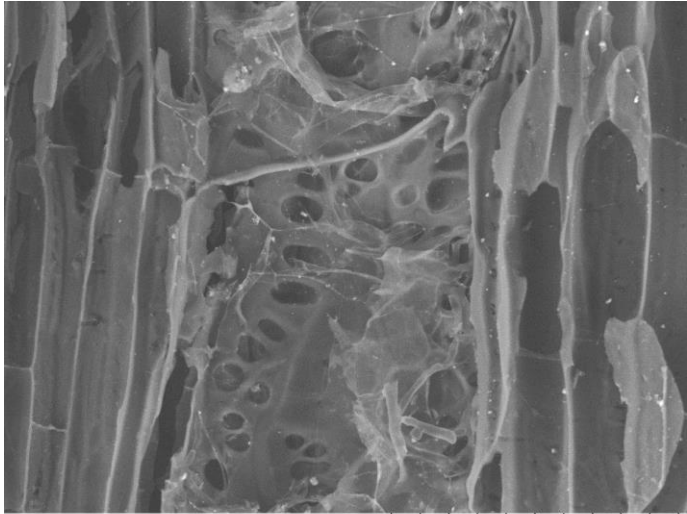


EWC 1703 2022/11/03 10:16 D2.2 x50 2 mm

Transverse 100x

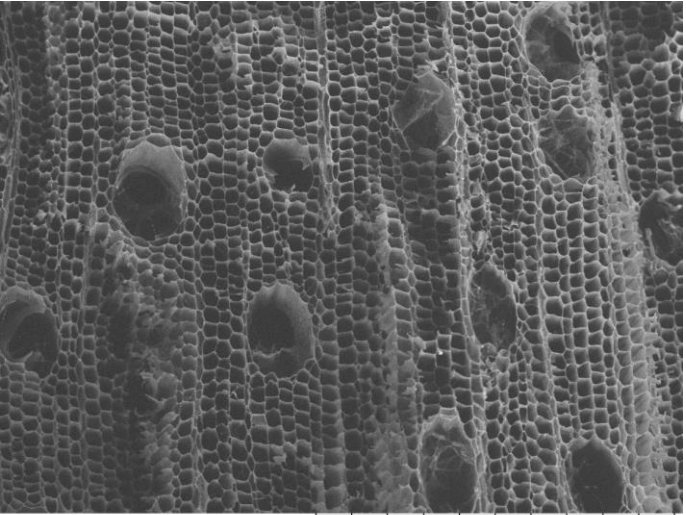


EWC 1703 2022/11/03 10:19 D2.2 x100 1 mm



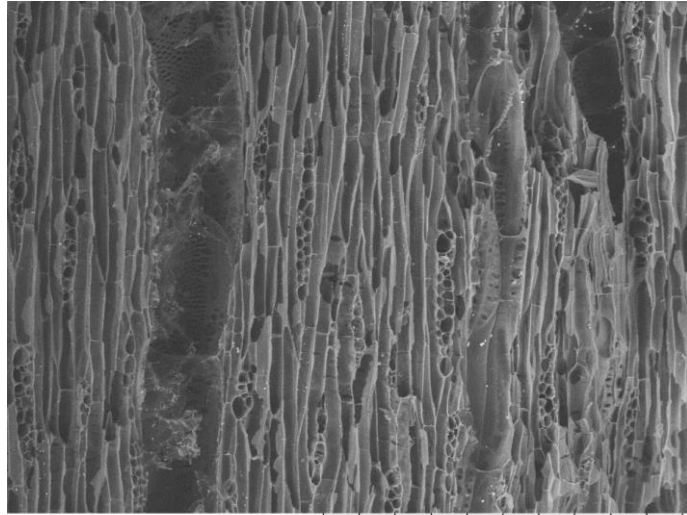
EWC 1703 2022/11/03 10:30 D2.7 x800 100 µm

Transverse 200x



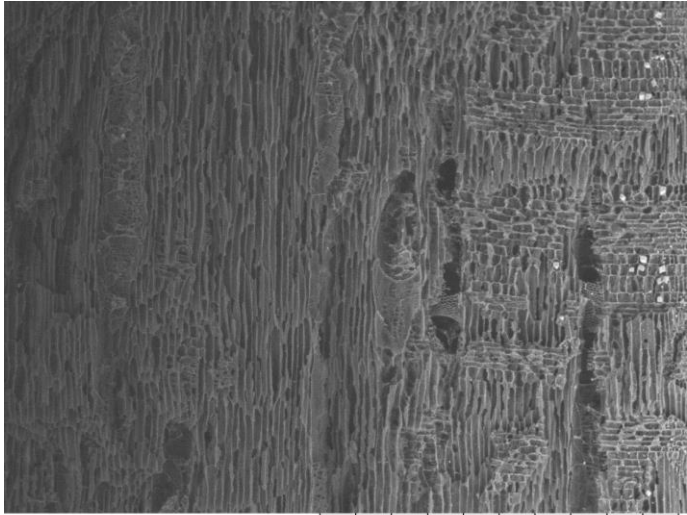
EWC 1703 2022/11/03 10:20 D2.2 x200 500 µm

Tangential



EWC 1703 2022/11/03 10:32 D2.8 x200 500 µm

Radial



EWC 1703 2022/11/03 10:23 D2.5 x100 1 mm

EWC 1704 SOLANACEAE *Acnistus arborescens* (L.) Schldl.

Vessels

Size: <50µm, 50-100µm

Freq.: 20 to 40

Arrangement: solitary, pairs, chains, clusters

Tyloses: common

Rays:

per mm: 12+

Thickness (cells): uniseriate

Parenchyma Type: Vascentric (winged, unilateral), Diffuse-in-aggregates

Porosity: diffuse, semi-ring porous

Common Name: "Cojojo, Guitite"

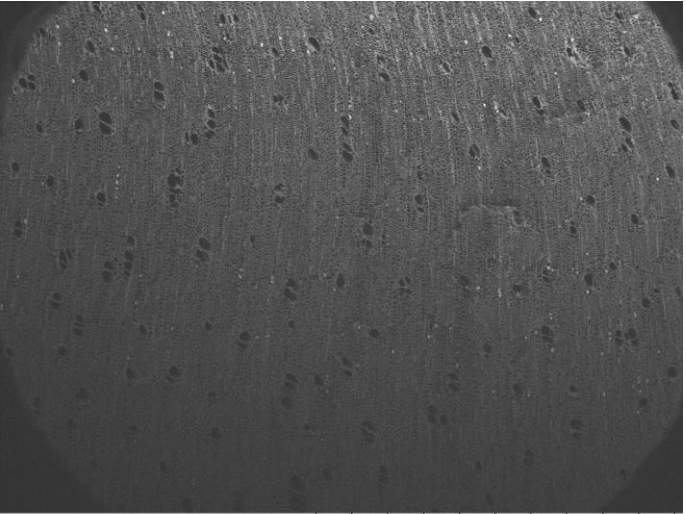
Elevation: 160 m

Description: Small tree

Location: Ecuador, Manabí, Jama

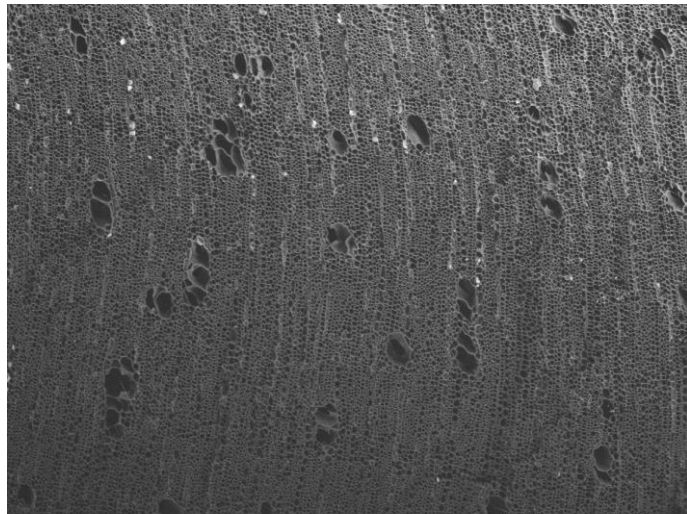
Locality: Jama River, Area 1: Approximately 3 km NE of San Isidro, just west of the river and north of the road. Area with farms and houses. San Isidro topo map 1:50,000, cuadrícula (block) N60 E93.

Transverse 50x



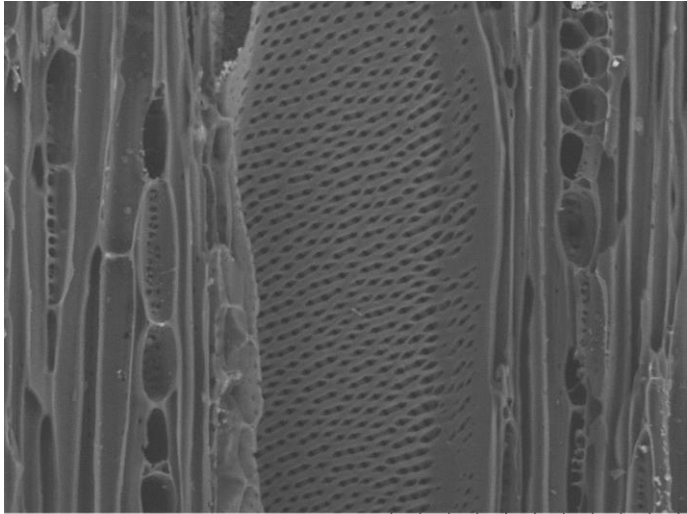
EWC 1704 2022/11/03 10:38 D2.7 x50 2 mm

Transverse 100x



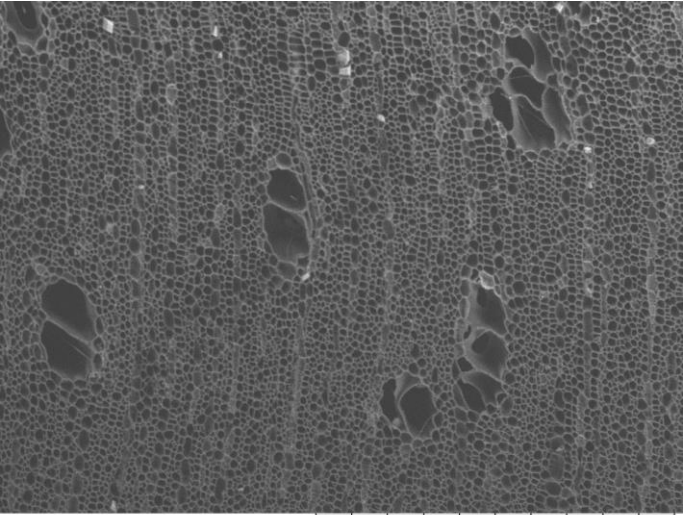
EWC 1704 2022/11/03 10:39 D2.7 x100 1 mm

Vessel Wall



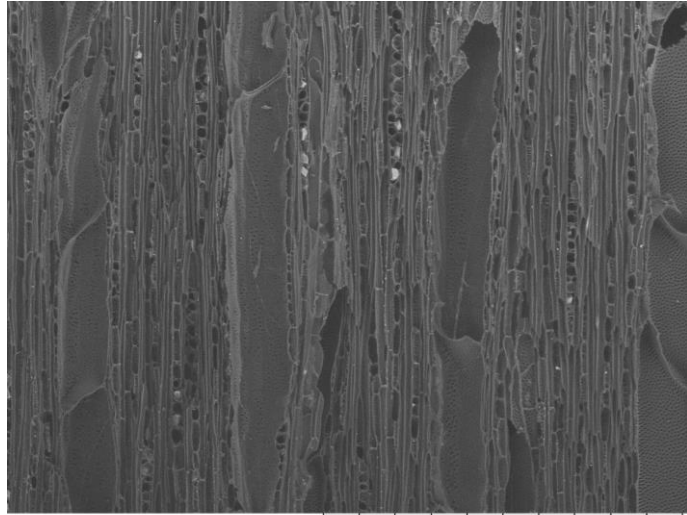
EWC 1704 2022/11/03 10:45 D3.2 x800 100 µm

Transverse 200x



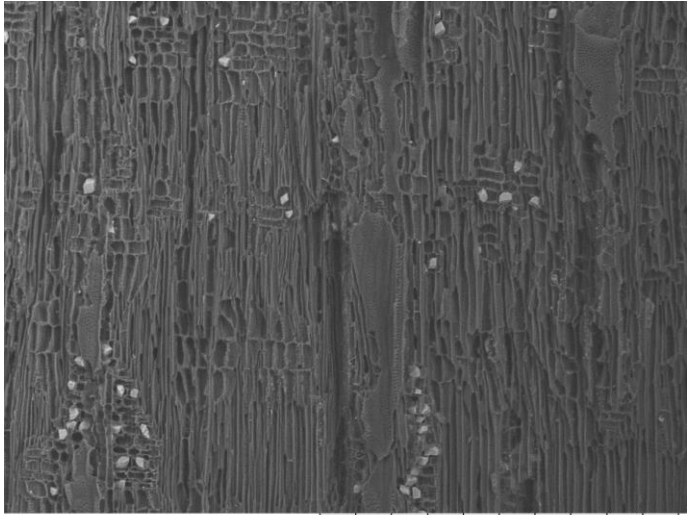
EWC 1704 2022/11/03 10:40 D2.7 x200 500 µm

Tangential



EWC 1704 2022/11/03 10:44 D3.2 x200 500 µm

Radial



EWC 1704 2022/11/03 10:48 D3.2 x200 500 µm

EWC 1708 ANNONACEAE *Annona muricata* L.

Common Name: "Guanabana"

Elevation: 155 m

Description: Tree ~10m in height.

Location: Ecuador, Manabí

Locality: Estero Muchique, Area 1: Approximately 2 km E of SAn Isidro, along the W bank of the confluence of Estero Muchique and Rio Jama. Collected from a low wet area along stream. San Isidro topo map 1:50,000, cuadrícula (block) N59 E93.

Vessels

Size: <50µm, 50-100µm

Freq.: 40 to 100

Arrangement: solitary, pairs, chains

Tyloses: common

Rays:

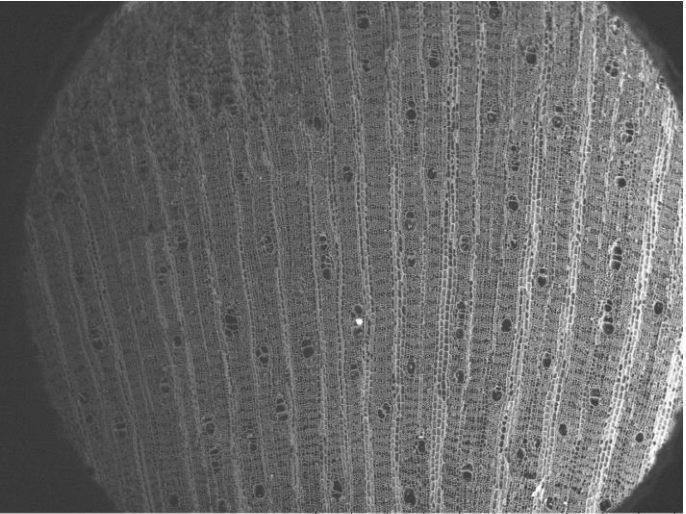
per mm: 4-12

Thickness (cells): 4+

Parenchyma Type: Banded (thin),
Vasicentric (aliform, winged)

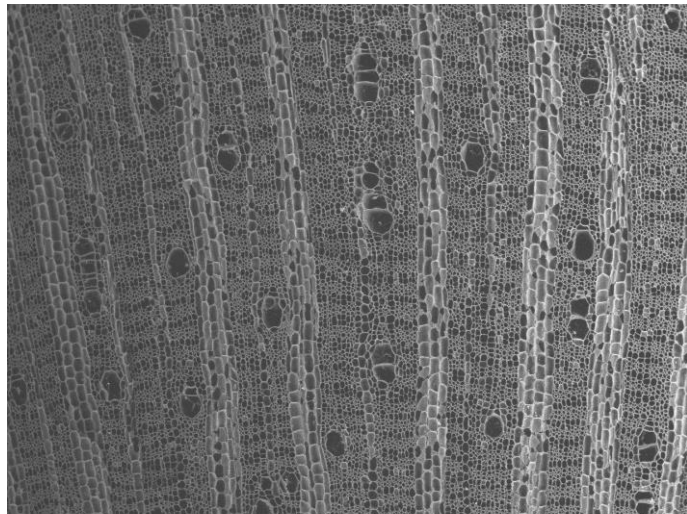
Porosity: diffuse

Transverse 50x



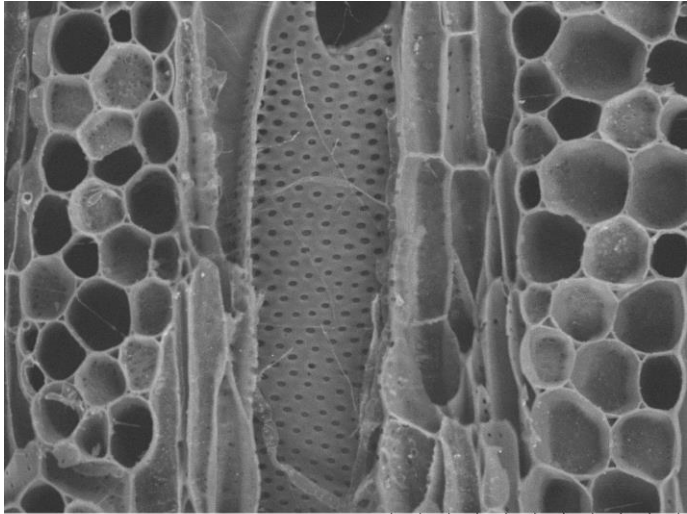
EWC 1708 2022/11/03 11:04 D2.1 x50 2 mm

Transverse 100x



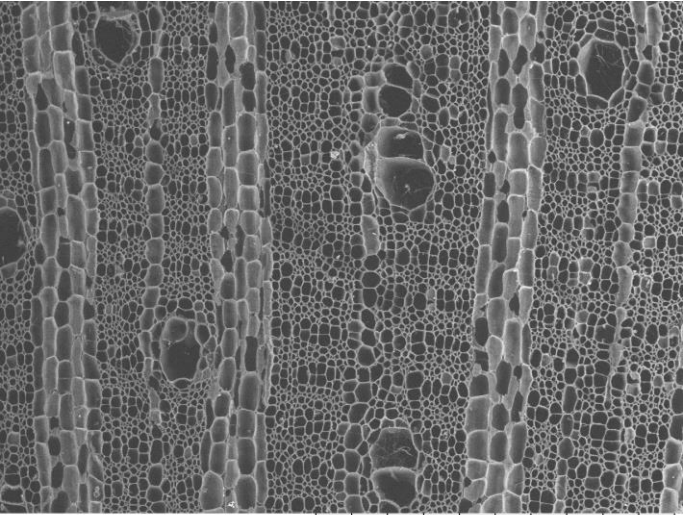
EWC 1708 2022/11/03 11:05 D2.1 x100 1 mm

Vessel Wall



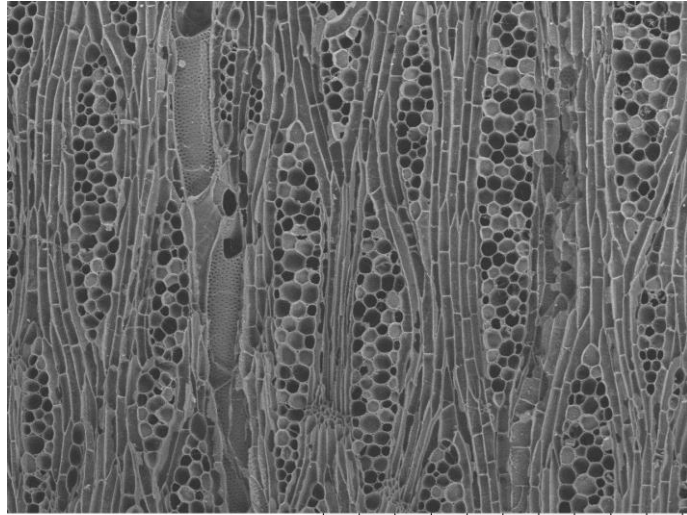
EWC 1708 2022/11/03 11:11 D3.5 x800 100 µm

Transverse 200x



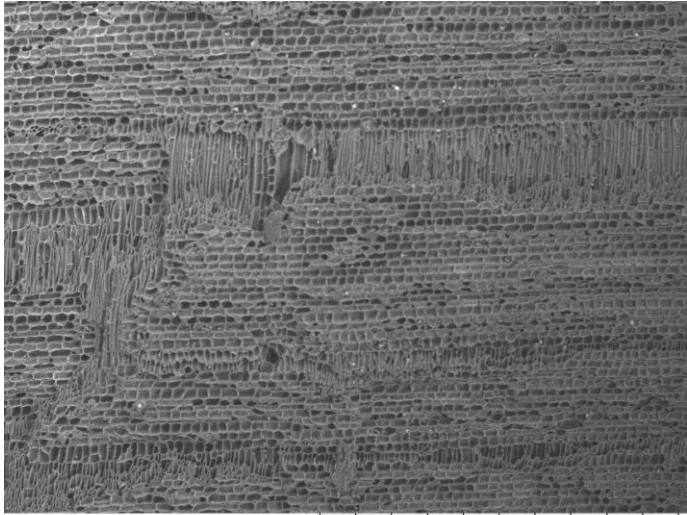
EWC 1708 2022/11/03 11:05 D2.1 x200 500 µm

Tangential



EWC 1708 2022/11/03 11:10 D3.5 x200 500 µm

Radial



EWC 1708 2022/11/03 11:13 D3.5 x100 1 mm

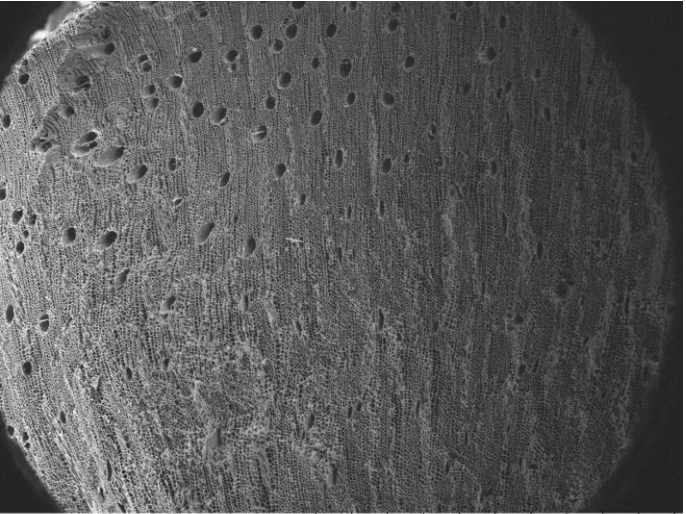
EWC 1711 MORACEAE *Artocarpus altilis* (Parkinson) Fosberg

Vessels
Size: <50, 50-100µm
Freq.: 5-20, 20 to 40
Arrangement: solitary, pairs
Tyloses: common

Rays:
per mm: 4-12
Thickness (cells): 1 to 3, 4+
Parenchyma Type: Vasicentric
(winged, unilateral)
Porosity: ring porous

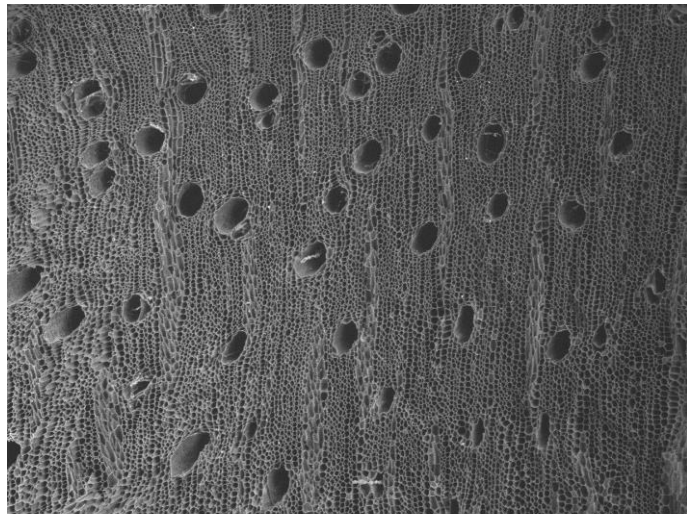
Common Name: "fruto de pan"
Elevation: 155 m
Description: Locally called "fruto de pan" (breadfruit).
Location: Ecuador, Manabí
Locality: Estero Muchique, Area 1: Approximately 2 km E of San Isidro, along the W bank of the confluence of Estero Muchique and Rio Jama. Collected from a low wet area along stream. San Isidro topo map 1:50,000, cuadrícula (block) N59 E93.

Transverse 50x



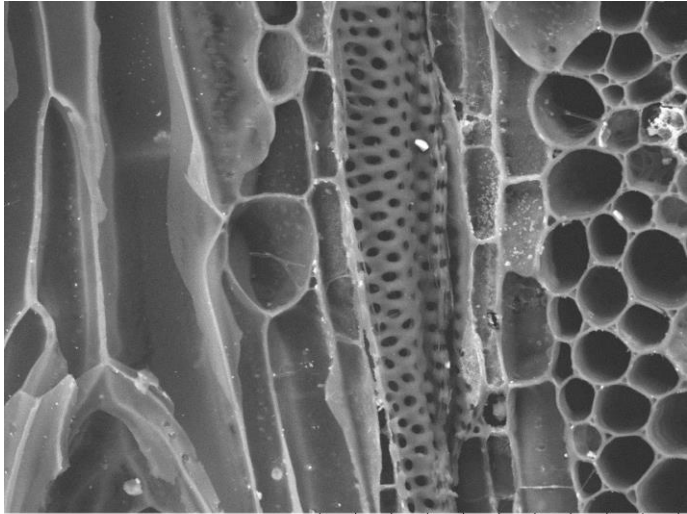
EWC 1711 2022/11/03 11:16 D2.4 x50 2 mm

Transverse 100x



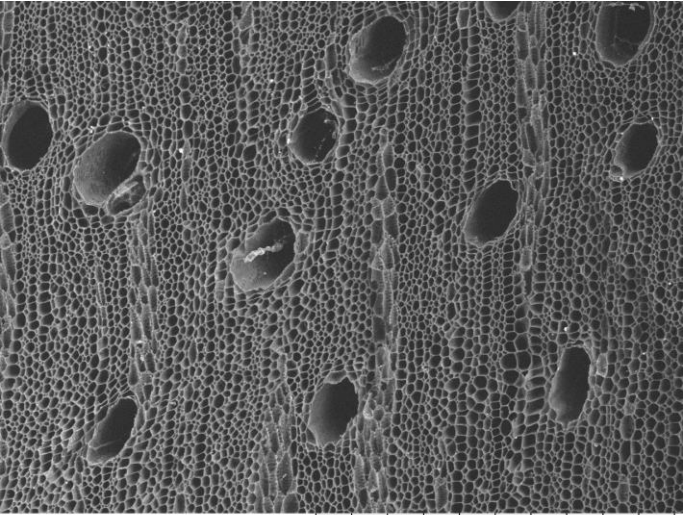
EWC 1711 2022/11/03 11:18 D2.4 x100 1 mm

Vessel Wall



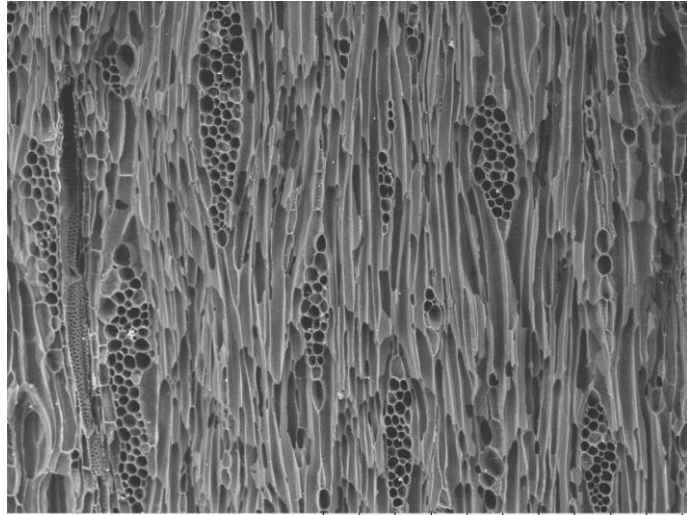
EWC 1711 2022/11/03 11:29 D3.0 x1.0k 100 µm

Transverse 200x



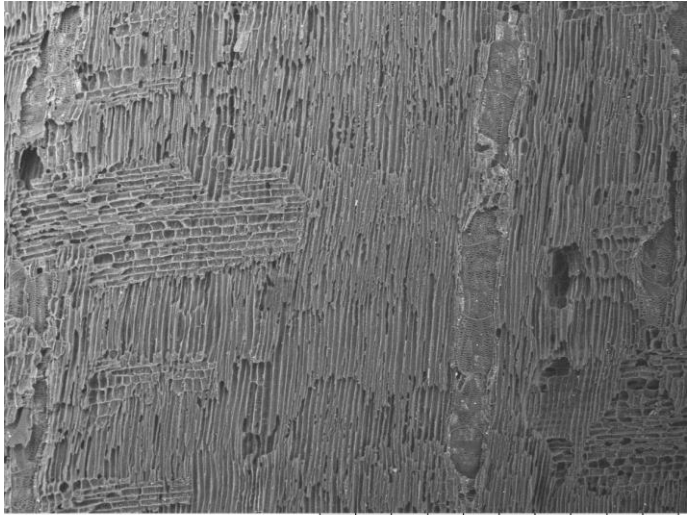
EWC 1711 2022/11/03 11:19 D2.4 x200 500 µm

Tangential



EWC 1711 2022/11/03 11:26 D2.8 x200 500 µm

Radial



EWC 1711 2022/11/03 11:22 D3.3 x100 1 mm

EWC 1715 Unknown Identification

Vessels

Size: <50, 50-100µm

Freq.: 40 to 100

Arrangement: solitary, pairs, chains, clusters

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 4+

Parenchyma Type: Absent, Diffuse, Scanty

Porosity: semi-ring porous

Common Name:

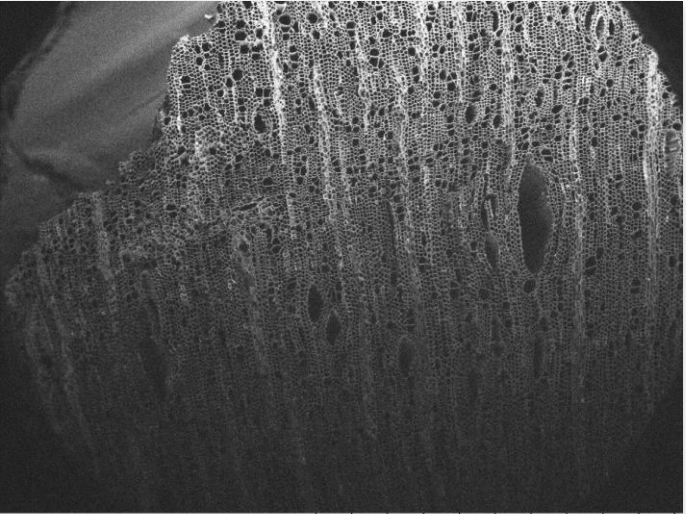
Elevation:

Description:

Location: Ecuador

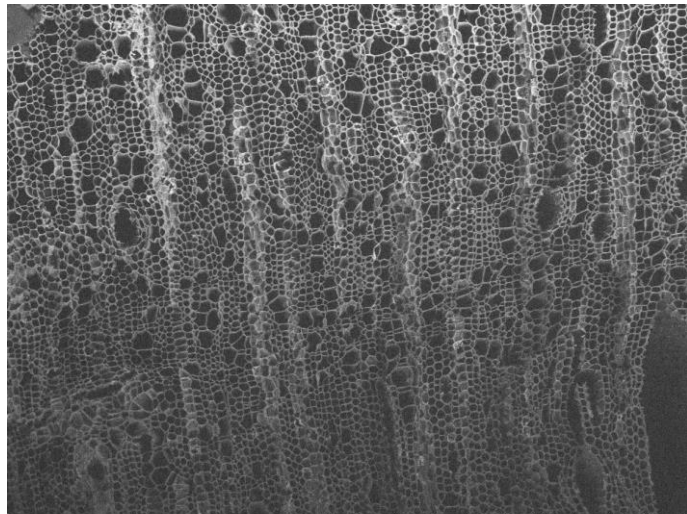
Locality:

Transverse 50x



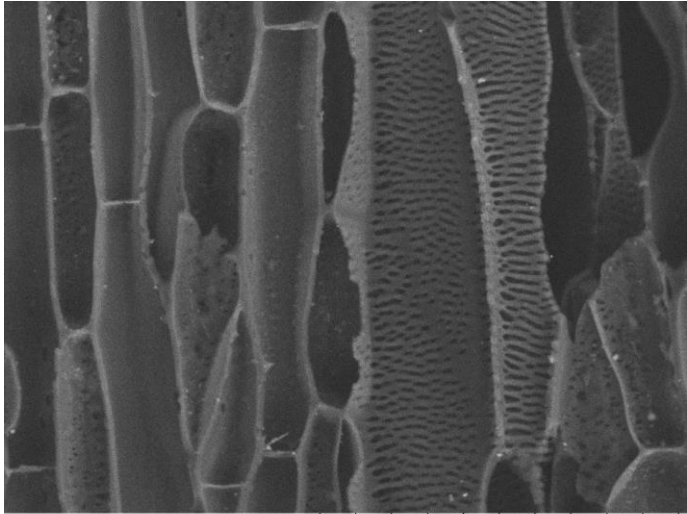
EWC 1715 2022/11/03 14:28 D2.2 x50 2 mm

Transverse 100x



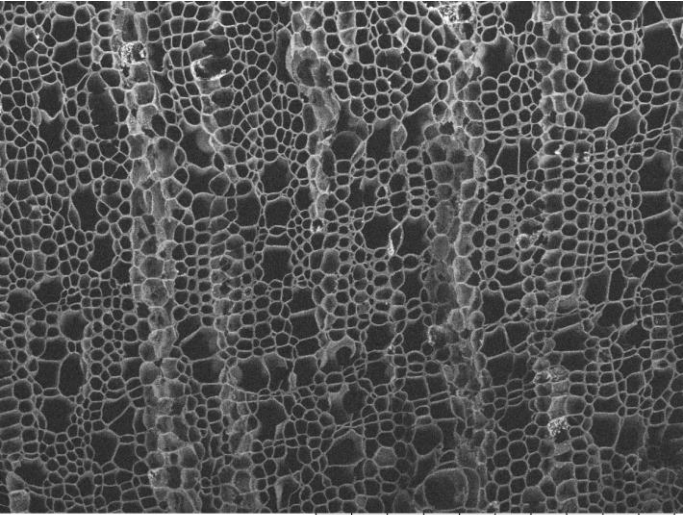
EWC 1715 2022/11/03 14:29 D2.2 x100 1 mm

Vessel Wall



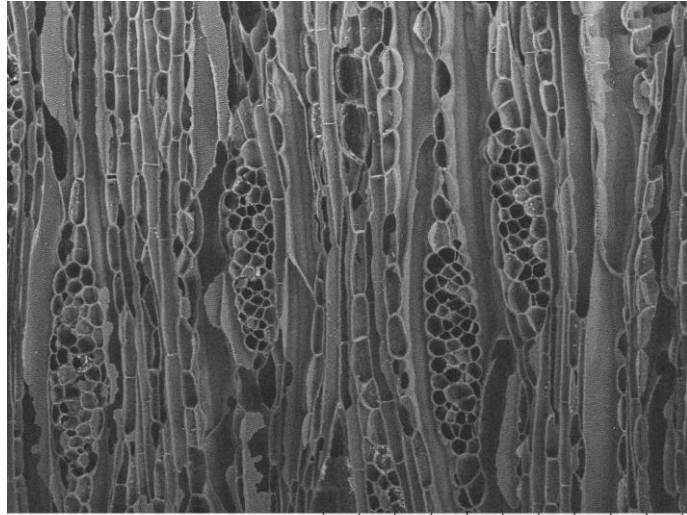
EWC 1715 2022/11/03 14:35 D2.4 x1.0k 100 um

Transverse 200x



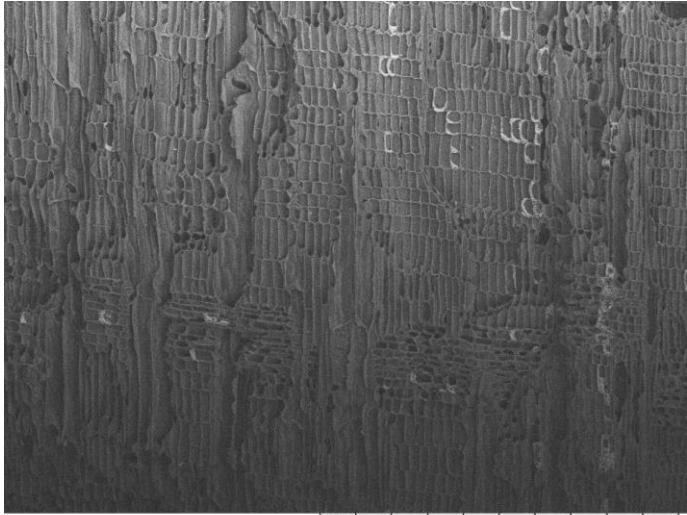
EWC 1715 2022/11/03 14:30 D2.2 x200 500 um

Tangential



EWC 1715 2022/11/03 14:33 D2.4 x200 500 um

Radial



EWC 1715 2022/11/03 14:37 D4.1 x100 1 mm

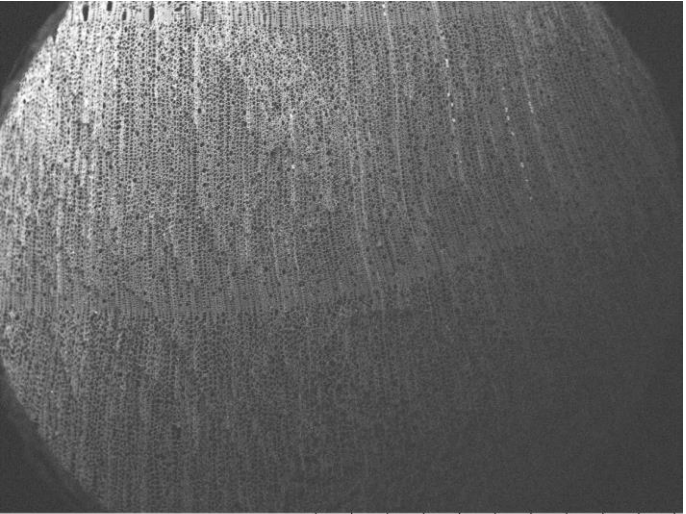
EWC 1716 Unknown Identification

Vessels
Size: <50µm
Freq.: 40 to 100
Arrangement: exclusively solitary
Tyloses: absent

Rays:
per mm: 4-12, 12+
Thickness (cells): 1 to 3
Parenchyma Type: Scanty, Diffuse,
Vasicentric (unilateral)
Porosity: ring porous

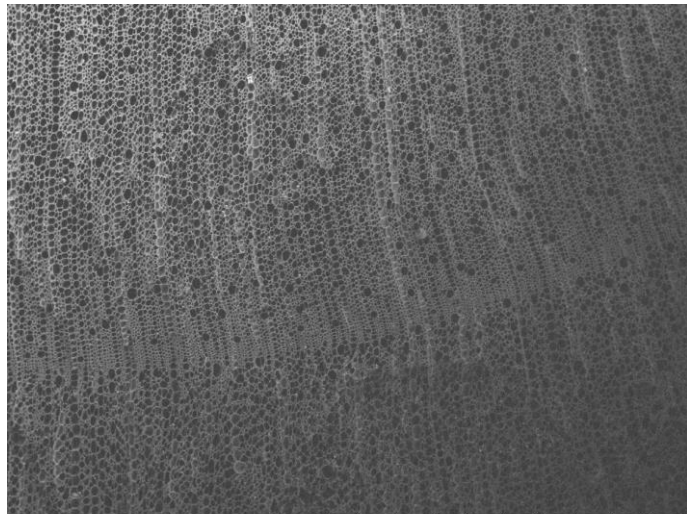
Common Name: "culo de negra"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



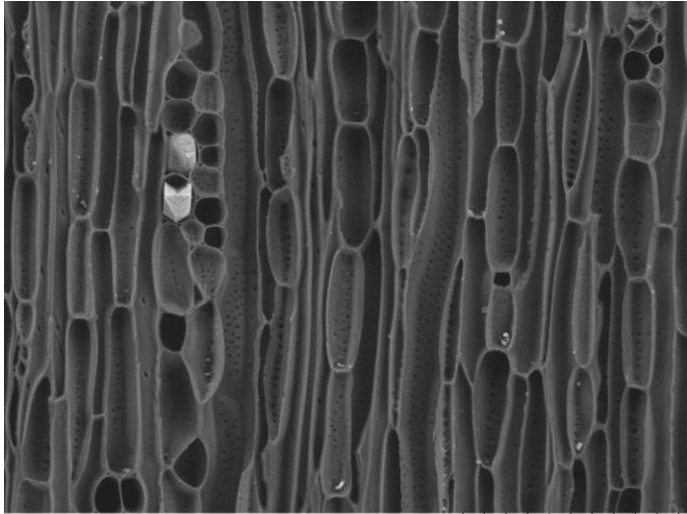
EWC 1716 2022/11/03 14:41 D2.2 x50 2 mm

Transverse 100x



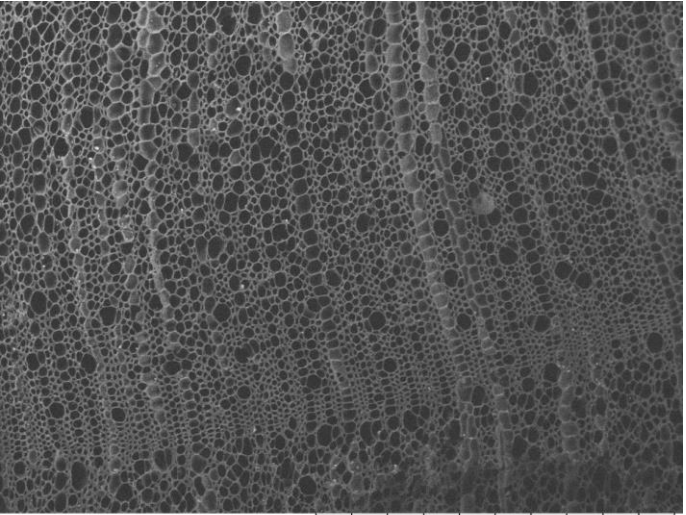
EWC 1716 2022/11/03 14:41 D2.2 x100 1 mm

Vessel Wall



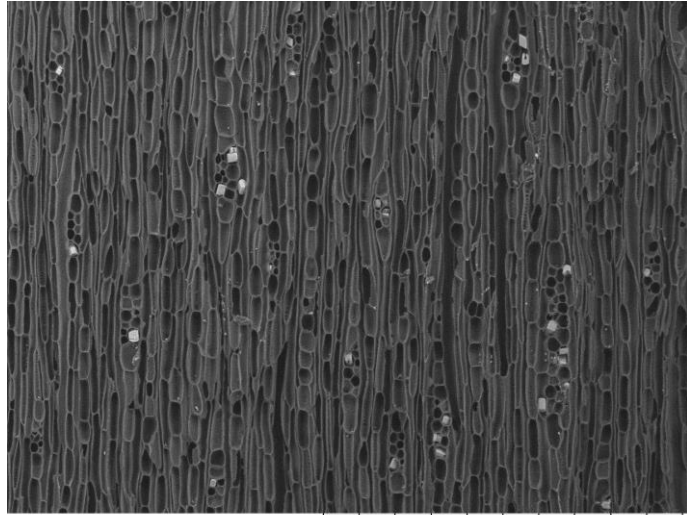
EWC 1716 2023/04/06 09:43 D3.5 x600 100 µm

Transverse 200x



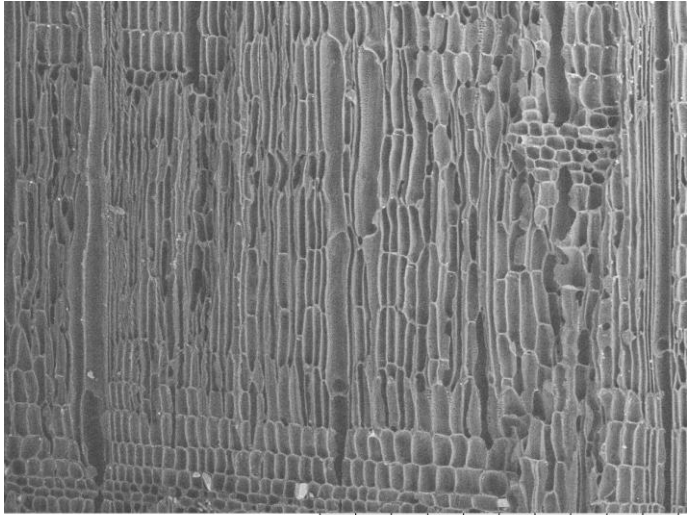
EWC 1716 2022/11/03 14:42 D2.2 x200 500 µm

Tangential



EWC 1716 2023/04/06 09:41 D3.5 x200 500 µm

Radial



EWC 1716 2022/11/03 14:46 D2.5 x200 500 µm

EWC 1718 Unknown Identification

Vessels

Size: <50µm, 50-100µm

Freq.: 5 to 20

Arrangement: solitary, pairs, chains

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Tyloses: common

Parenchyma Type: Banded (thick)

Porosity: semi-ring porous

Common Name:

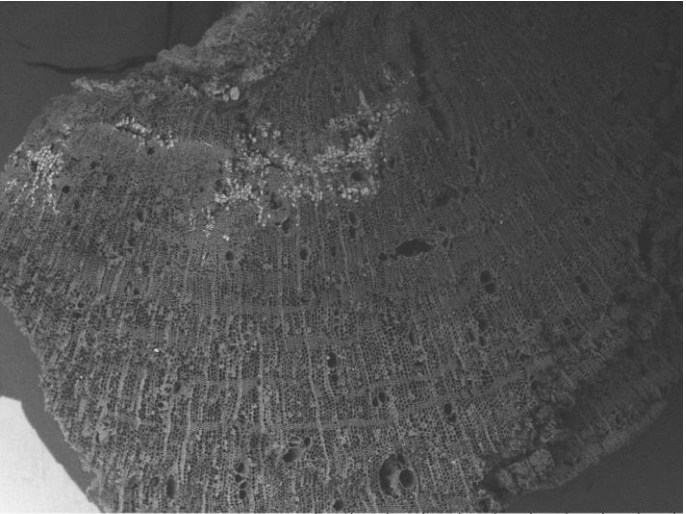
Elevation:

Description:

Location: Ecuador

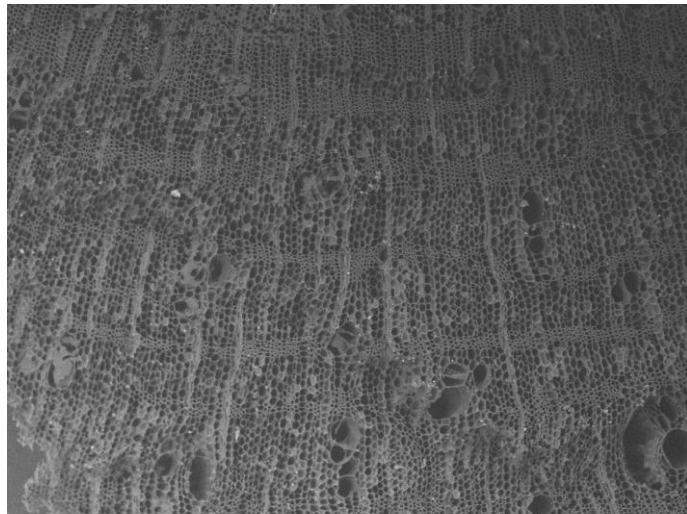
Locality:

Transverse 50x



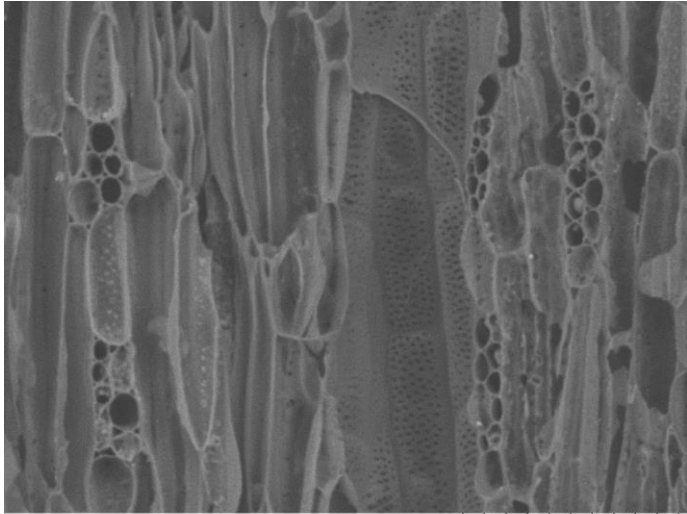
EWC 1718 2022/11/03 17:25 D5.7 x50 2 mm

Transverse 100x



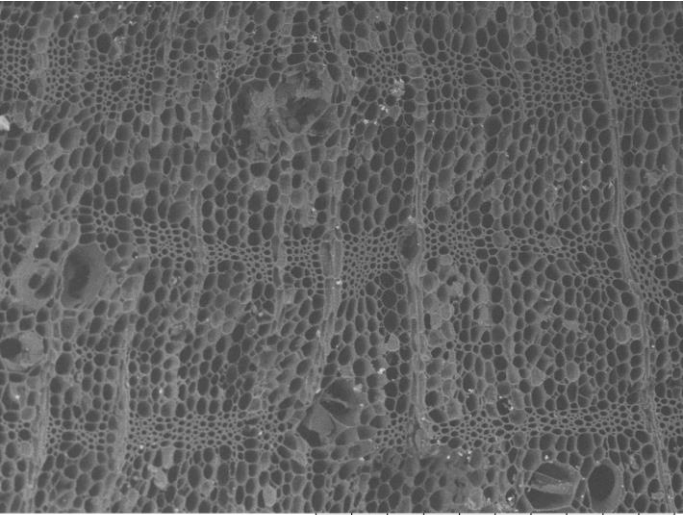
EWC 1718 2022/11/03 17:24 D5.7 x100 1 mm

Vessel Wall 600x



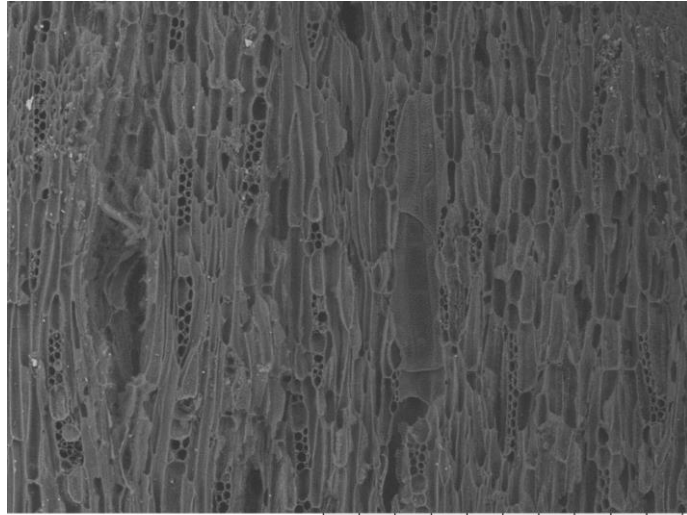
EWC 1718 2022/11/03 17:37 D6.2 x600 100 um

Transverse 200x



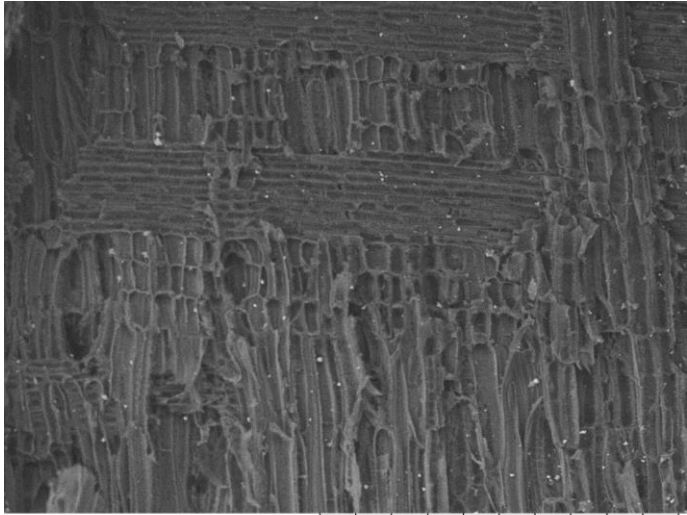
EWC 1718 2022/11/03 17:23 D5.7 x200 500 um

Tangential 200x



EWC 1718 2022/11/03 17:35 D6.2 x200 500 um

Radial 200x



EWC 1718 2022/11/03 17:46 D6.7 x200 500 um

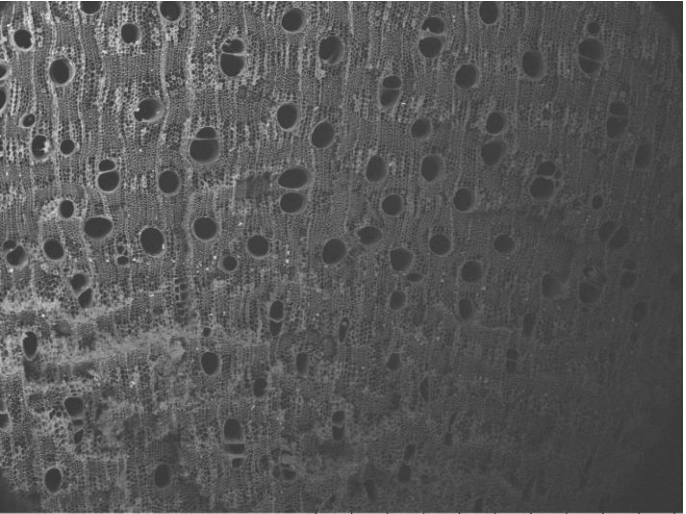
EWC 1719 FABACEAE *Gliricidia brenningii* (Harms) Lavin

Vessels
Size: 100-200µm
Freq.: 5 to 20
Arrangement: solitary, pairs
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): 1 to 3
Parenchyma Type: Vasicentric
(confluent), Banded (thick)
Porosity: diffuse

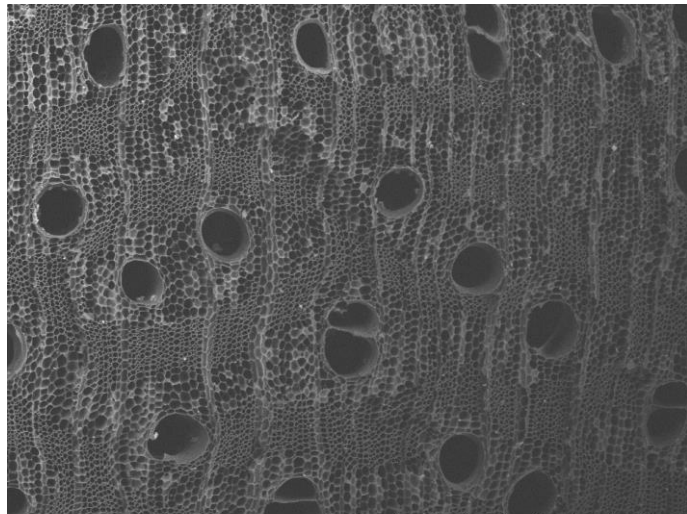
Common Name: "Yuca de Raton"
Elevation: 230 m
Description: Tall tree with white flrs.
Location: Ecuador, Manabí
Locality: Cerro La Sanche: Approximately 4.5 km NE of San Isidro. Collected from a ridge-top area of primary forest with open canopy. San Isidro topo map 1:50,000, cuadrícula (block) N62 E94.

Transverse 50x



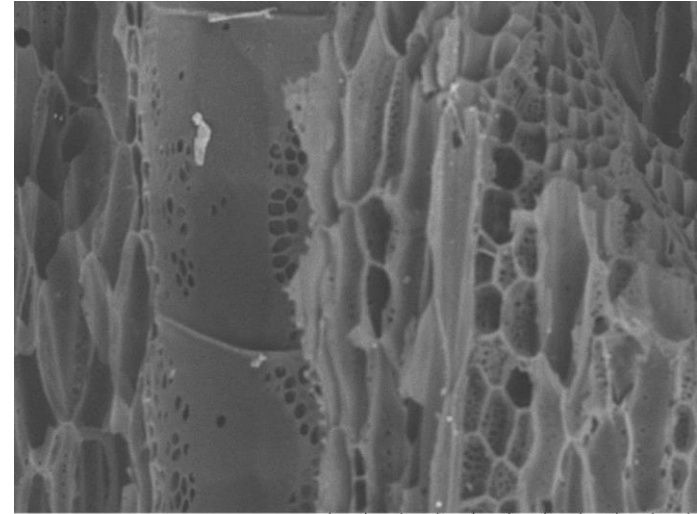
EWC 1719 2022/11/03 17:51 D3.6 x50 2 mm

Transverse 100x



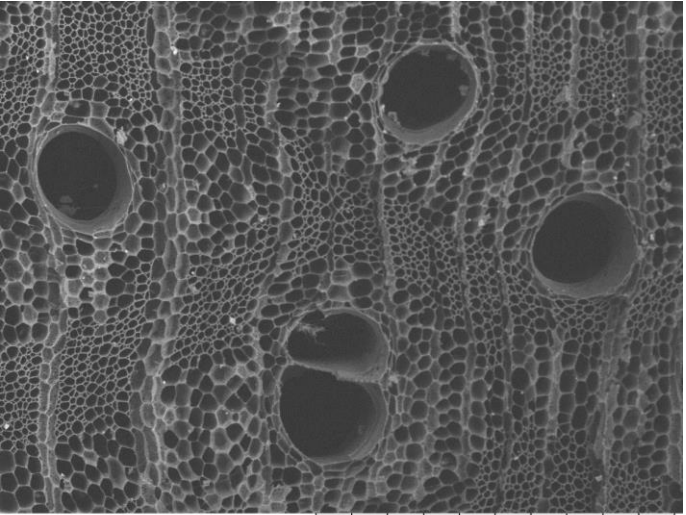
EWC 1719 2022/11/03 17:52 D3.6 x100 1 mm

Vessel Wall 600x



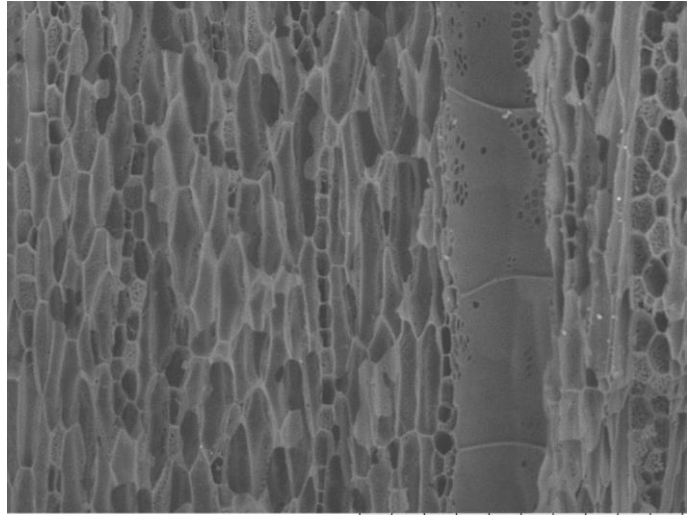
EWC 1719 2022/11/03 17:59 D6.9 x500 200 µm

Transverse 200x



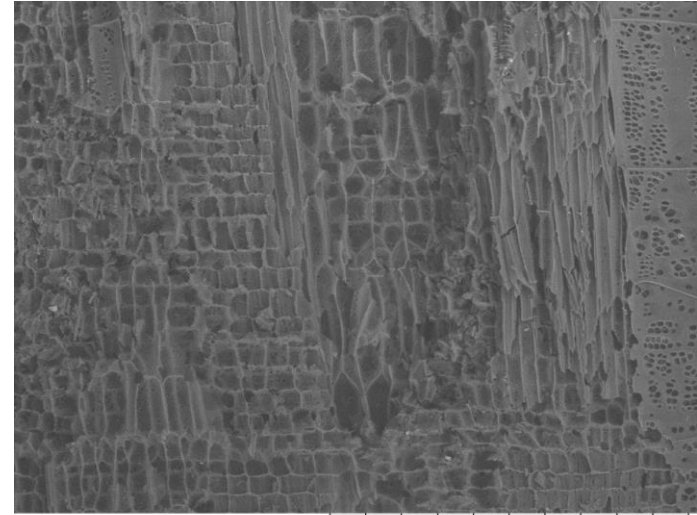
EWC 1719 2022/11/03 17:53 D3.6 x200 500 µm

Tangential 300x



EWC 1719 2022/11/03 17:58 D6.9 x300 300 µm

Radial 200x



EWC 1719 2022/11/03 18:05 D5.5 x200 500 µm