

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

McCown Archaeobotany Laboratory Report #90

Part 1 of 2

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Fall 2022

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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 9 RHAMNACEAE *Ziziphus thrysiflora* Benth.

Common Name: "Perra de Montaña, ebanos"

Elevation: 25 m

Description: Tree, white bark, crown not spreading; leaves light green, palmately veined, alternate; no flowers; fruits round, 1.5-2 cm in diameter, drupe. Beginning of epiphytic infestation *Psitacanthus obovatus* HBK. Thorns along mature branches, trunk. Common names: "Perra de Montaña, ebanos". Side arroyo off large arroyo west of El Real.

Location: Ecuador, Guayas

Locality: El Real area, Santa Elena Peninsula. N97 37, E5 31. Outer coastal plain, semi-desert (xerophytic) vegetation.

Vessels

Size: 50-150µm

Freq.: 5 to 20

Arrangement: solitary, pairs, chains

Tyloses: common

Rays:

per mm: 4-12

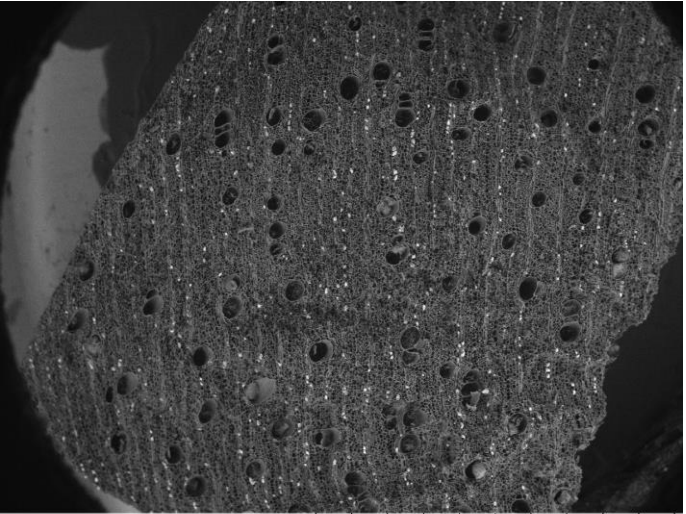
Thickness (cells): 1 to 3, of two distinct sizes

Parenchyma Type: Diffuse

Porosity: semi-ring porous

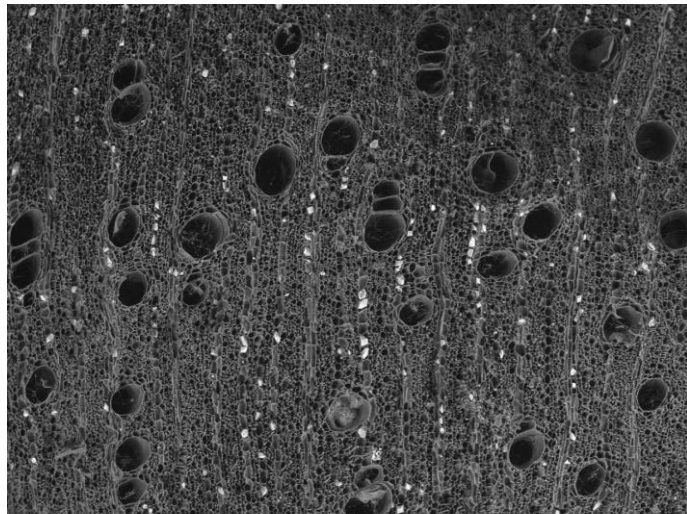
Vessel Wall

Transverse 50x

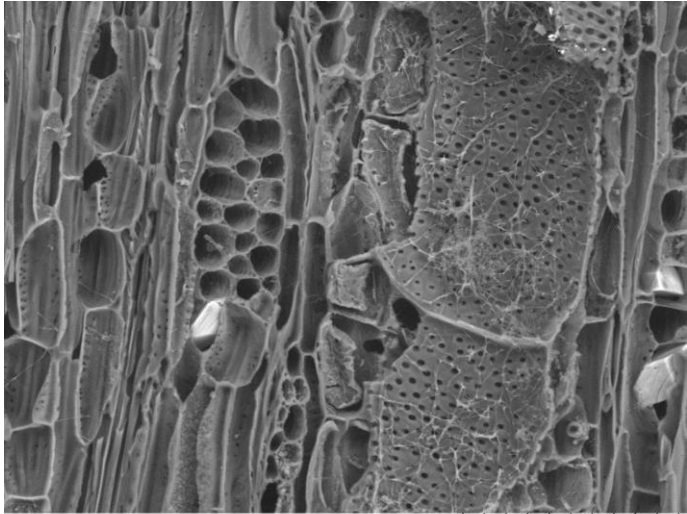


EWC 9 2022/07/21 04:17 L D2.8 x50 2 mm

Transverse 100x

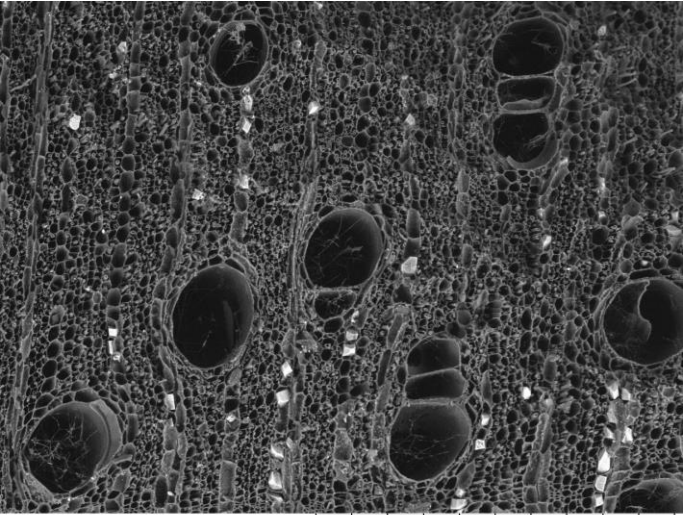


EWC 9 2022/07/21 04:19 L D2.8 x100 1 mm



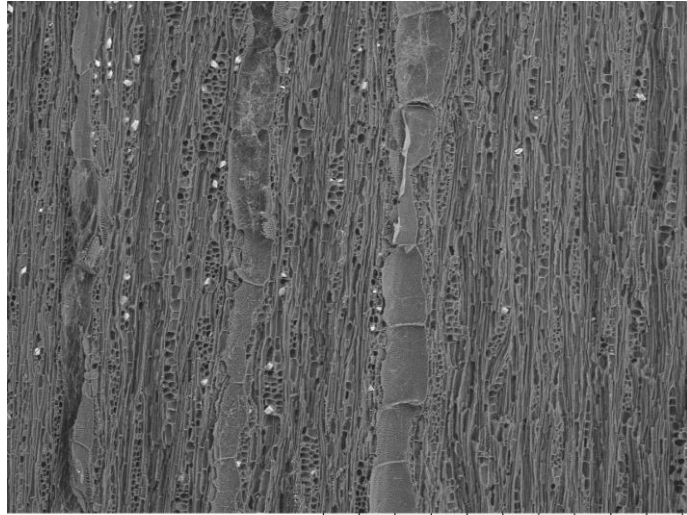
EWC 9 2022/07/21 04:34 L D3.6 x600 100 µm

Transverse 200x



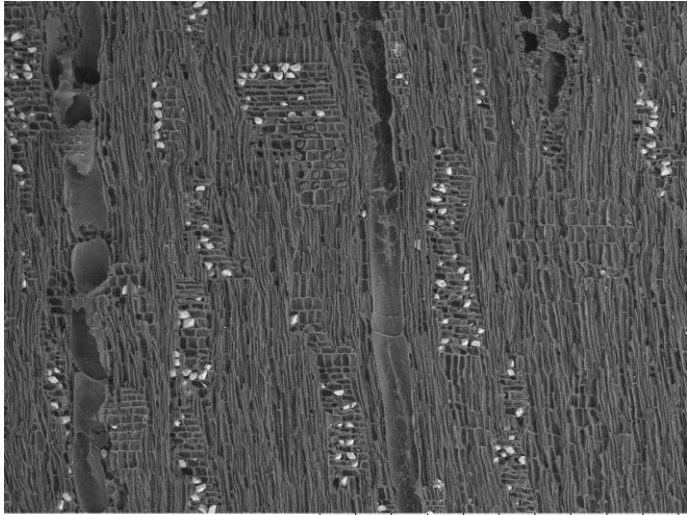
EWC 9 2022/07/21 04:20 L D2.8 x200 500 µm

Tangential



EWC 9 2022/07/21 04:31 L D3.6 x100 1 mm

Radial



EWC 9 2022/07/21 04:38 L D4.2 x100 1 mm

EWC 91 POLYGONACEAE *Triplaris Guayaquilensis* HBK

Vessels

Size: 50-100µm

Freq.: 20 to 40

Arrangement: solitary and pairs

Tyloses: absent

Vessel Wall: alternate pitting

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Diffuse

Porosity: semi-ring porous

Common Name:

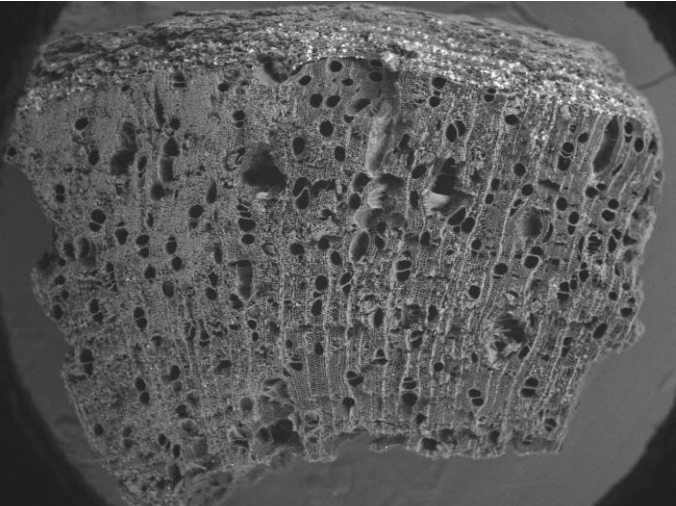
Elevation:

Description:

Location: Ecuador

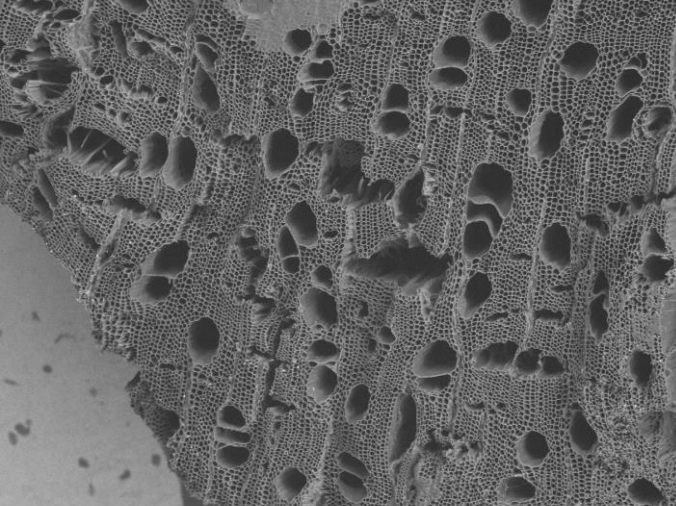
Locality:

Transverse 50x



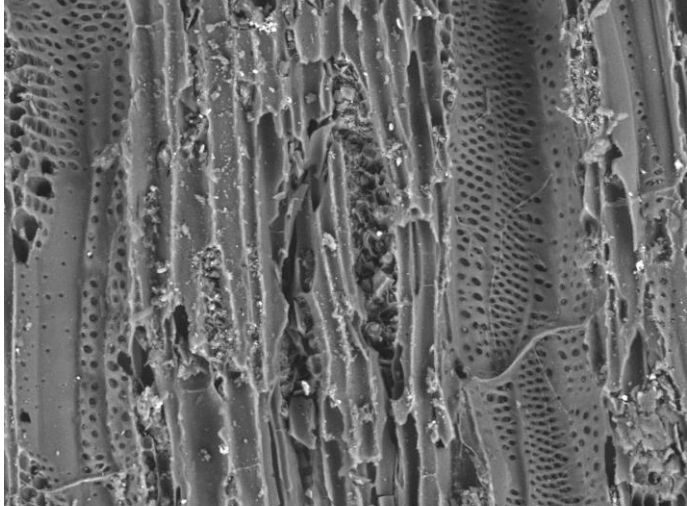
EWC 91 2022/07/21 01:54 L D2.6 x50 2 mm

Transverse 100x



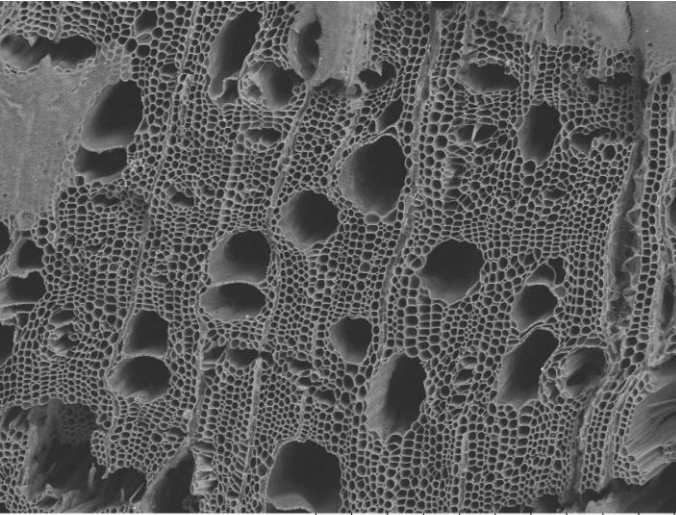
EWC 91 2022/07/21 02:07 L D4.4 x120 500 um

Vessel Wall



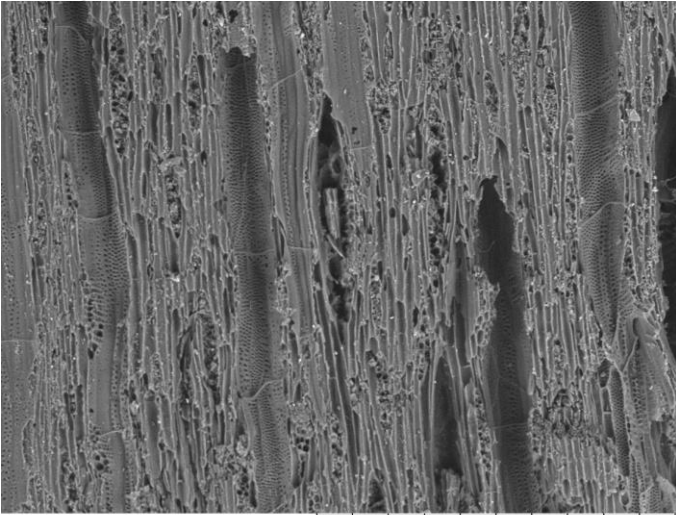
EWC 91 2022/07/21 02:47 L D3.8 x600 100 um

Transverse 200x



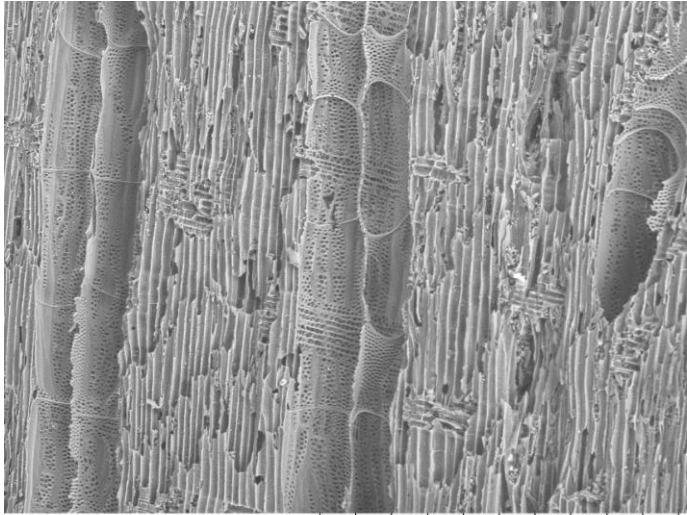
EWC 91 2022/07/21 02:09 L D4.4 x200 500 um

Tangential



EWC 91 2022/07/21 02:45 L D4.0 x200 500 um

Radial



EWC 91 2022/07/21 02:39 L D3.3 x200 500 um

EWC 482 Unknown Identification

Vessels

Size: 50-100µm

Freq.: 40 to 100

Arrangement: pairs, chains

Tyloses: absent

Vessel Wall: Simple Alternate Pits

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Absent

Porosity: diffuse

Common Name: "lengua de vaca"
"putilla"

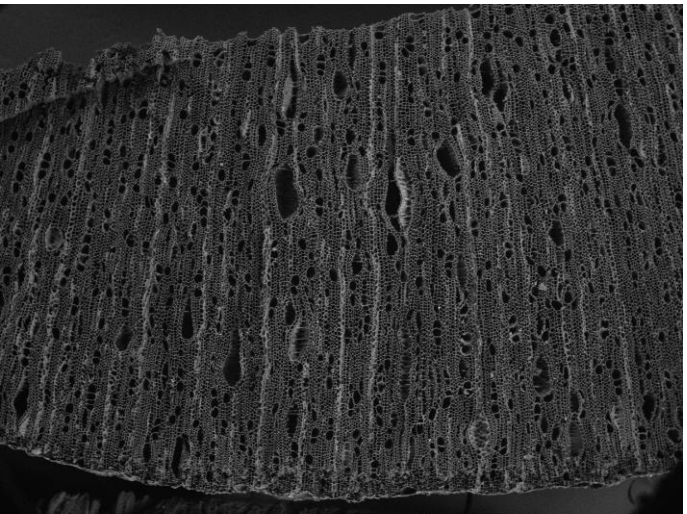
Elevation:

Description:

Location: Ecuador

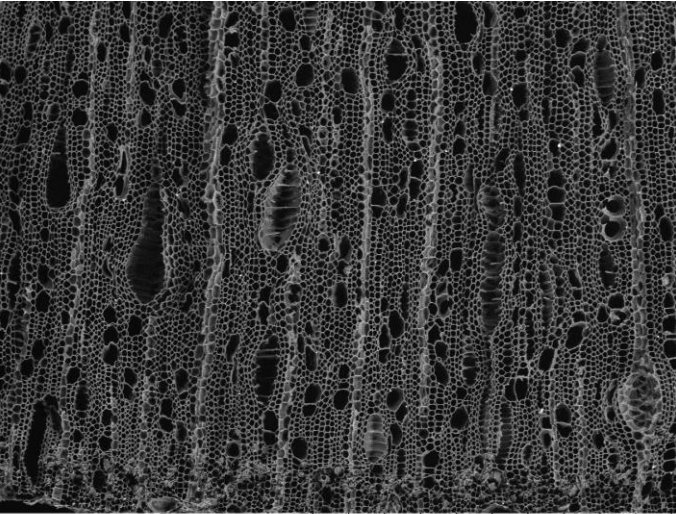
Locality:

Transverse 50x



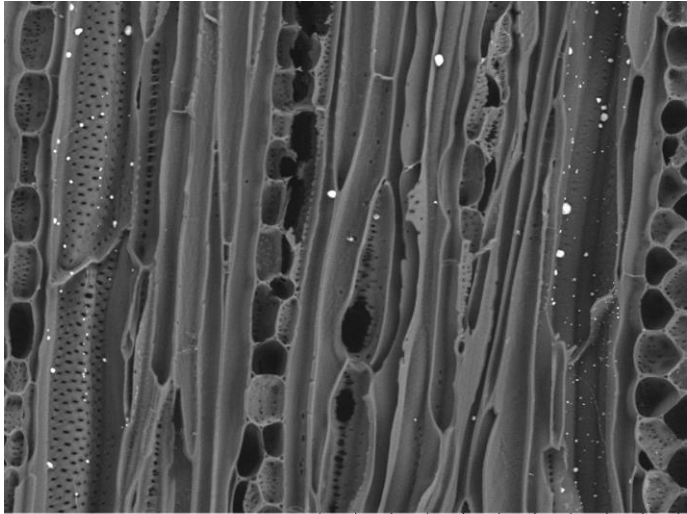
EWC 482 2022/07/21 04:47 L D3.9 x50 2 mm

Transverse 100x



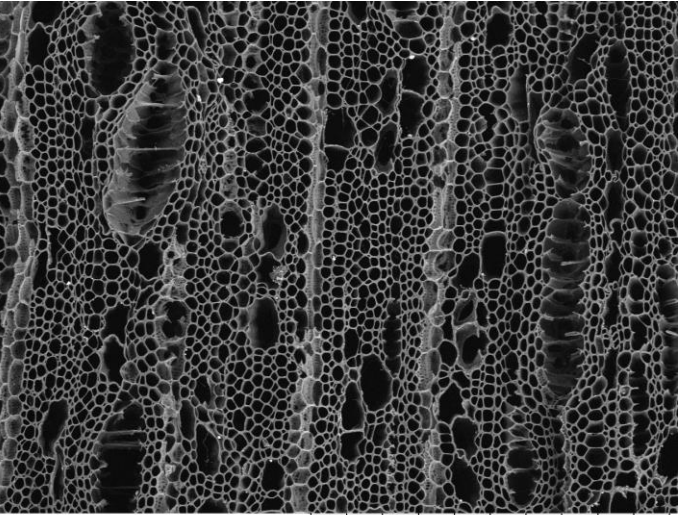
EWC 482 2022/07/21 04:49 L D3.9 x100 1 mm

Vessel Wall



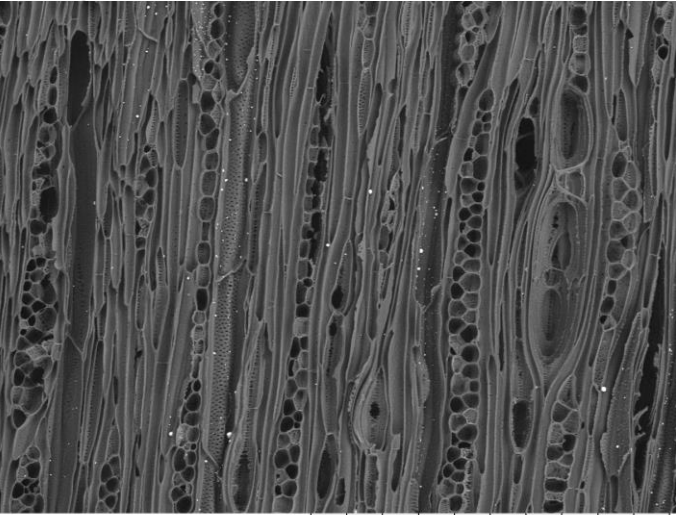
EWC 482 2022/07/21 04:45 L D4.1 x500 200 µm

Transverse 200x



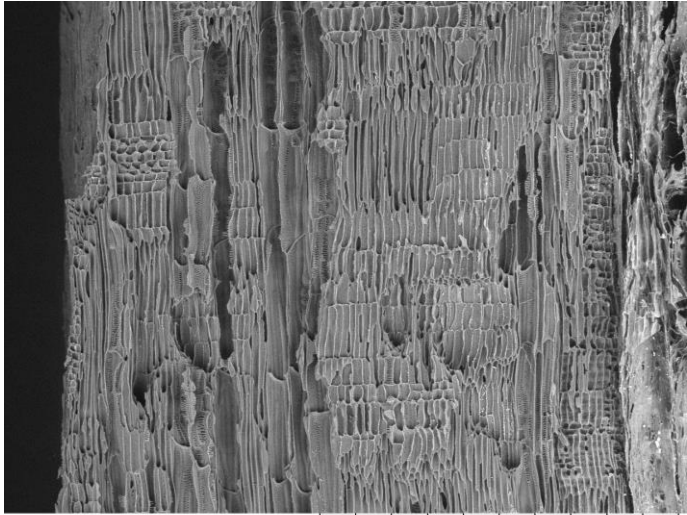
EWC 482 2022/07/21 04:50 L D3.9 x200 500 µm

Tangential



EWC 482 2022/07/21 04:43 L D4.1 x200 500 µm

Radial



EWC 482 2022/07/21 04:52 L D4.0 x100 1 mm

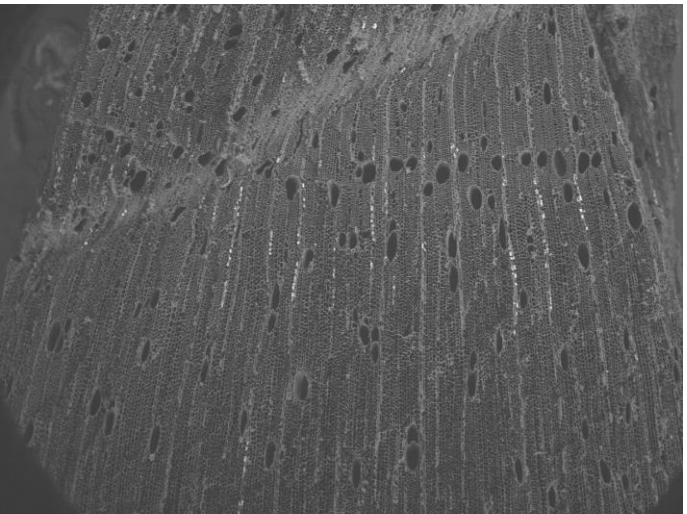
EWC 490 FAMILY Unknown Identification

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

Rays:
per mm: 4-12
Thickness (cells): uniseriate, 1 to 3, of two distinct sizes
Parenchyma Type: Absent, Diffuse in aggregate

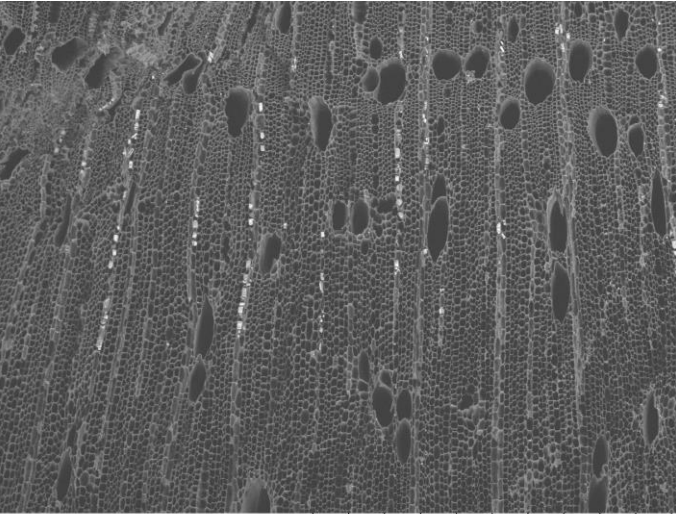
Common Name: "tutumo"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



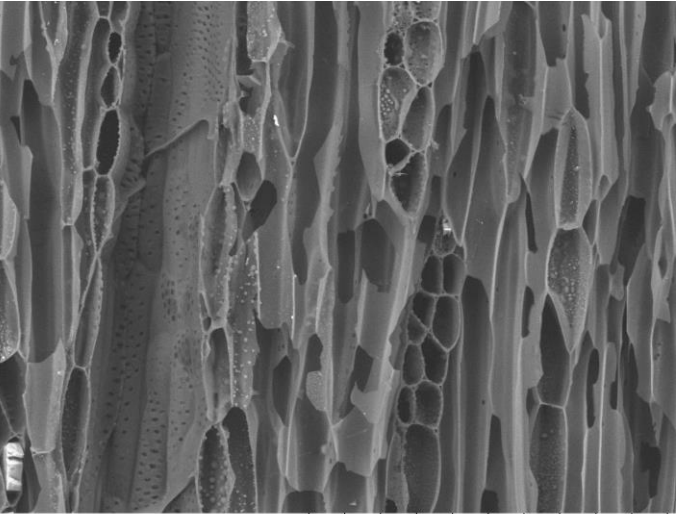
EWC 490 2022/07/25 23:41 L D3.5 x50 2 mm

Transverse 100x



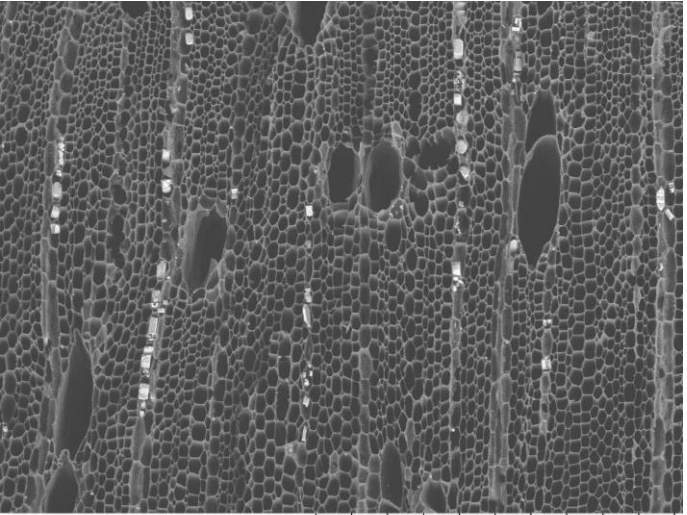
EWC 490 2022/07/25 23:42 L D3.5 x100 1 mm

Vessel Wall



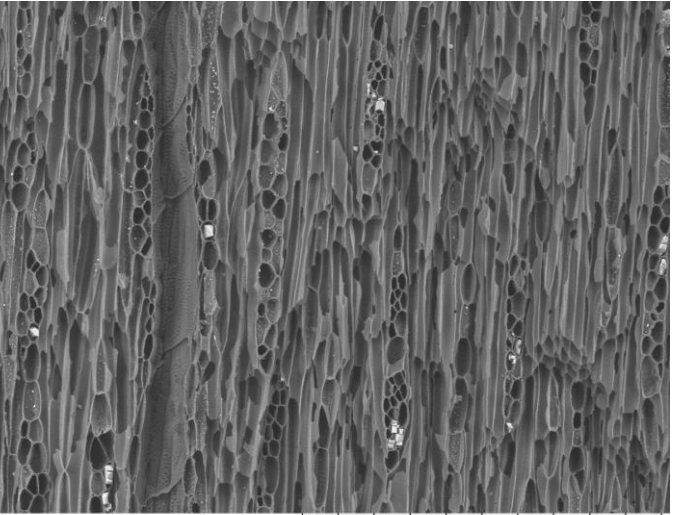
EWC 490 2022/07/25 23:20 L D3.9 x500 200 um

Transverse 200x



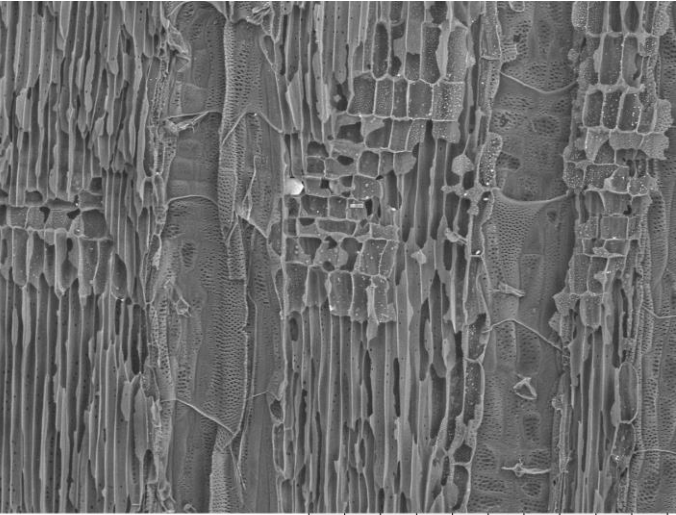
EWC 490 2022/07/25 23:43 L D3.5 x200 500 um

Tangential



EWC 490 2022/07/25 23:18 L D3.9 x200 500 um

Radial



EWC 490 2022/07/25 23:24 L D3.9 x200 500 um

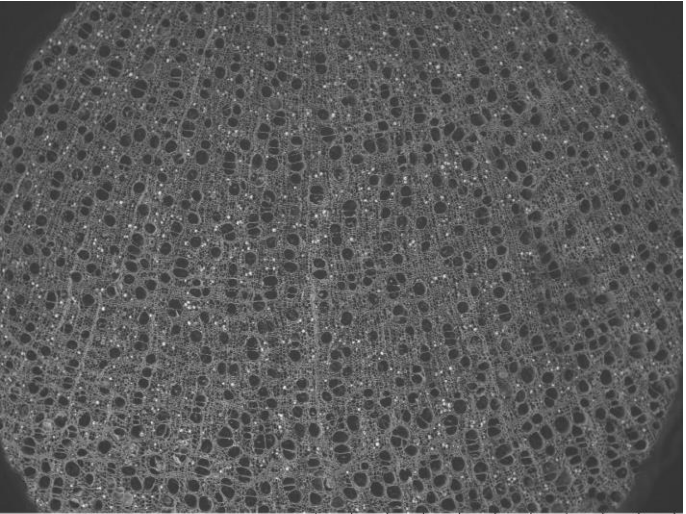
EWC 492 MYRTACEAE *Eugenia*

Vessels
Size: 50-100,100-200µm
Freq.: 40 to 100 (~70)
Arrangement: solitary, pairs, chains
Tyloses: common

Rays:
per mm: <4
Thickness (cells): 1 to 3
Parenchyma Type: Banded (thin and thick)
Porosity: diffuse

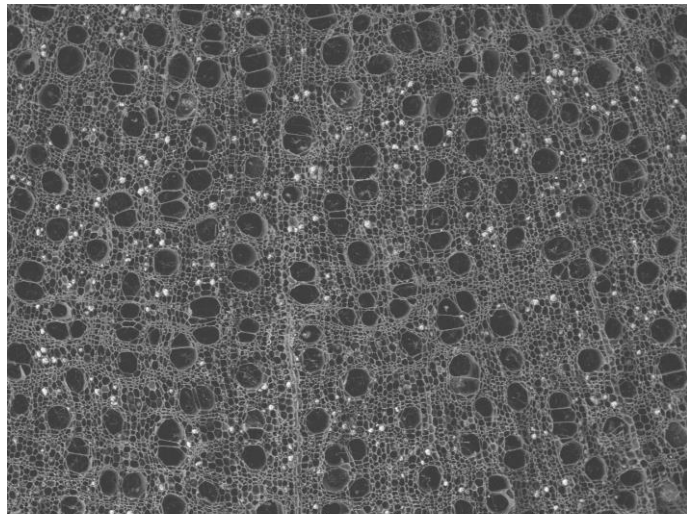
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



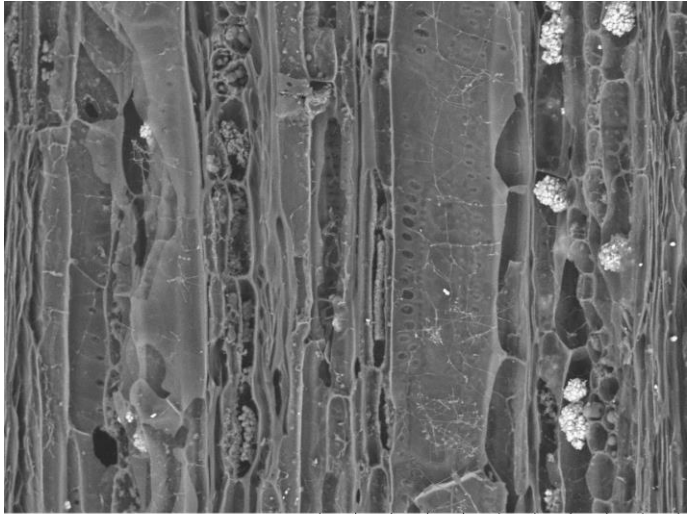
EWC 1607 2022/07/25 22:45 L D2.8 x50 2 mm

Transverse 100x



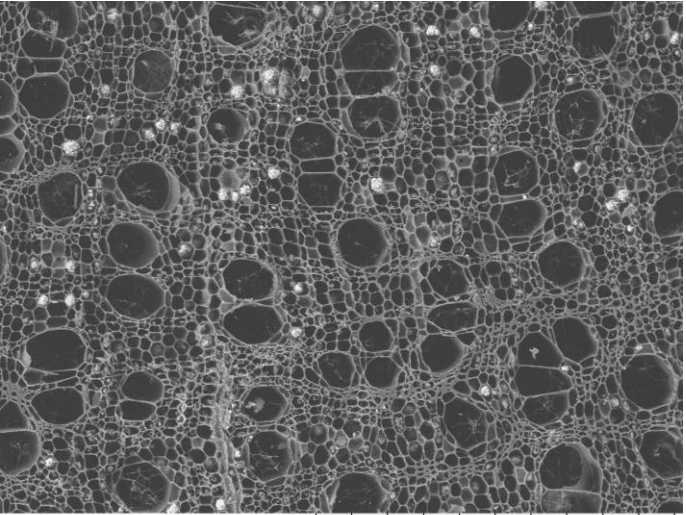
EWC 1607 2022/07/25 22:46 L D2.8 x100 1 mm

Vessel Wall 500x



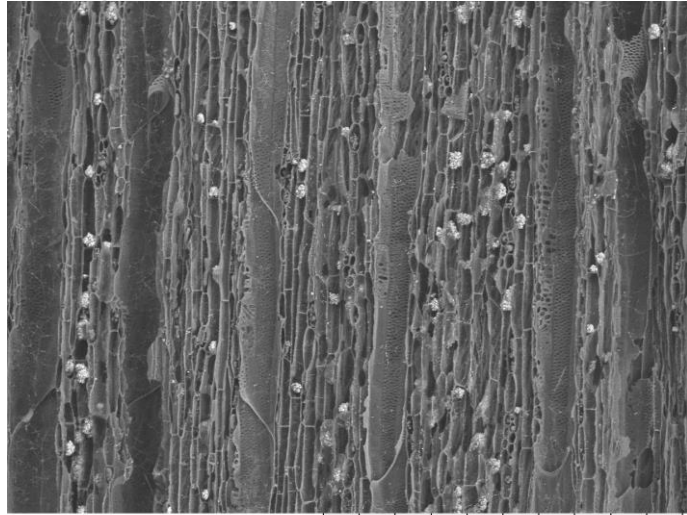
EWC 1607 2022/07/25 23:02 L D4.1 x500 200 µm

Transverse 200x



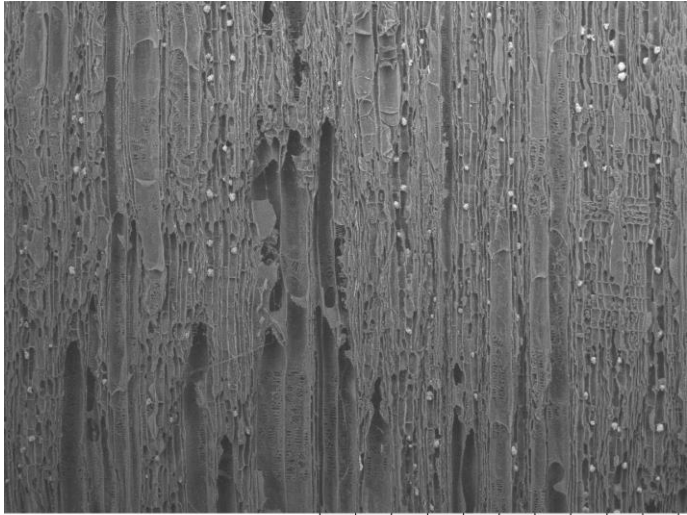
EWC 1607 2022/07/25 22:48 L D2.8 x200 500 µm

Tangential 200x



EWC 1607 2022/07/25 23:08 L D3.3 x200 500 µm

Radial 100x



EWC 492 2022/09/21 00:46 L D3.4 x100 1 mm

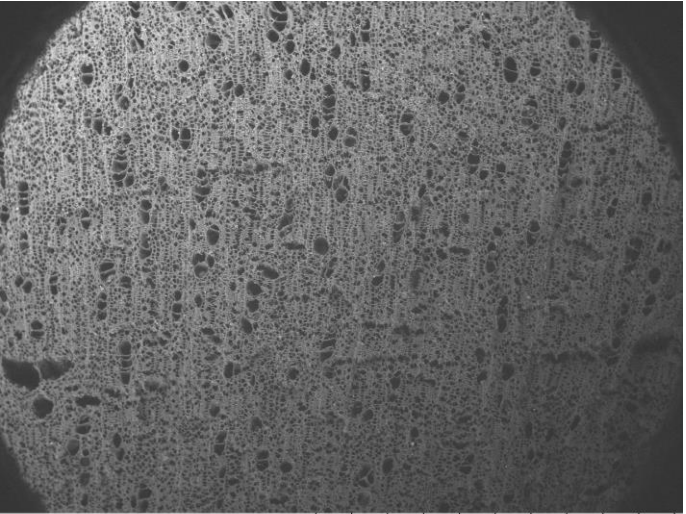
EWC 495 SAPOTACEAE *Chrysophyllum auratum* Miq.

Vessels
Size: 50-100µm, 100-200µm
Freq.: 5 to 20 (~19)
Arrangement: pairs, chains, some clusters
Tyloses: absent

Rays:
per mm: 4-12
Thickness (cells): uniseriate
Parenchyma Type: diffuse-in-aggregates, thin bands
Porosity: diffuse

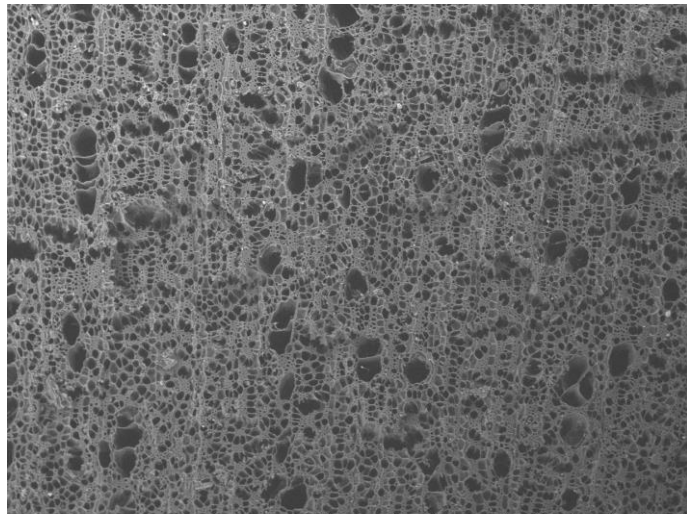
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



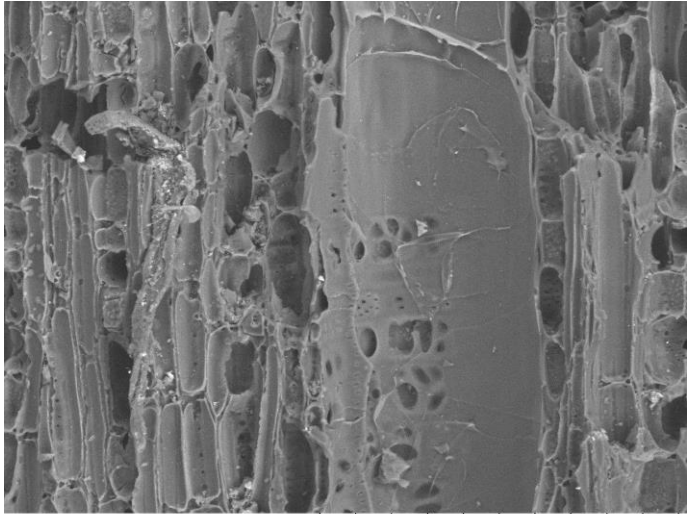
EWC 495 2022/09/21 00:51 L D2.7 x50 2 mm

Transverse 100x



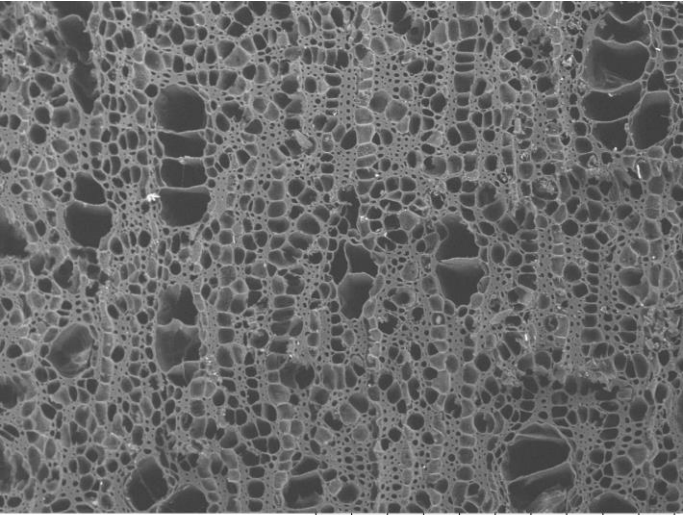
EWC 495 2022/09/21 00:56 L D2.7 x100 1 mm

Vessel Wall



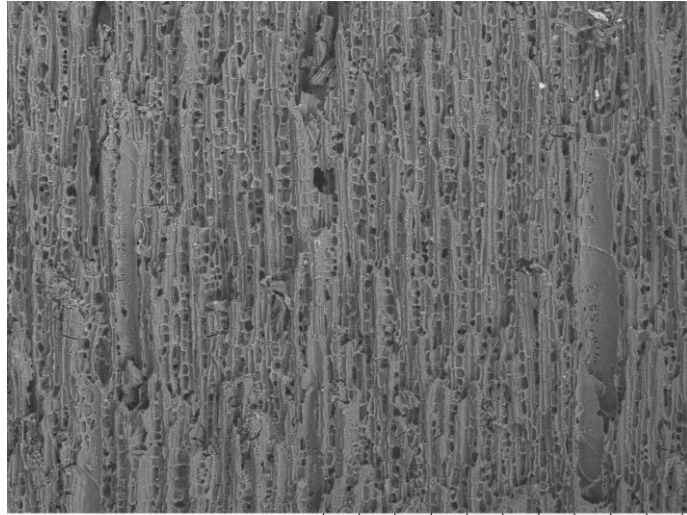
EWC 495 2022/07/19 02:27 L D4.7 x500 200 µm

Transverse 200x



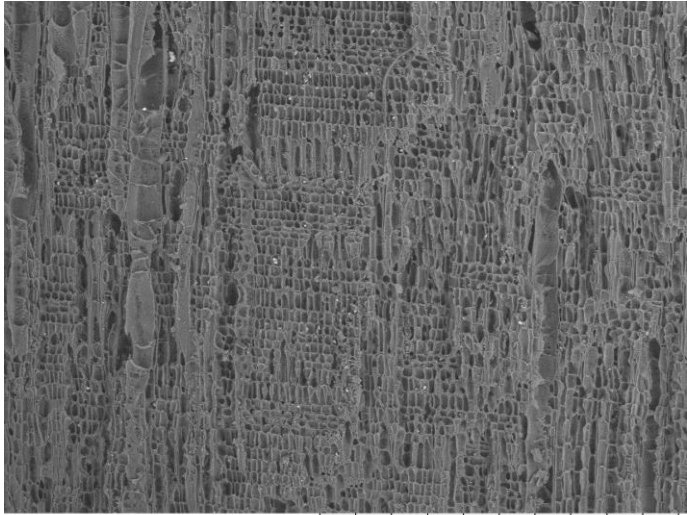
EWC 495 2022/09/21 00:55 L D2.7 x200 500 µm

Tangential 100x



EWC 495 2022/07/19 02:23 L D4.7 x100 1 mm

Radial 100x



EWC 495 2022/07/19 02:09 L D5.6 x100 1 mm

EWC 497 LAURACEAE *Nectandra*

Vessels

Size: 50-100µm, 100-200µm

Freq.: 5 to 20 (~7)

Arrangement: solitary, pairs

Tyloses: common

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Vascentric,
Scanty

Porosity: diffuse

Common Name: "higua maria"

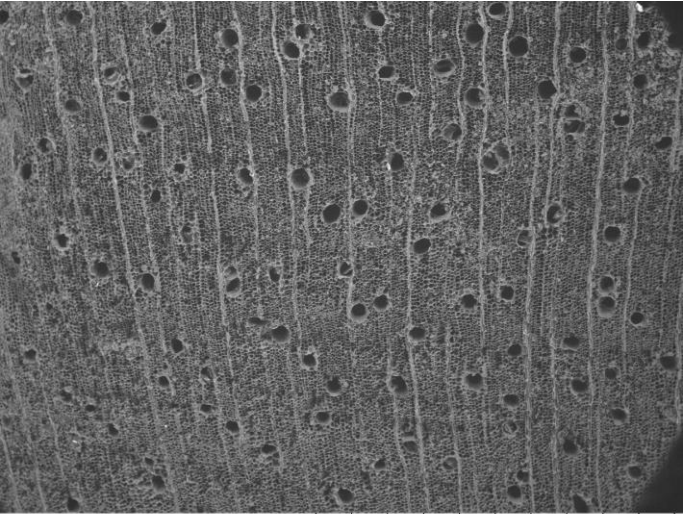
Elevation:

Description:

Location: Ecuador

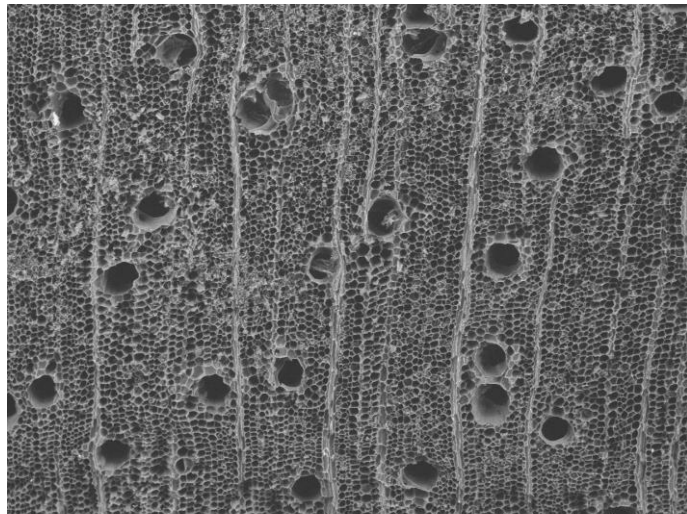
Locality:

Transverse 50x



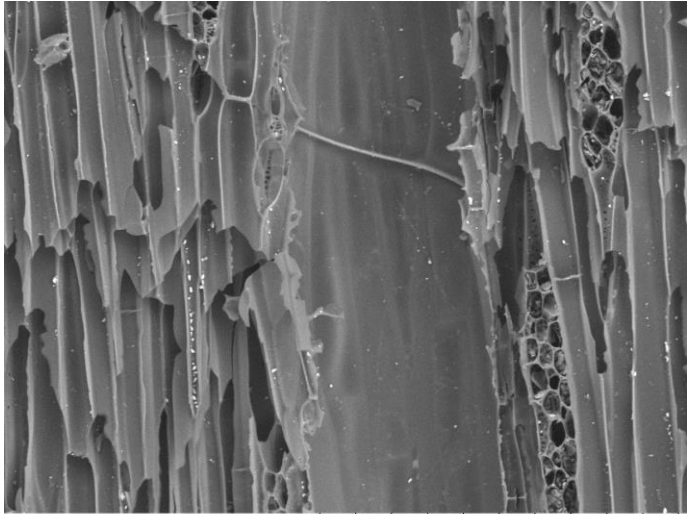
EWC 497 2022/07/21 01:29 L D4.2 x50 2 mm

Transverse 100x



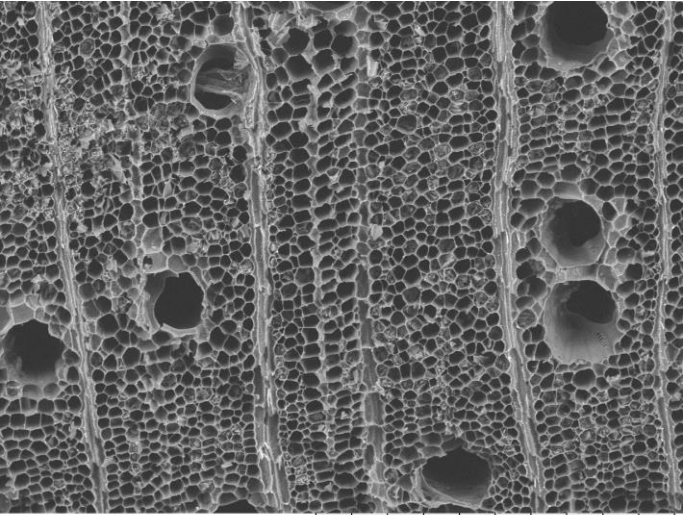
EWC 497 2022/07/21 01:32 L D4.2 x100 1 mm

Vessel Wall 500x



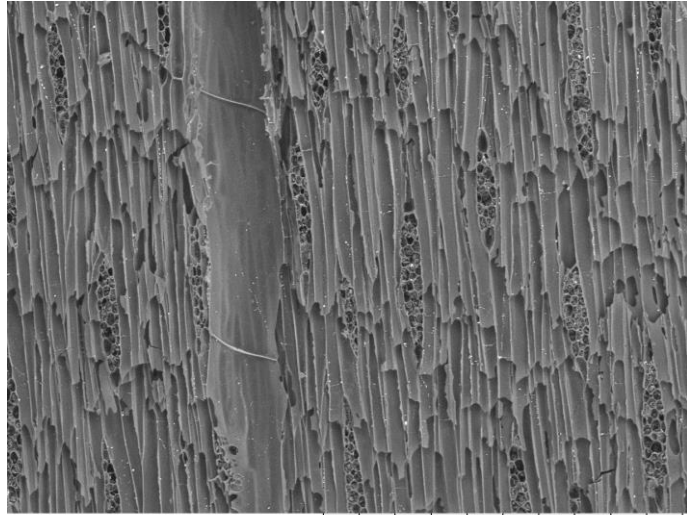
EWC 497 2022/07/21 01:48 L D4.2 x500 200 µm

Transverse 200x



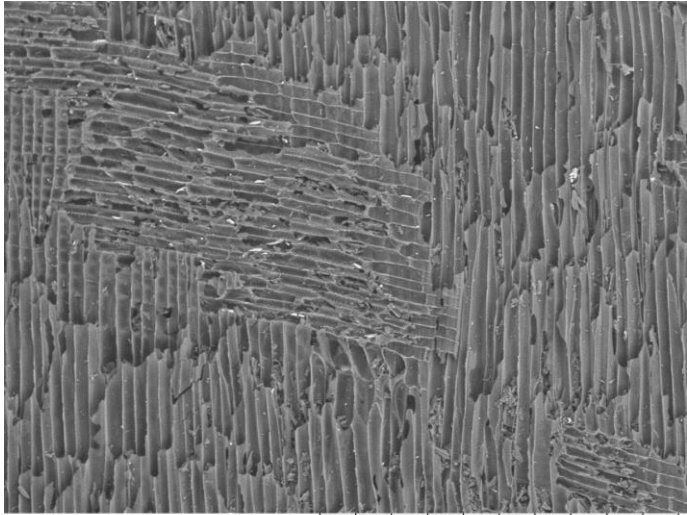
EWC 497 2022/07/21 01:34 L D4.2 x200 500 µm

Tangential 200x



EWC 497 2022/07/21 01:46 L D4.2 x200 500 µm

Radial 200x



EWC 497 2022/07/21 01:40 L D4.8 x200 500 µm

EWC 502 MALVACEAE *Sterculia corrugata* Little

Common Name: "piragua"

Elevation: 150 m

Description: leaves leathery, glossy, opposite, abundant; bark light brown, rough; trees of large size seen farther up the San Francisco Valley; 2 specimens and wood. Deciduous coastal forest.

Location: Ecuador, Guayas

Locality: Las N nuez area, Ol n. Same as number 501: Lower area of the Rio Bototito Valley, near Las N nuez, area cleared of most trees, with shrub growth.

Vessels

Size: 100-200µm

Freq.: 20 to 40

Arrangement: pairs, chains

Tyloses: common

Vessel Wall: Simple Alternate Pits

Rays:

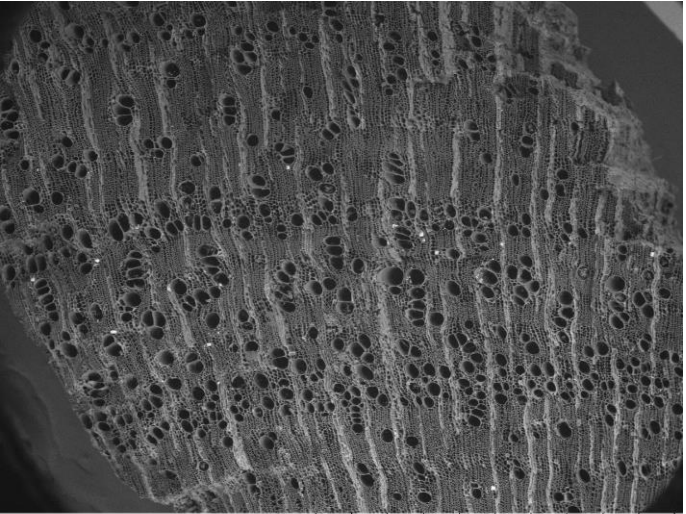
per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Banded (thick),

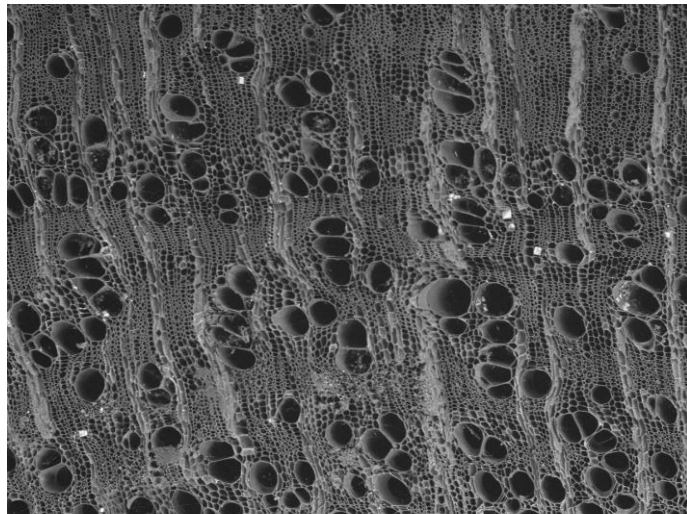
Porosity: semi-ring porous

Transverse 50x



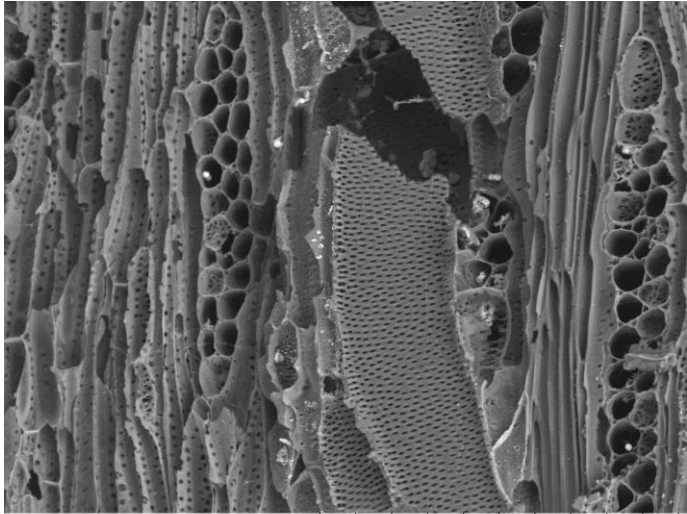
EWC 502 2022/07/26 00:37 L D3.6 x50 2 mm

Transverse 100x



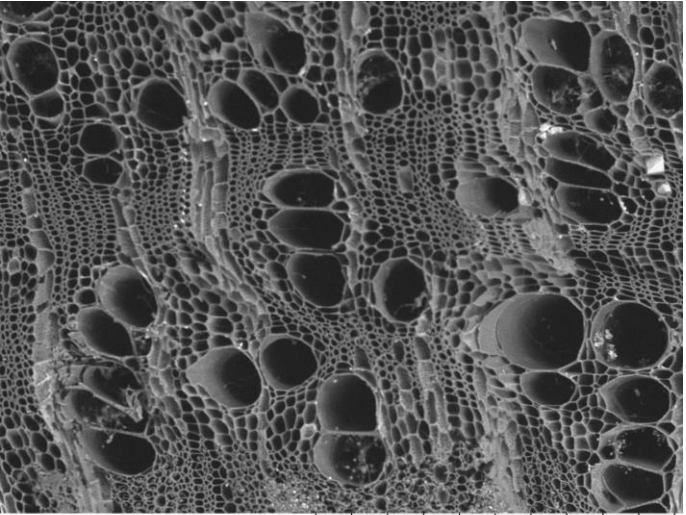
EWC 502 2022/07/26 00:38 L D3.6 x100 1 mm

Vessel Wall



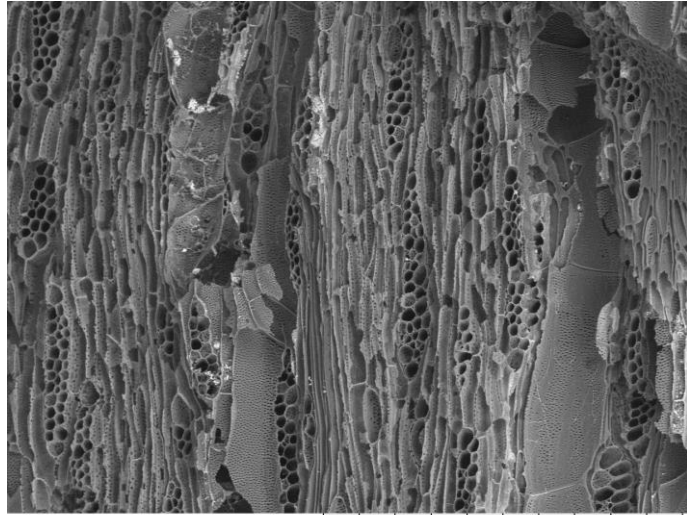
EWC 502 2022/07/26 00:59 L D4.7 x500 200 µm

Transverse 200x



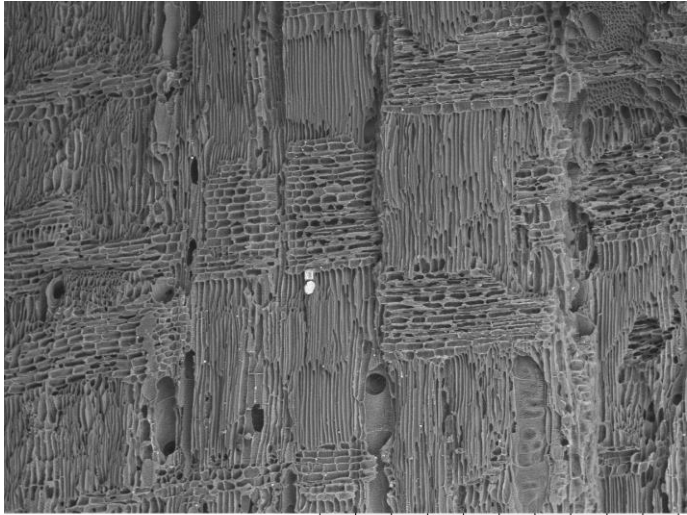
EWC 502 2022/07/26 00:39 L D3.6 x200 500 µm

Tangential



EWC 502 2022/07/26 00:57 L D4.7 x200 500 µm

Radial

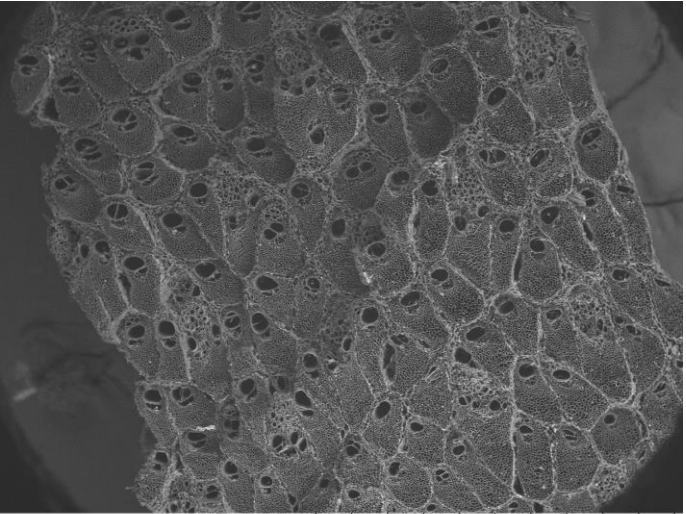


EWC 502 2022/07/26 00:51 L D3.9 x100 1 mm

EWC 1061 ARECACEAE *Socratea*

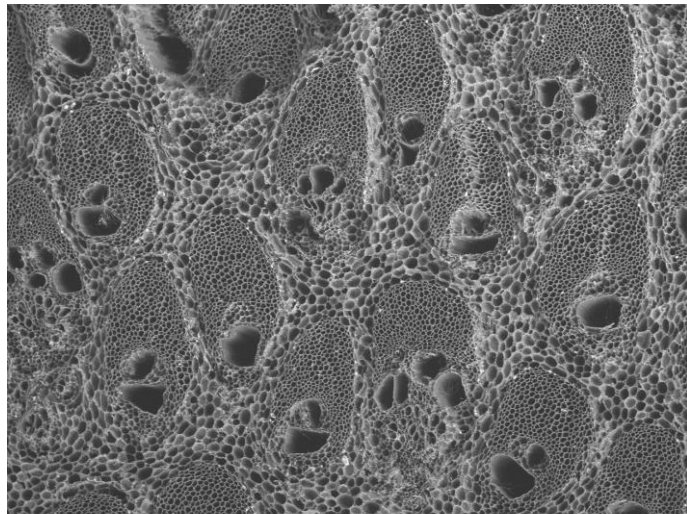
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



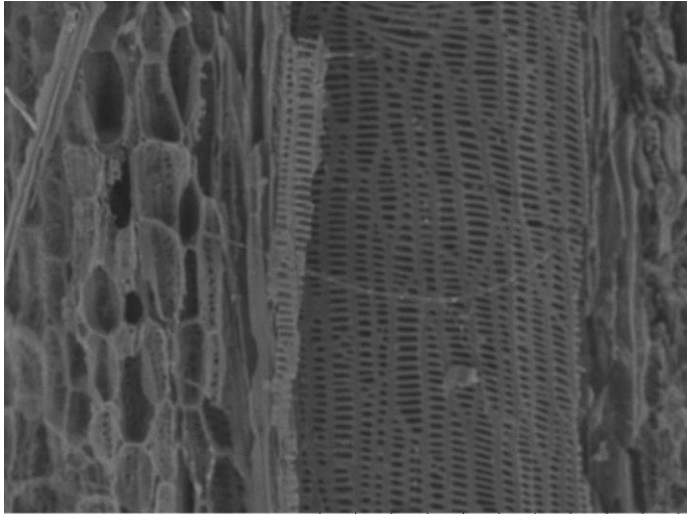
EWC 1061 2022/07/26 01:03 L D3.0 x50 2 mm

Transverse 100x



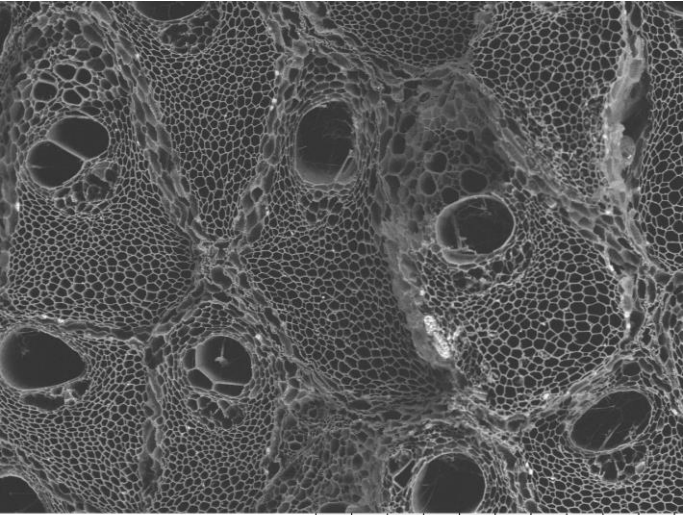
EWC 1061 2022/08/09 00:28 L D2.8 x100 1 mm

Vessel Wall



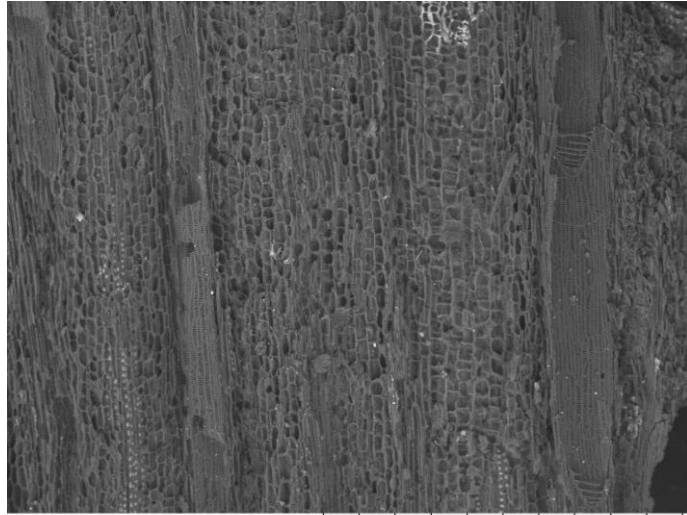
EWC 1061 2022/08/09 00:40 L D4.5 x500 200 um

Transverse 200x



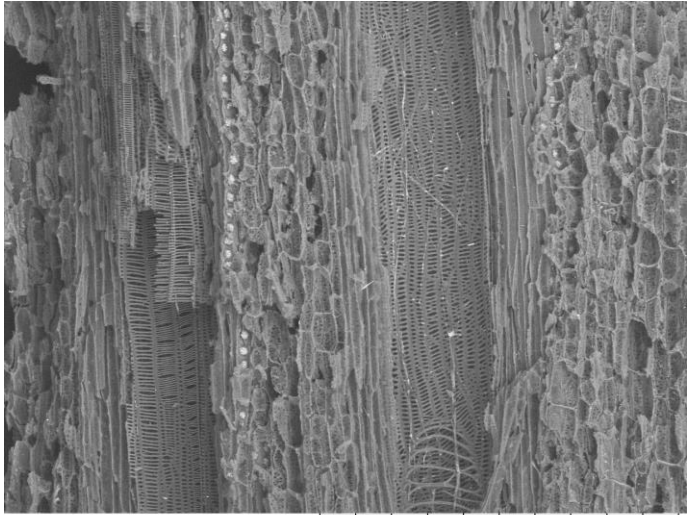
EWC 1061 2022/07/26 01:06 L D3.0 x200 500 um

Tangential



EWC 1061 2022/08/09 00:38 L D4.5 x100 1 mm

Radial



EWC 1061 2022/08/09 00:44 L D6.7 x200 500 um

EWC 1075 FABACEAE *Inga*

Vessels

Size: 50-100µm

Freq.: 20 to 40

Arrangement: solitary, pairs, chains

Tyloses: common

Rays:

per mm: 12+

Thickness (cells): uniseriate

Parenchyma Type: Banded (thin)

Porosity: diffuse

Common Name:

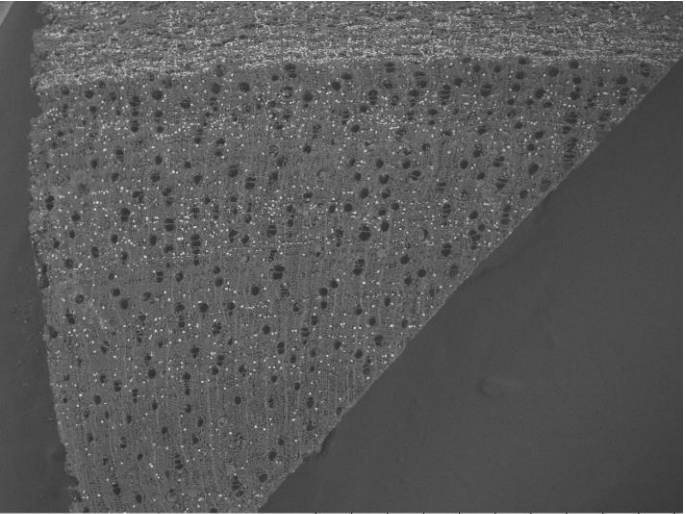
Elevation:

Description:

Location: Ecuador

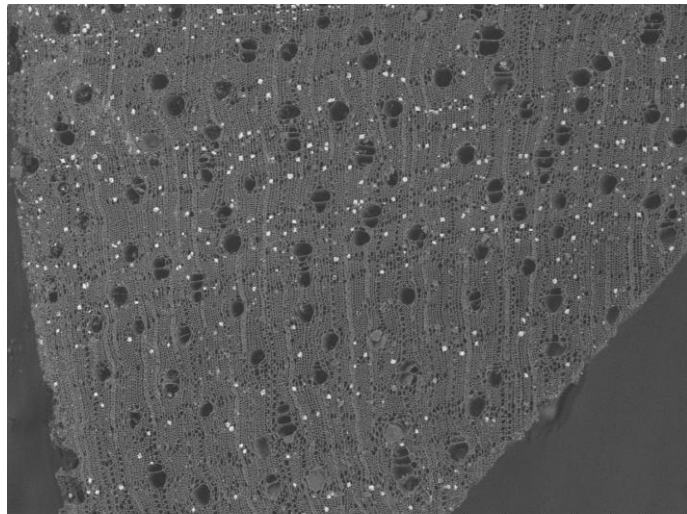
Locality:

Transverse 50x



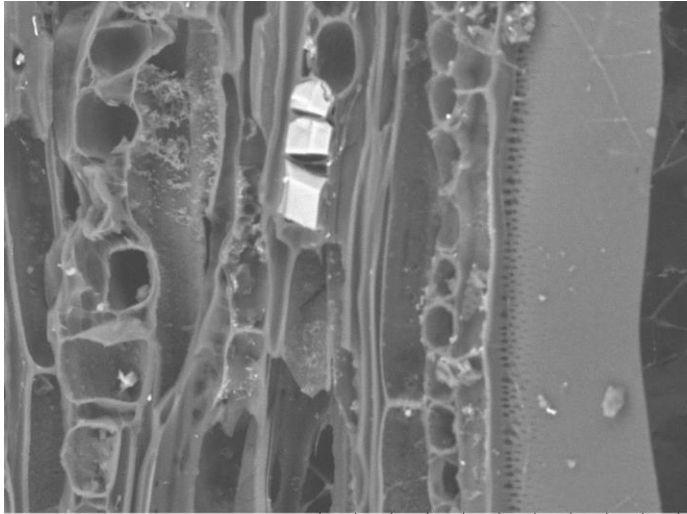
EWC 1075 2022/08/08 23:03 L D6.0 x50 2 mm

Transverse 100x



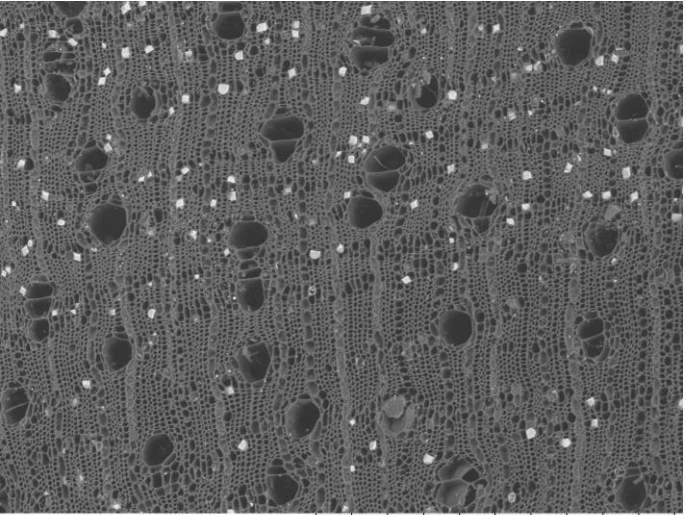
EWC 1075 2022/08/08 23:04 L D6.0 x100 1 mm

Vessel Wall 1000x



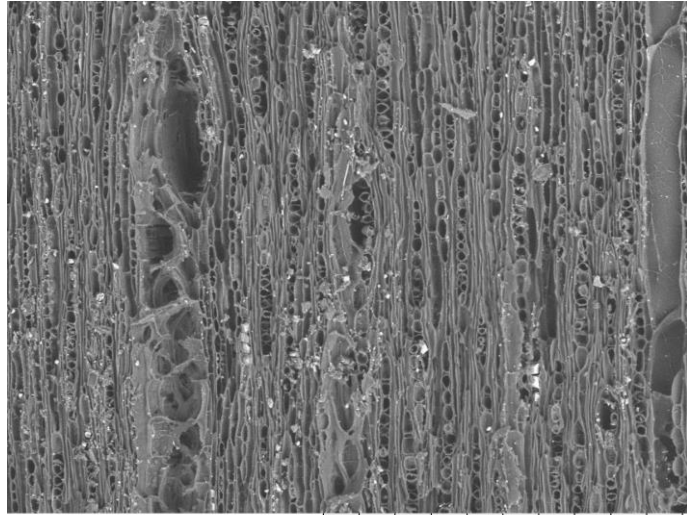
EWC 1075 2022/09/21 01:03 L D4.0 x1.0k 100 um

Transverse 200x



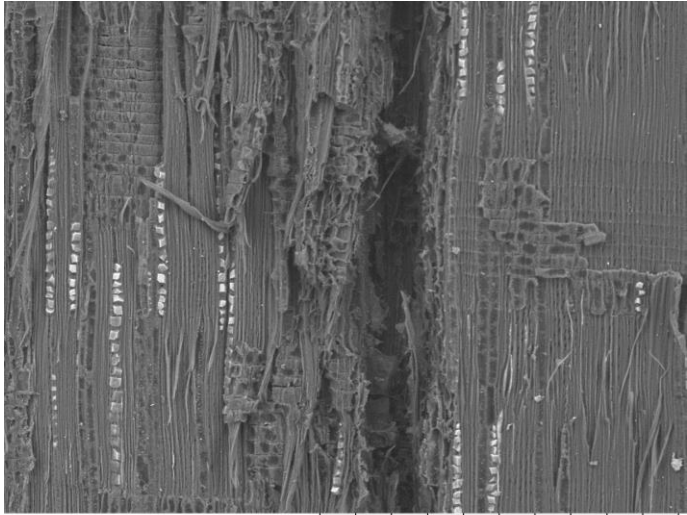
EWC 1075 2022/08/08 23:05 L D6.0 x200 500 um

Tangential 200x



EWC 1075 2022/08/08 23:16 L D4.6 x200 500 um

Radial 200x



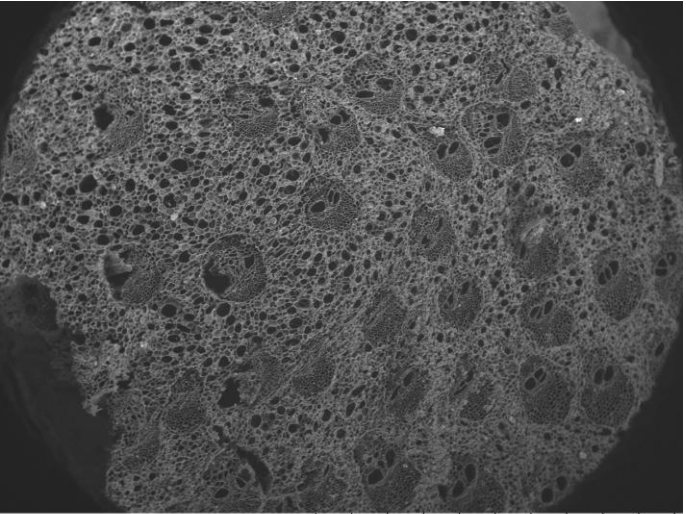
EWC 1075 2022/08/08 23:21 L D4.8 x200 500 um

EWC 1084 ARECACEAE cf. *Geonoma*

Common Name:
Elevation:
Description:
Location: Ecuador

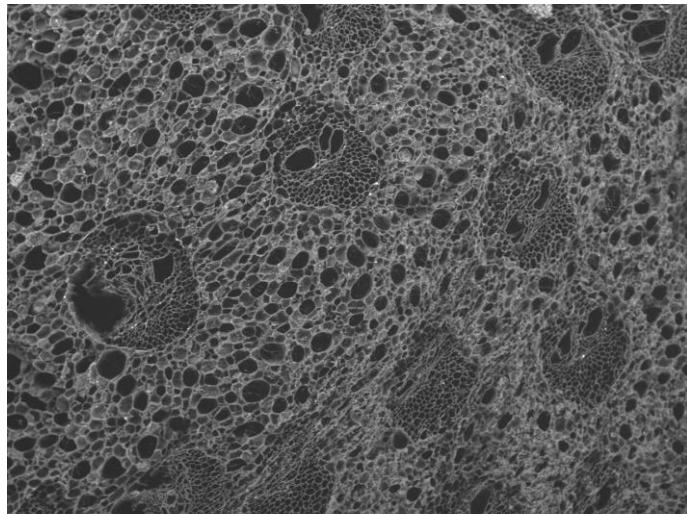
Locality:

Transverse 50x



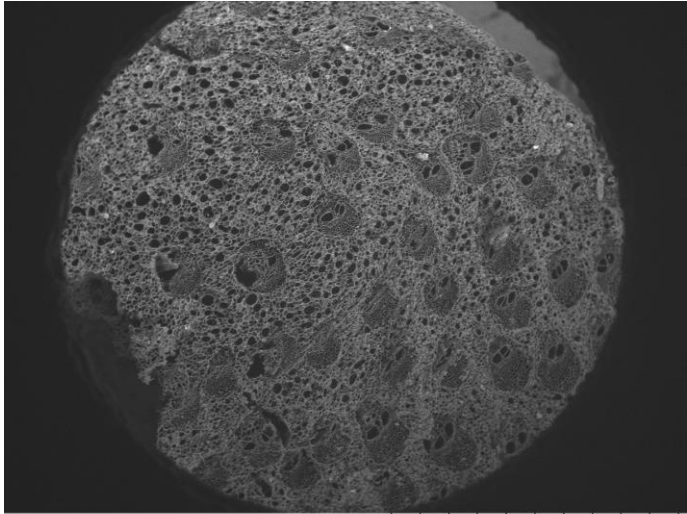
EWC 1084 2022/08/09 00:51 L D2.2 x50 2 mm

Transverse 100x



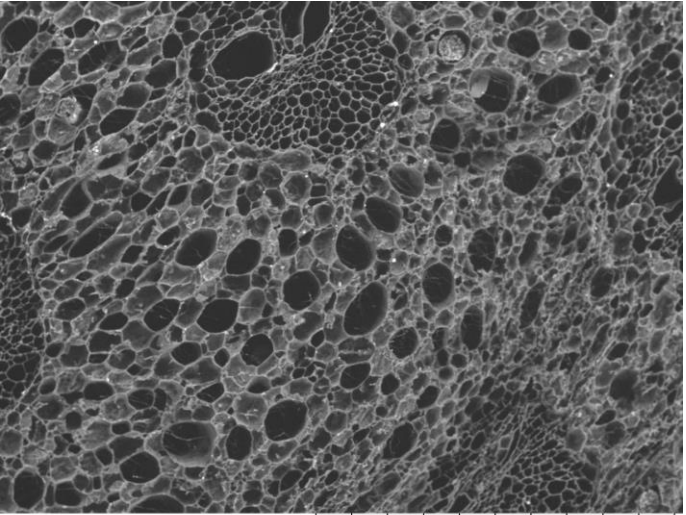
EWC 1084 2022/08/09 00:52 L D2.2 x100 1 mm

Transverse 40x



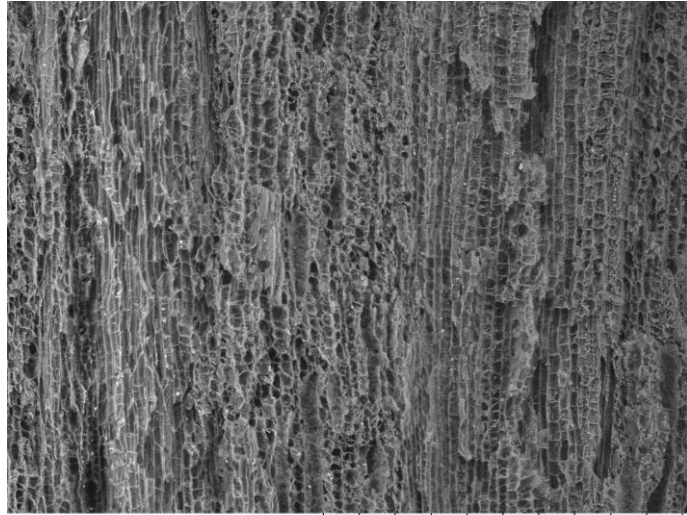
EWC 1084 2022/08/09 00:49 L D2.2 x40 2 mm

Transverse 200x



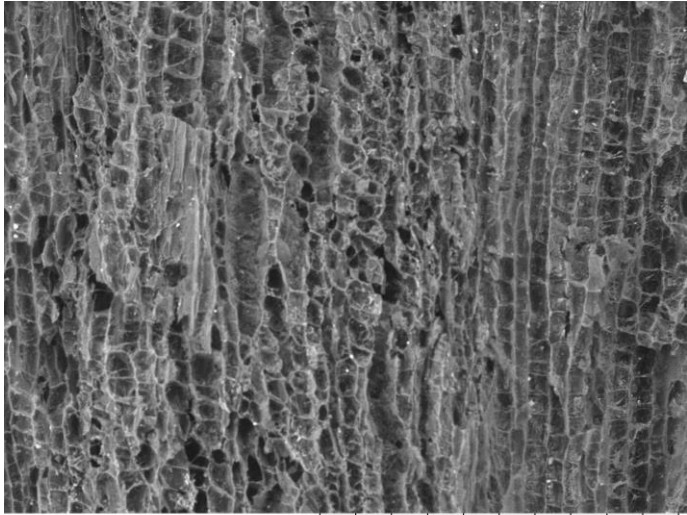
EWC 1084 2022/08/09 00:53 L D2.2 x200 500 um

Tangential



EWC 1084 2022/08/09 00:57 L D3.4 x100 1 mm

Radial



EWC 1084 2022/08/09 00:58 L D3.4 x200 500 um

EWC 1091 MELIACEAE *Cedrela odorata* L.

Vessels

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

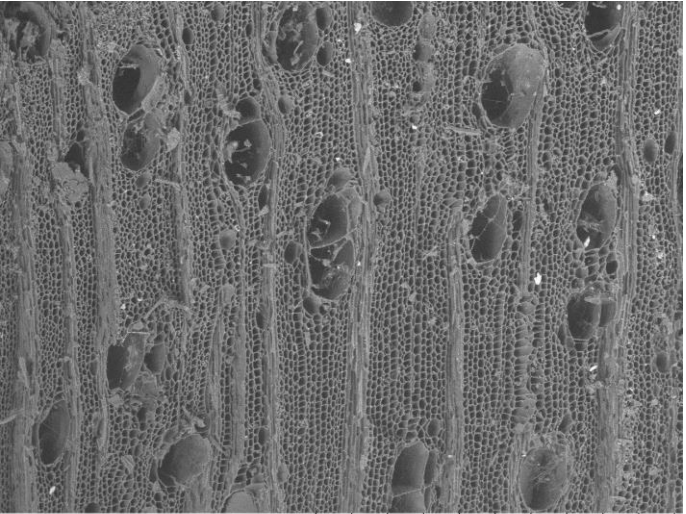
Rays:

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

Common Name:

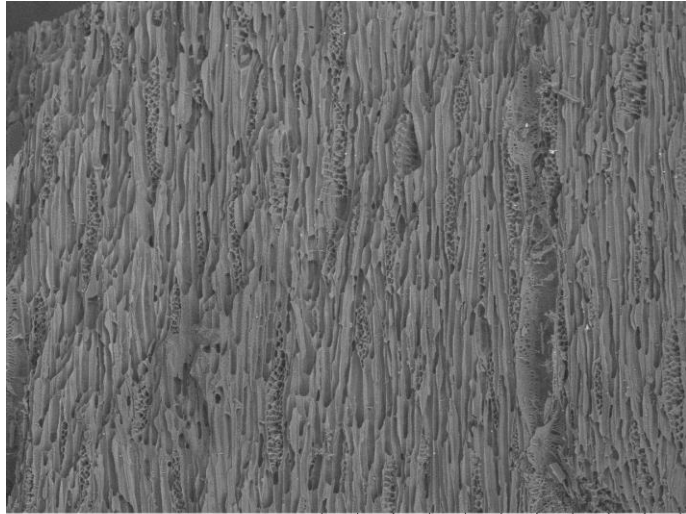
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 100x



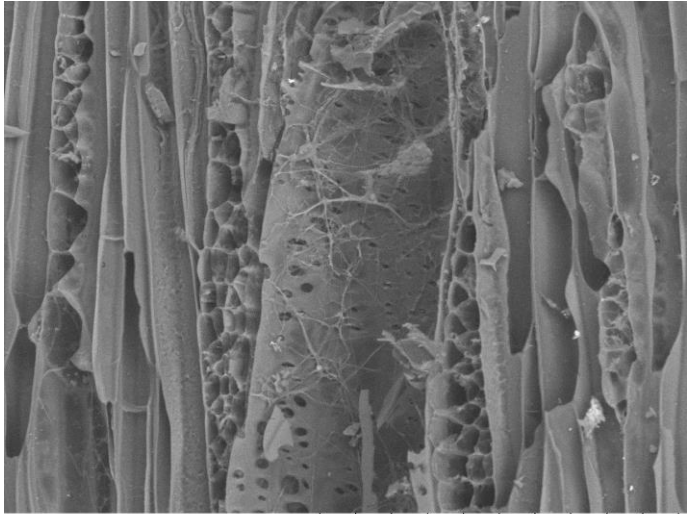
EWC 1091 2022/07/19 01:45 L D5.1 x100 1 mm

Tangential 100x



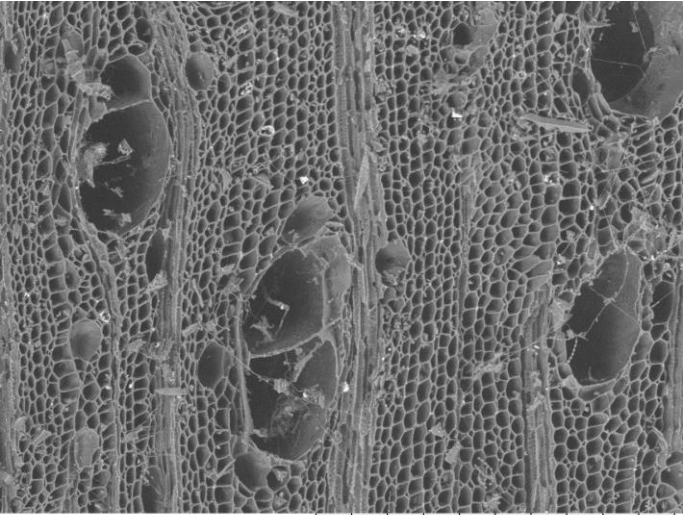
EWC 1091 2022/07/19 02:02 L D5.8 x100 1 mm

Vessel Wall 500x



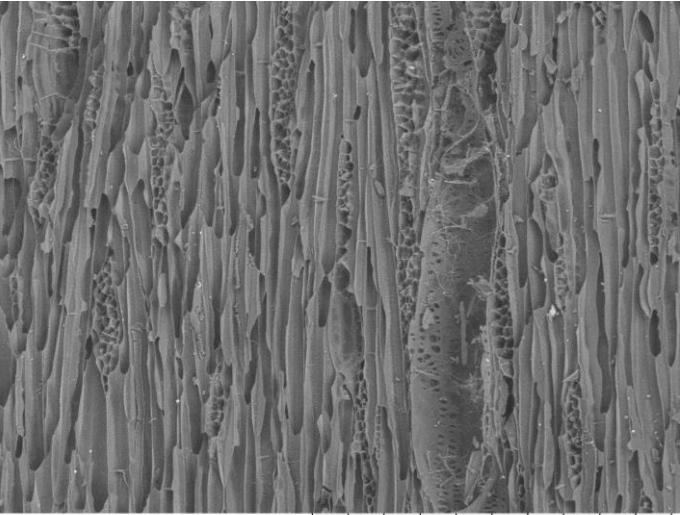
EWC 1091 2022/07/19 02:06 L D5.8 x500 200 μm

Transverse 200x



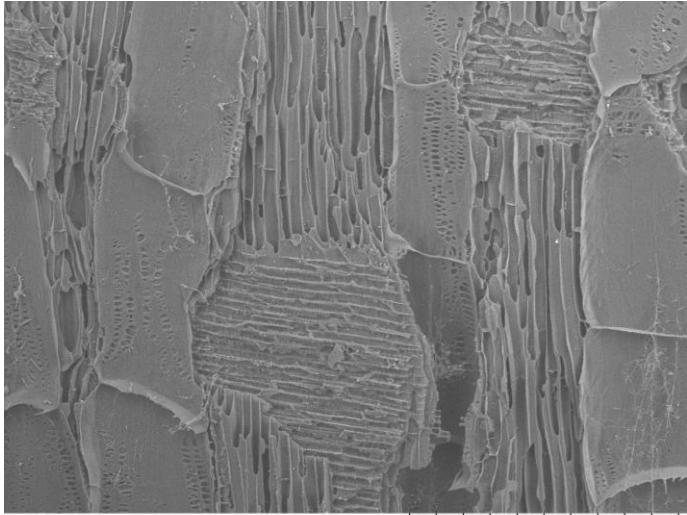
EWC 1091 2022/07/19 01:47 L D5.1 x200 500 μm

Tangential 200x



EWC 1091 2022/07/19 02:04 L D5.8 x200 500 μm

Radial 150x



EWC 1091 2022/09/21 01:09 L D3.9 x150 500 μm

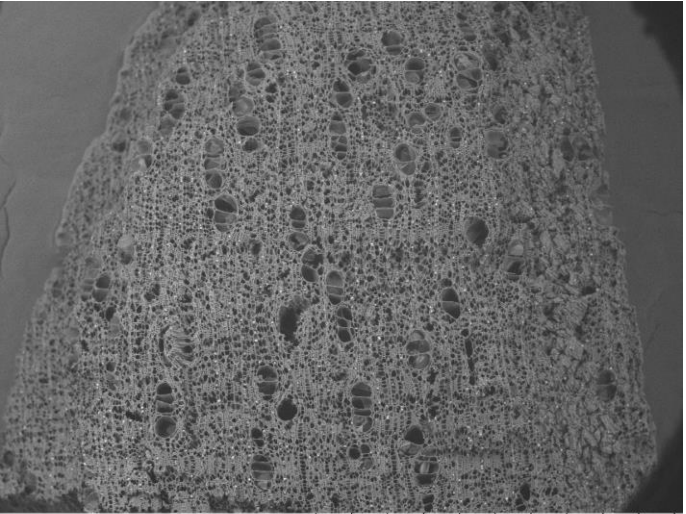
EWC 1092 Unknown Identification

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

Rays:
per mm: 4-12
Thickness (cells): 1-3
Parenchyma Type: Thin bands,
Diffuse-in-aggregates
Porosity: diffuse

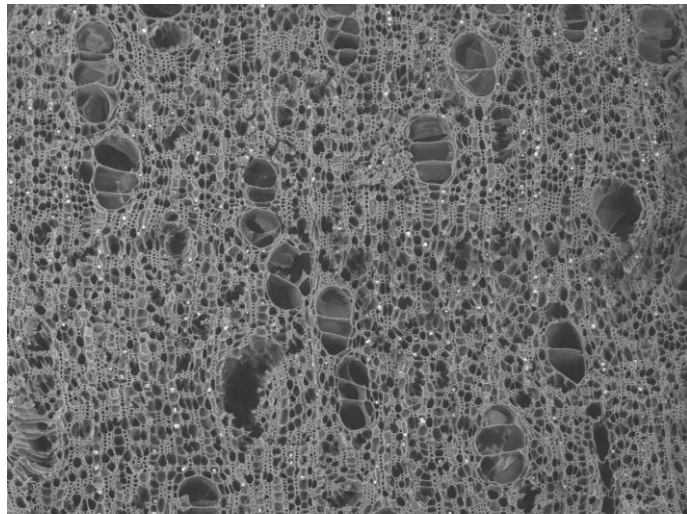
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



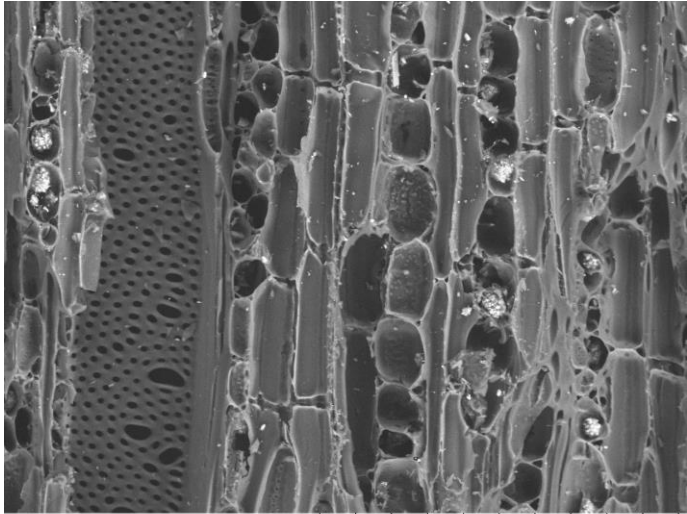
EWC 1092 2022/07/23 01:19 L D3.8 x50 2 mm

Transverse 100x



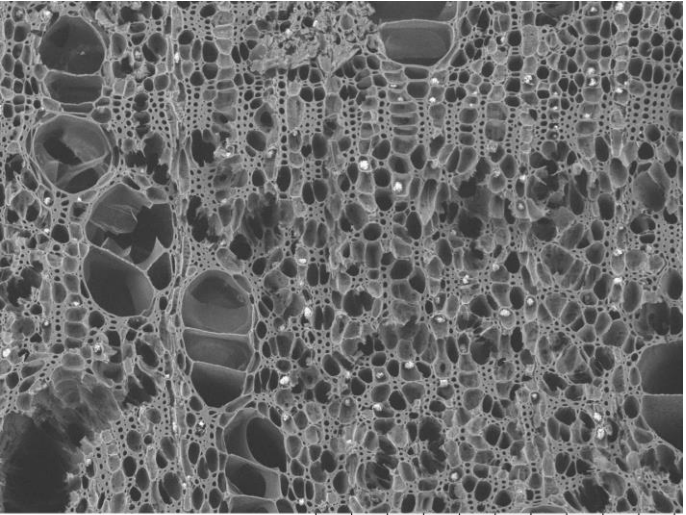
EWC 1092 2022/07/23 01:20 L D3.8 x100 1 mm

Vessel Wall 500x



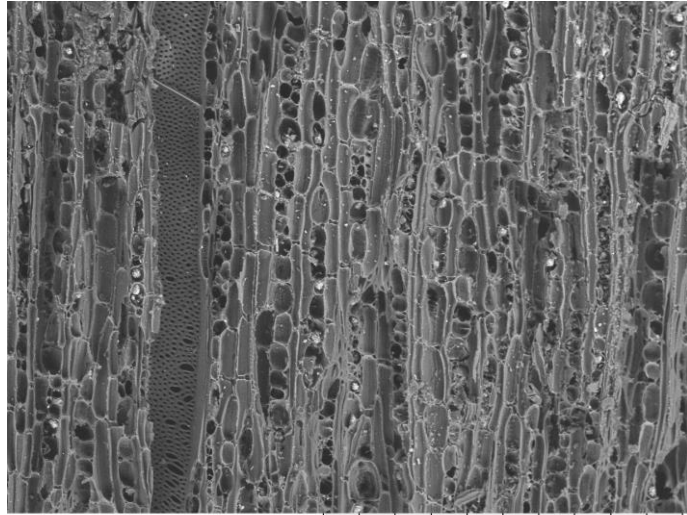
EWC 1092 2022/07/23 02:01 L D2.4 x500 200 µm

Transverse 200x



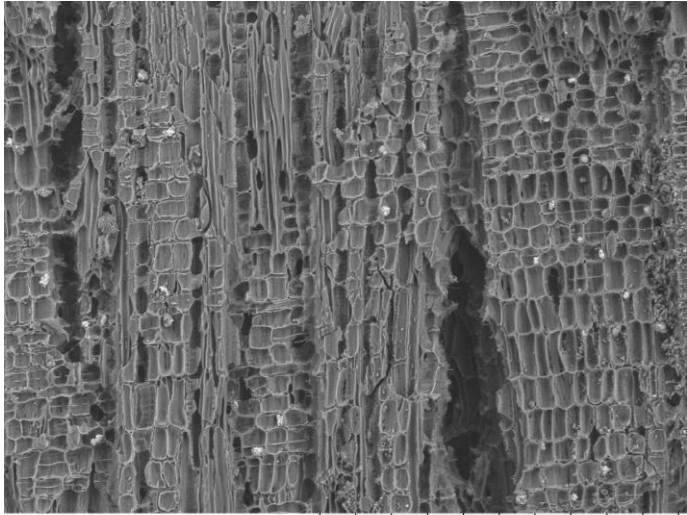
EWC 1092 2022/07/23 01:22 L D3.8 x200 500 µm

Tangential 200x



EWC 1092 2022/07/23 02:00 L D2.4 x200 500 µm

Radial 200x



EWC 1092 2022/07/23 01:13 L D3.6 x200 500 µm

EWC 1602 Unknown Identification

Vessels

Size: <50µm

Freq.: 20 to 40, 40 to 100

Arrangement: solitary, pairs, chains, clusters

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 4+

Parenchyma Type: Scanty, Banded (thick)

Porosity: diffuse

Common Name: "ceibo de micu"

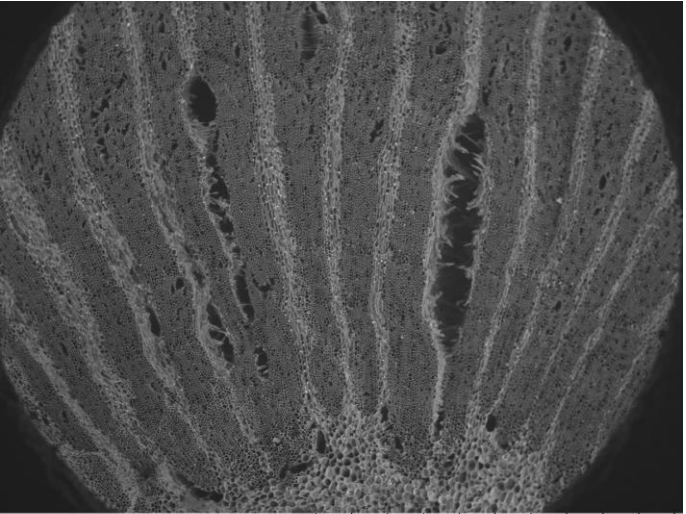
Elevation:

Description:

Location: Ecuador

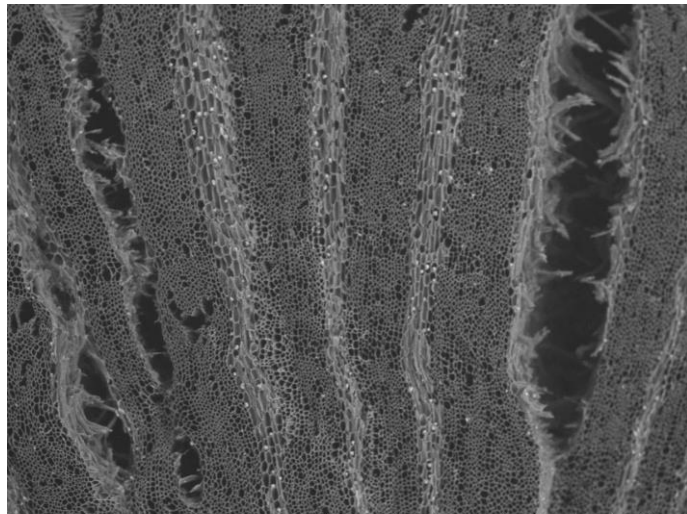
Locality:

Transverse 50x



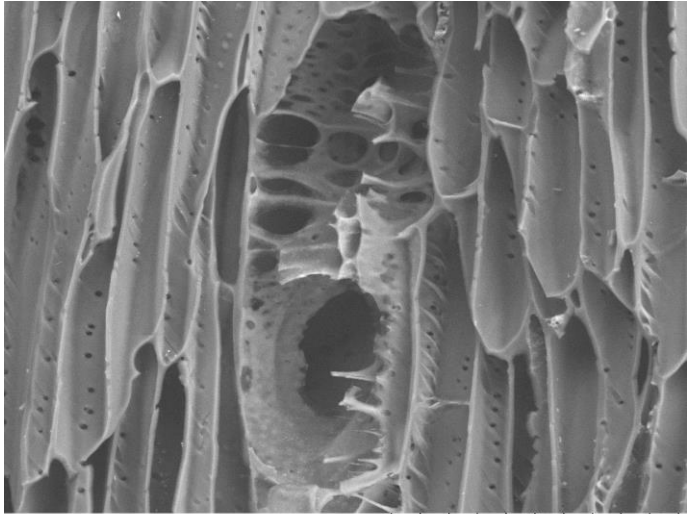
EWC 1602 2022/07/26 01:34 L D2.1 x50 2 mm

Transverse 100x



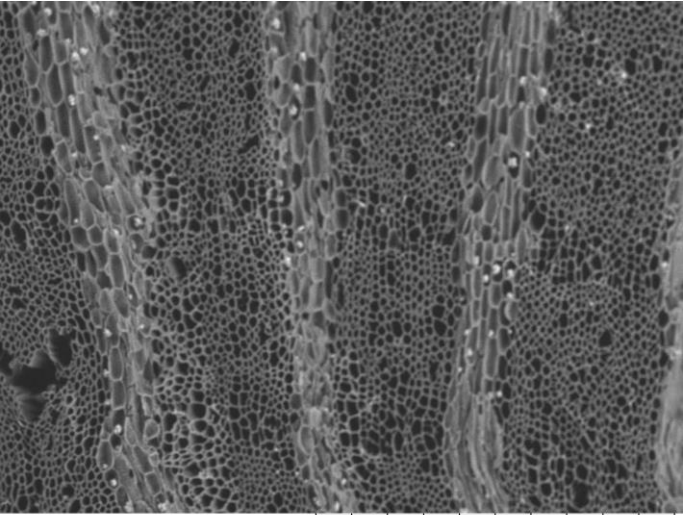
EWC 1602 2022/07/26 01:35 L D2.1 x100 1 mm

Vessel Wall



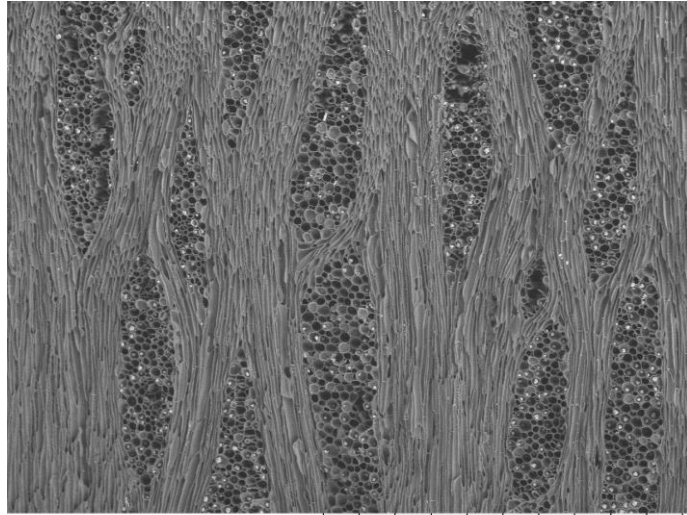
EWC 1602 2022/10/13 16:17 D3.2 x800 100 µm

Transverse 200x



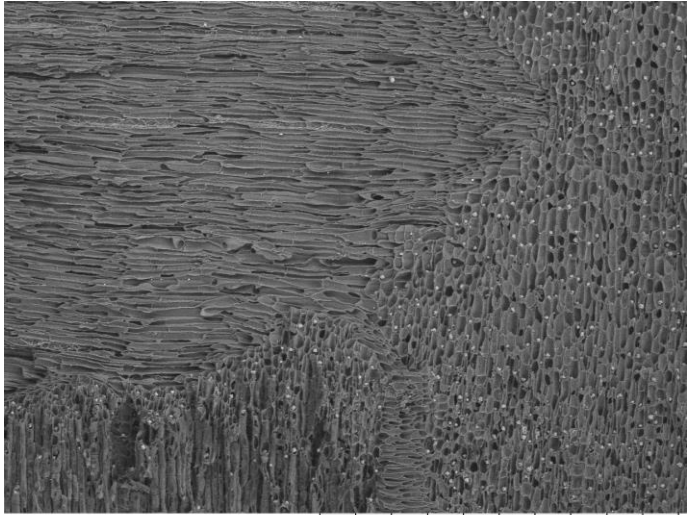
EWC 1602 2022/07/26 01:36 L D2.1 x200 500 µm

Tangential



EWC 1602 2022/08/08 23:59 L D4.1 x100 1 mm

Radial



EWC 1602 2022/08/09 00:04 L D4.9 x100 1 mm

EWC 1603 Unknown Identification

Vessels

Size: <50-100µm

Freq.: 40 to 100

Arrangement: solitary, pairs, chains

Tyloses:absent

Rays:

per mm:12+

Thickness (cells): 1 to 3

Parenchyma Type: Diffuse

Porosity: Diffuse

Common Name: "ajicillo blanco"

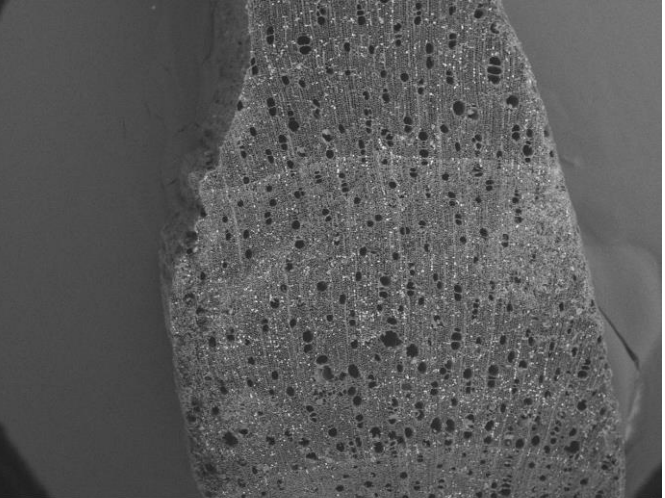
Elevation:

Description:

Location: Ecuador

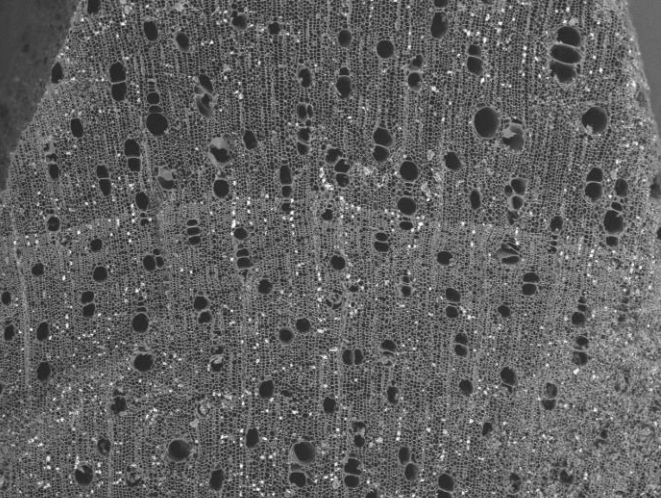
Locality:

Transverse 50x



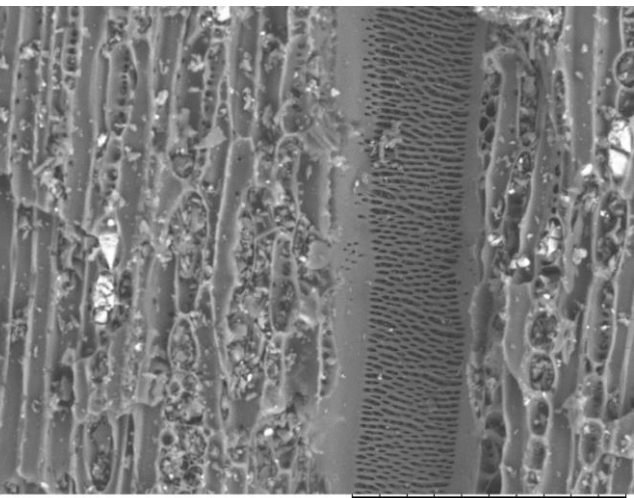
EWC 1603 2022/07/21 03:01 L D3.9 x50 2 mm

Transverse 100x



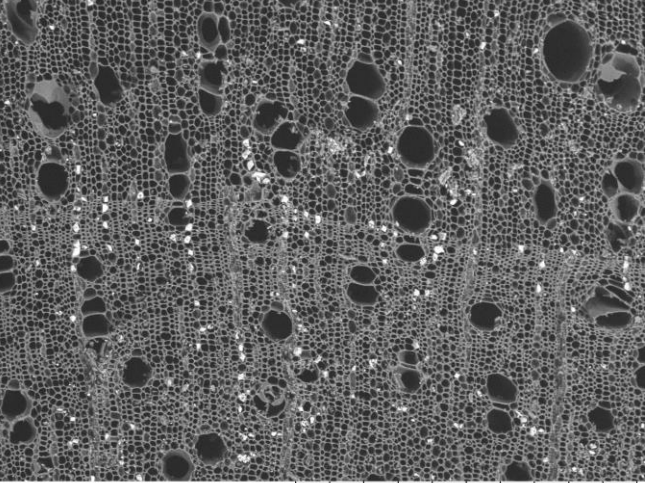
EWC 1603 2022/07/21 03:03 L D3.9 x100 1 mm

Vessel Wall



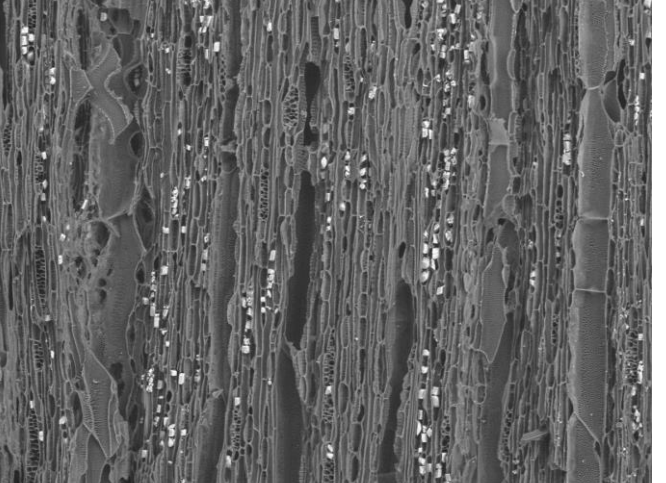
EWC 1603 2022/07/21 03:34 L D4.1 x800 100 µm

Transverse 200x



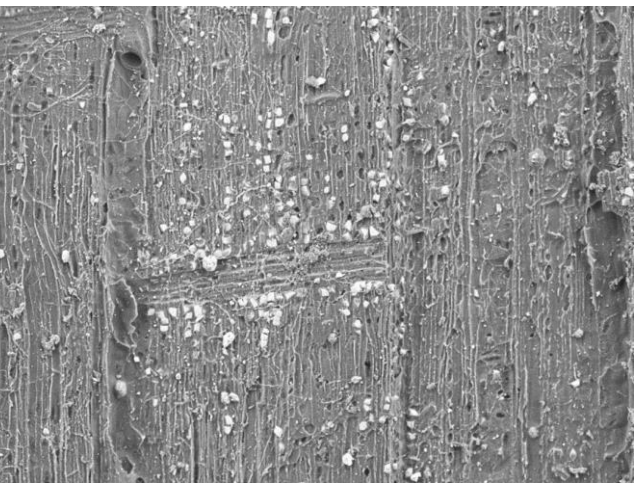
EWC 1603 2022/07/21 03:05 L D3.9 x200 500 µm

Tangential



EWC 1603 2022/07/21 02:57 L D3.5 x200 500 µm

Radial



EWC 1603 2022/10/13 16:11 D3.3 x200 500 µm

EWC 1605 ARECACEAE *Aiphanes* Willd.

Common Name:

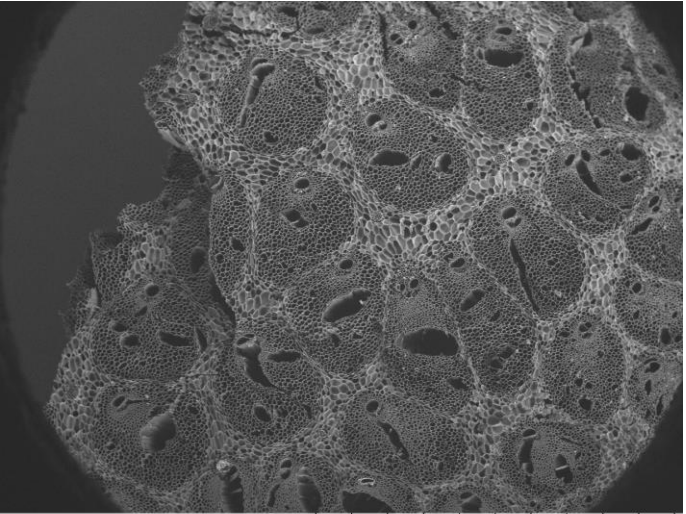
Elevation: 160 m

Description:

Location: Ecuador, Manabí, Jama

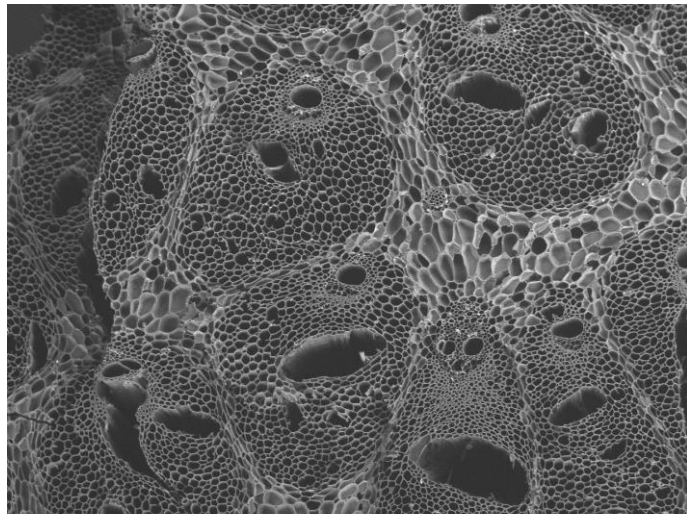
Locality: El Quemado: approx. 5 km NE of Jama, foothills of the Jama lowlands. Gently sloping hilltop. Tree of the lower canopy; red fruit. Locally known as "corroso."

Transverse 50x



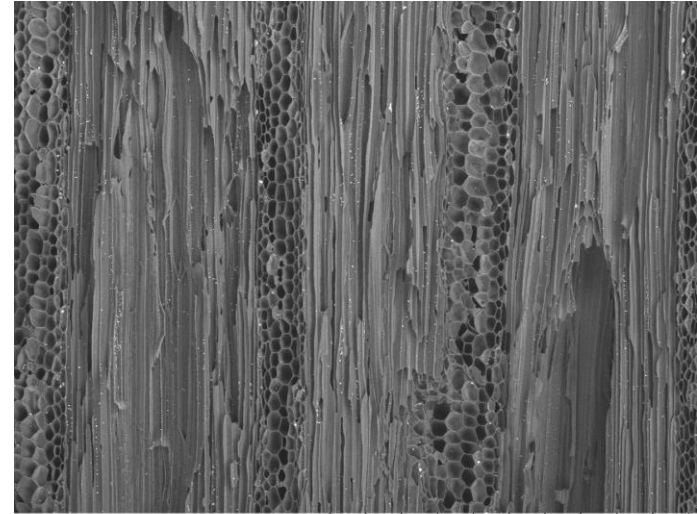
EWC 1605 2022/08/09 00:12 L D2.5 x50 2 mm

Transverse 100x



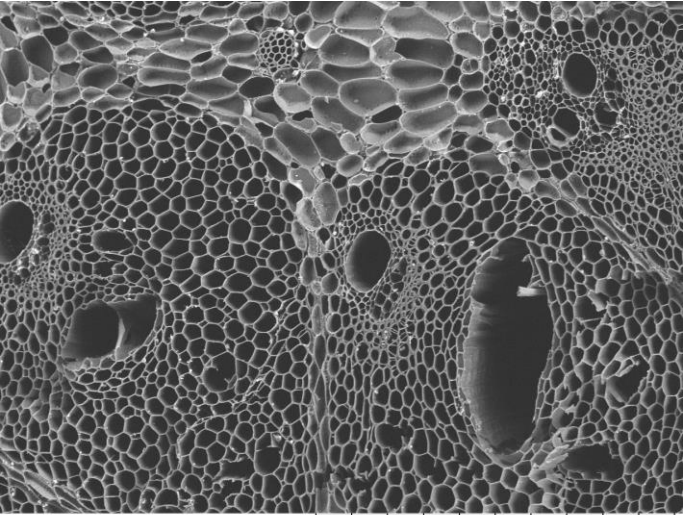
EWC 1605 2022/08/09 00:13 L D2.5 x100 1 mm

Tangential 100x



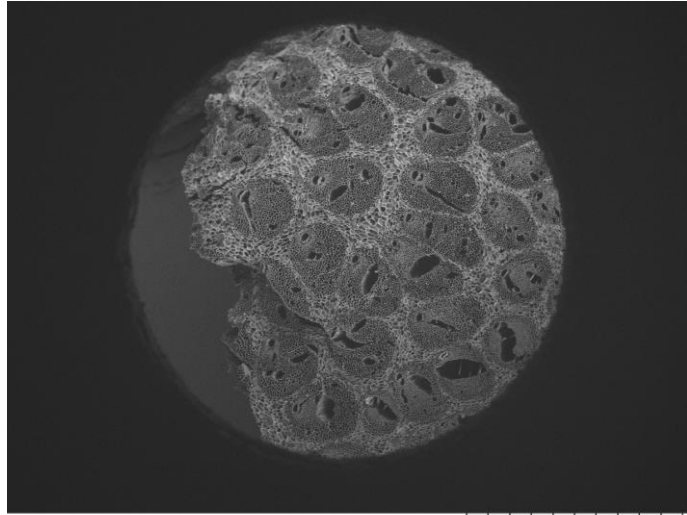
EWC 1605 2022/08/09 00:19 L D3.9 x100 1 mm

Transverse 200x



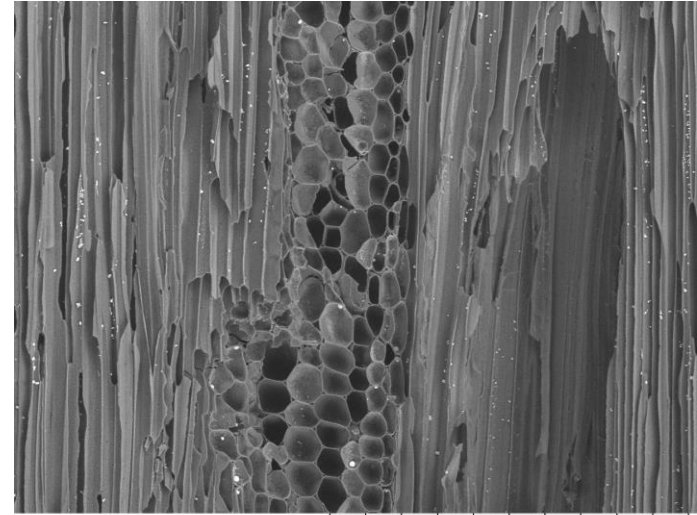
EWC 1605 2022/08/09 00:15 L D2.5 x200 500 um

Transverse 30x



EWC 1605 2022/08/09 00:10 L D2.5 x30 2 mm

Tangential 200x



EWC 1605 2022/08/09 00:20 L D3.9 x200 500 um

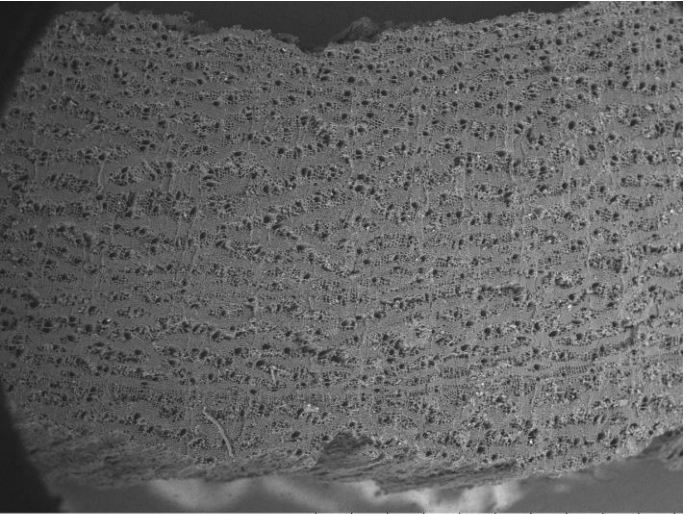
EWC 1606 BIGNONIACEAE *Tabebuia guayacan* (Seem.) Hemsl.

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

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

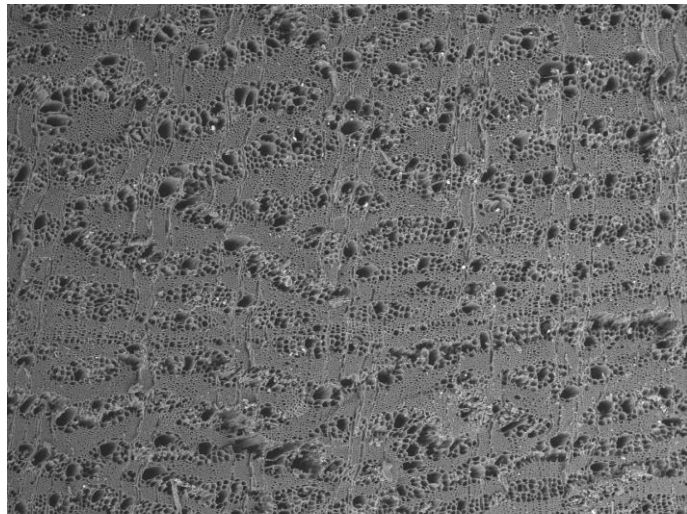
Common Name: "Guayacán"
Elevation: 160 m
Description: Large tree of the upper canopy.
Location: Ecuador, Manabí, Jama
Locality: El Quemado: Approximately 5 km
NE of Jama, in the foothills of the Jama
lowlands. Collected on a gently sloping hilltop.
Convento topo map 1:50,000, cuadrícula
(block) N80 E87.

Transverse 50x



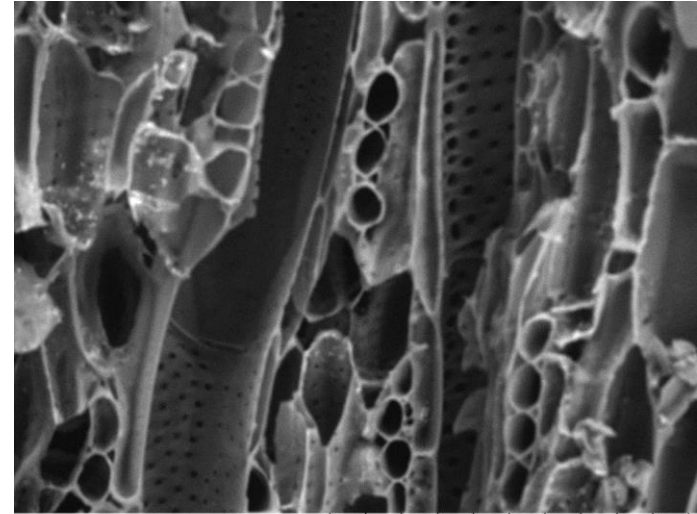
EWC 1606 2022/07/21 03:43 L D3.6 x50 2 mm

Transverse 100x



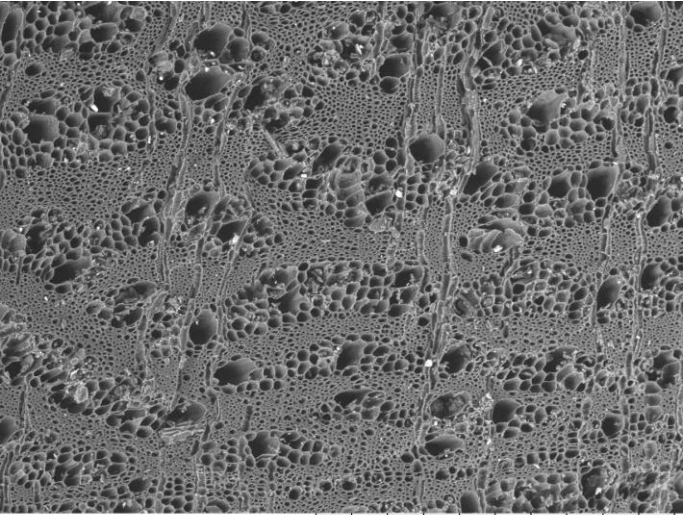
EWC 1606 2022/07/21 03:45 L D3.6 x100 1 mm

Vessel Wall



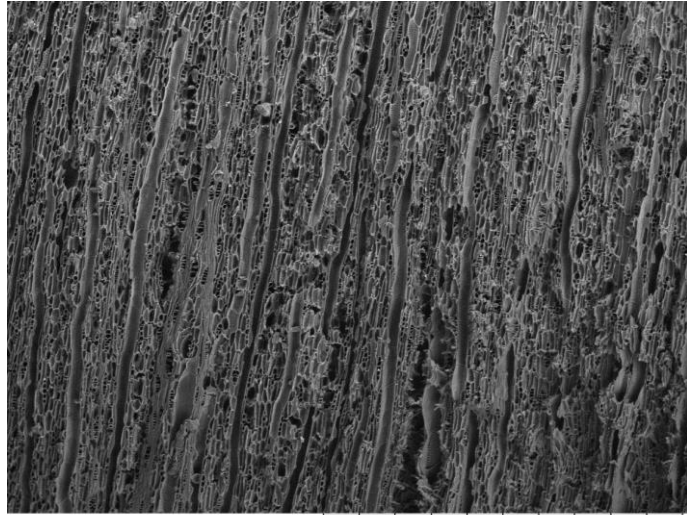
EWC 1606 2022/07/21 03:59 L D2.8 x1.0k 100 um

Transverse 200x



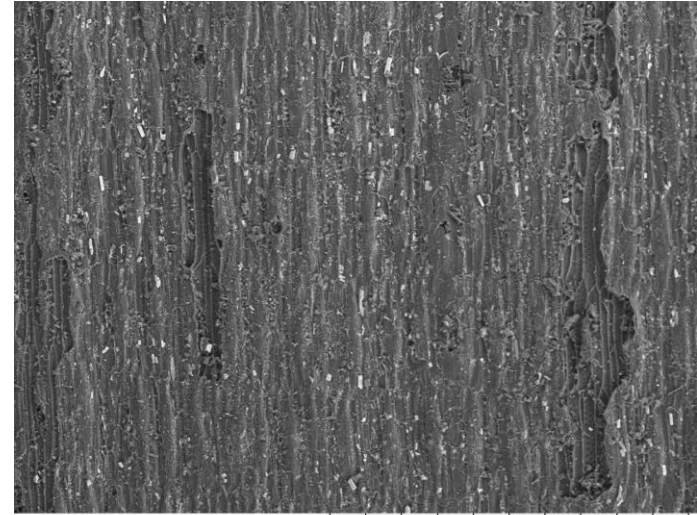
EWC 1606 2022/07/21 03:46 L D3.6 x200 500 um

Tangential



EWC 1606 2022/07/21 03:57 L D2.7 x100 1 mm

Radial



EWC 1606 2022/07/21 03:54 L D3.9 x200 500 um

EWC 1607 LECTYTHIDACEAE *cf. Gustavia dodsonii* Mori

Vessels

Size: <50µm, 50-100µm

Freq.: 20 to 40

Arrangement: solitary, pairs, chains, clusters

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 1 to 3, 4+, of two distinct sizes

Parenchyma Type: Banded (thin)

Porosity: diffuse

Common Name:

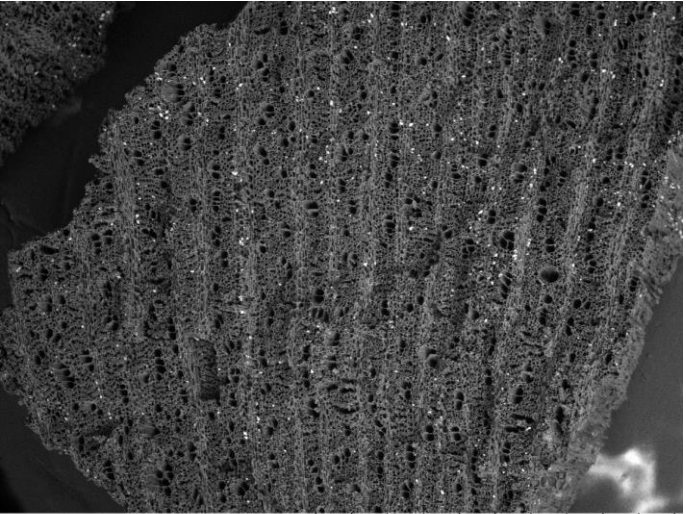
Elevation:

Description:

Location: Ecuador

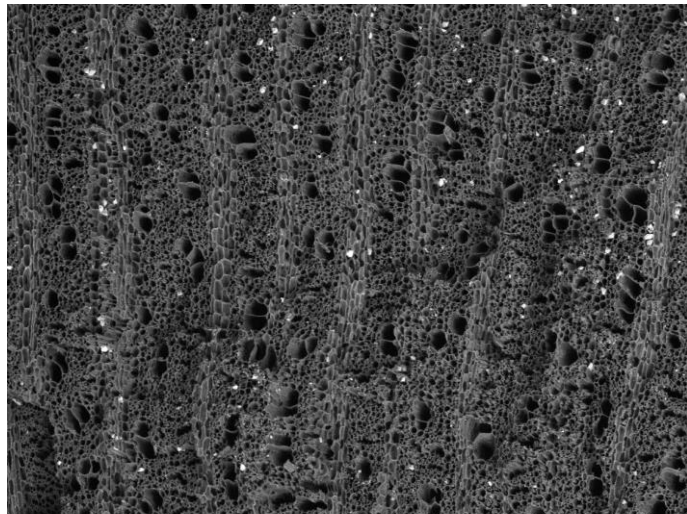
Locality:

Transverse 50x



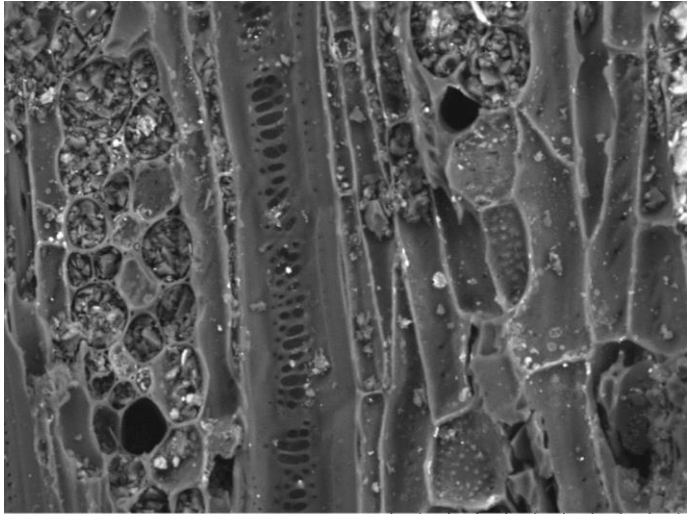
EWC 1607 2022/07/23 02:52 L D4.9 x50 2 mm

Transverse 100x



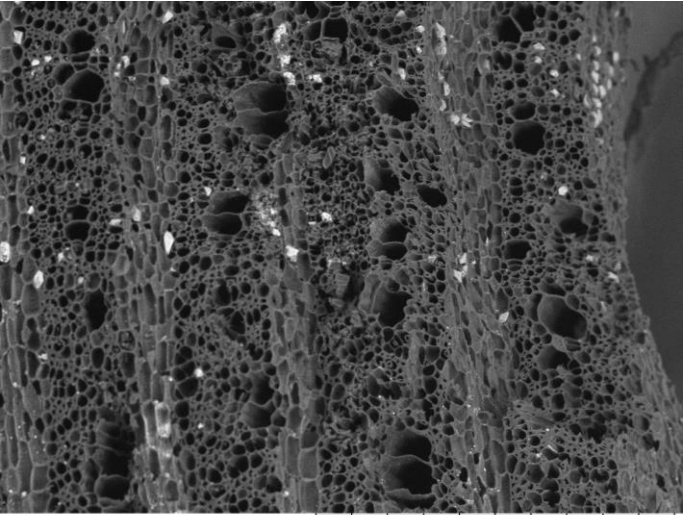
EWC 1607 2022/07/23 02:53 L D4.9 x100 1 mm

Vessel Wall



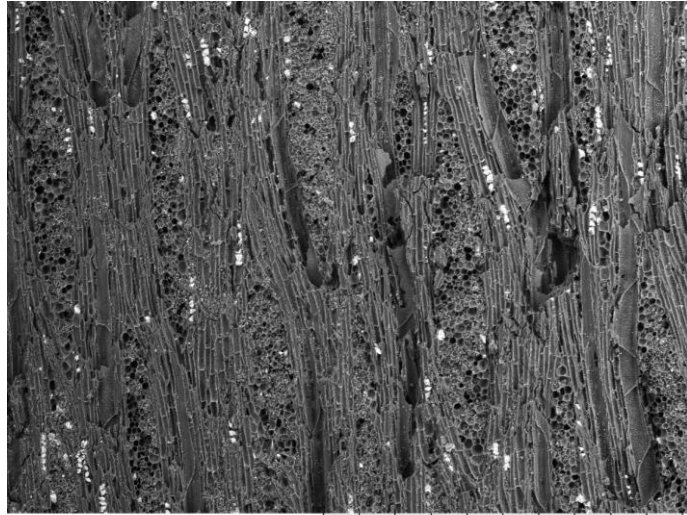
EWC 1607 2022/07/26 02:20 L D4.2 x800 100 um

Transverse 200x



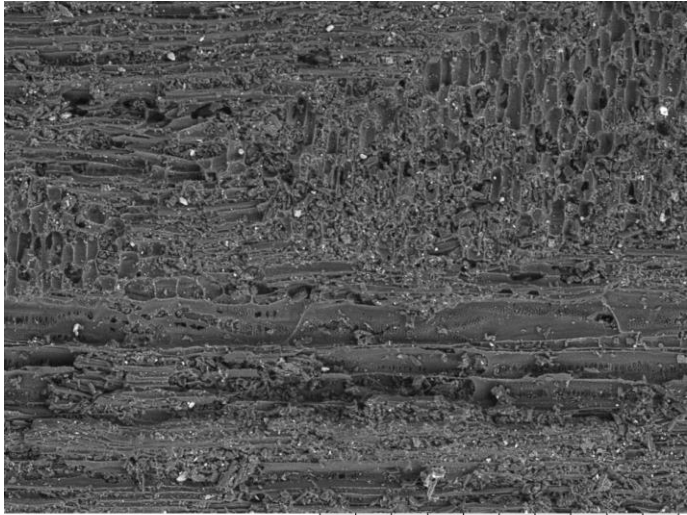
EWC 1607 2022/07/23 02:49 L D4.8 x200 500 um

Tangential



EWC 1607 2022/07/26 02:16 L D4.3 x100 1 mm

Radial



EWC 1607 2022/07/26 02:11 L D4.8 x200 500 um

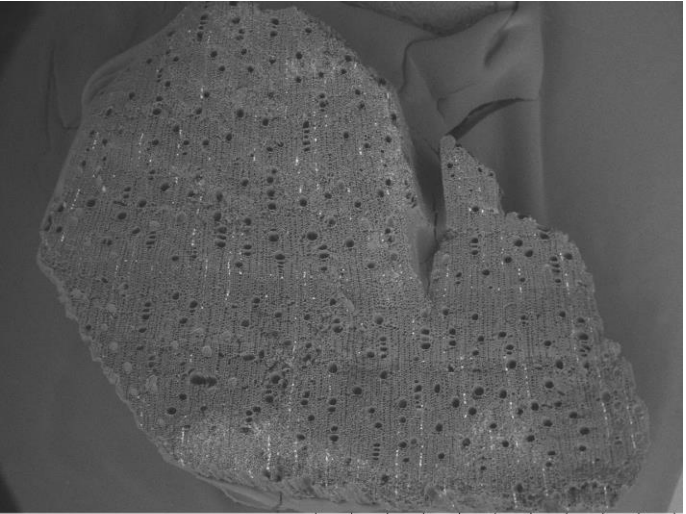
EWC 1608 Unknown Identification

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

Rays:
per mm: 4-12
Thickness (cells): uniseriate
Parenchyma Type: Diffuse-in-aggregates, Thin bands, Vascentric - winged

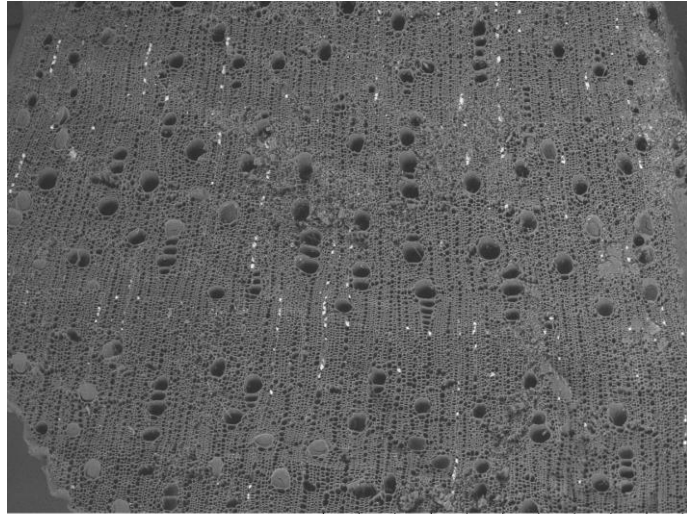
Common Name: "ajicillo macho"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



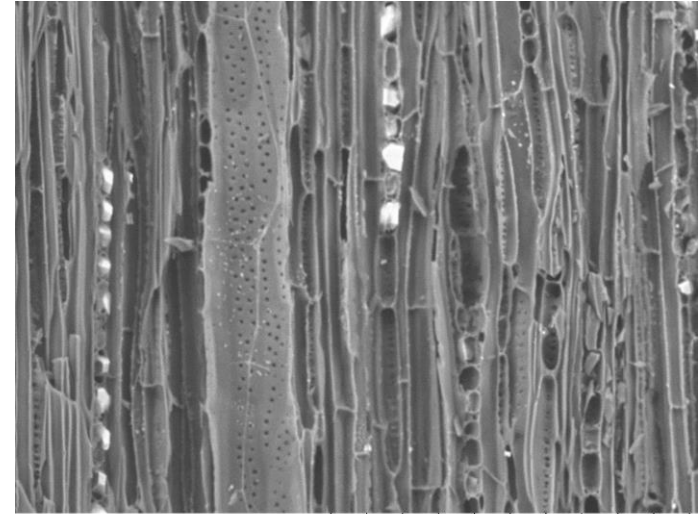
EWC 1608 2022/07/23 01:44 L D4.4 x50 2 mm

Transverse 100x



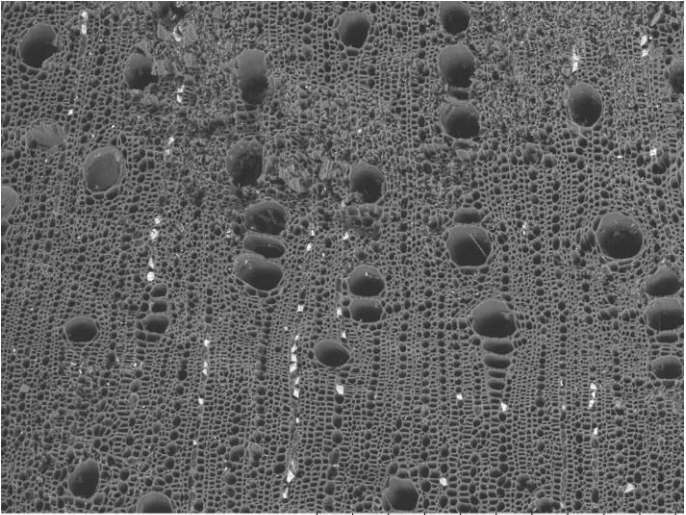
EWC 1608 2022/07/23 01:45 L D4.4 x100 1 mm

Vessel Wall



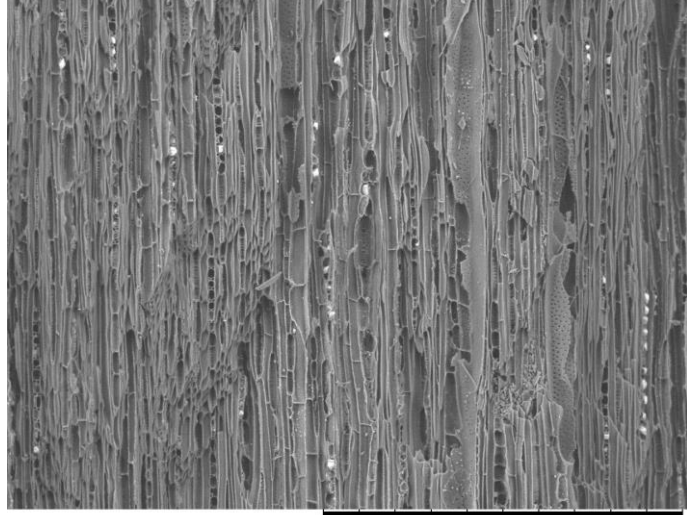
EWC 1608 2022/07/23 01:32 L D4.0 x500 200 um

Transverse 200x



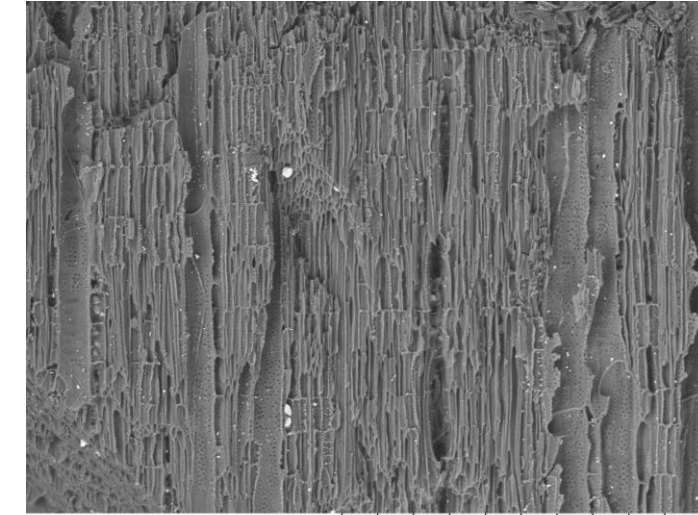
EWC 1608 2022/07/23 01:46 L D4.4 x200 500 um

Tangential



EWC 1608 2022/07/23 01:30 L D4.0 x200 500 um

Radial



EWC 1608 2022/07/23 01:52 L D4.9 x200 500 um

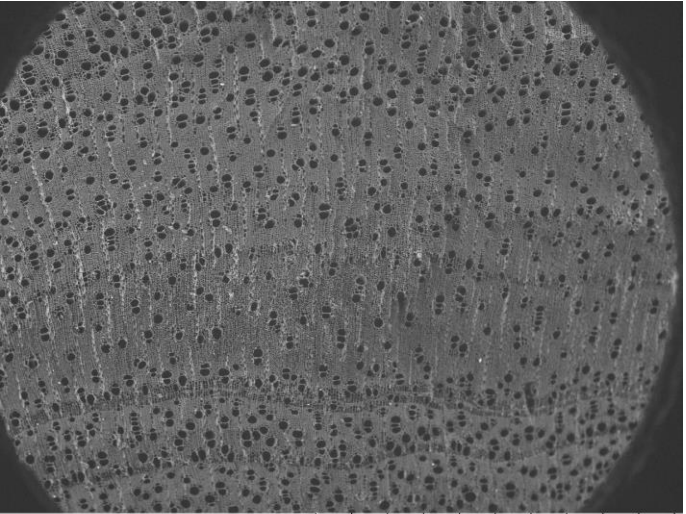
EWC 1609 FABACEAE cf. *Inga*

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

Rays:
per mm: 4-12+
Thickness (cells): 1 to 3, of two distinct sizes
Parenchyma Type: Banded (thin), vasicentric, unilateral

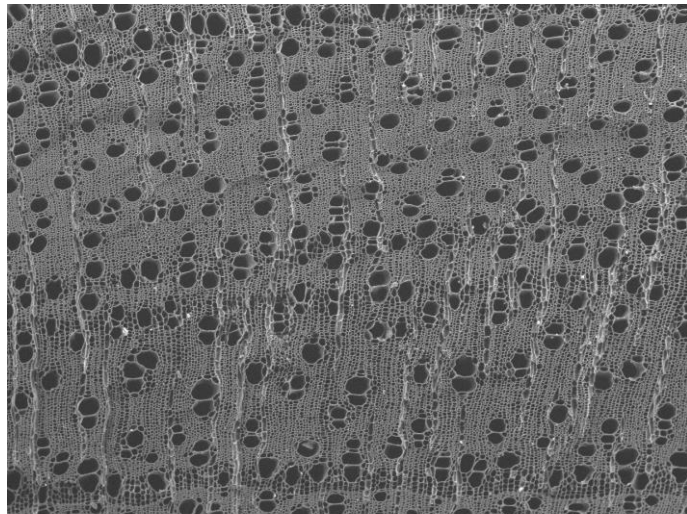
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



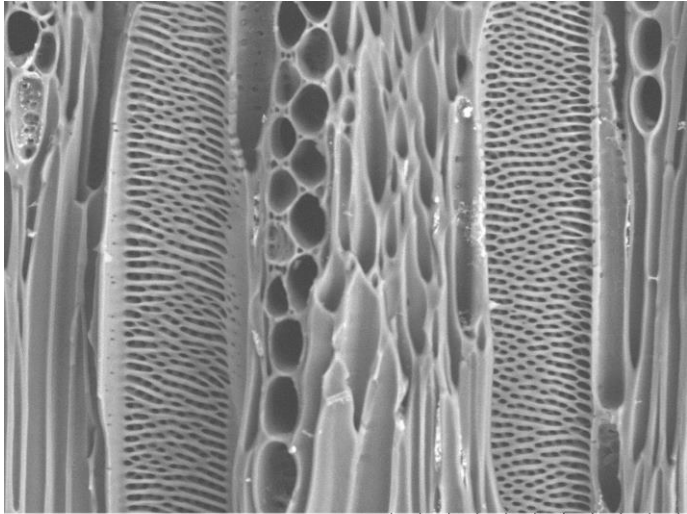
EWC 1609 2022/07/26 01:49 L D2.4 x50 2 mm

Transverse 100x



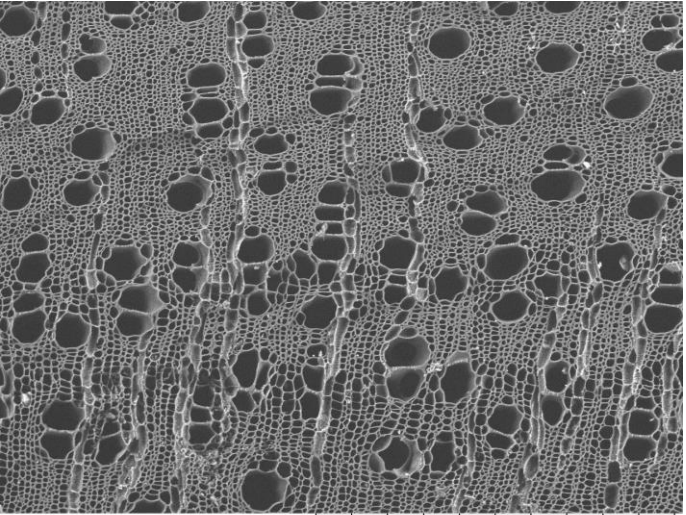
EWC 1609 2022/10/07 13:36 D2.3 x100 1 mm

Vessel Wall



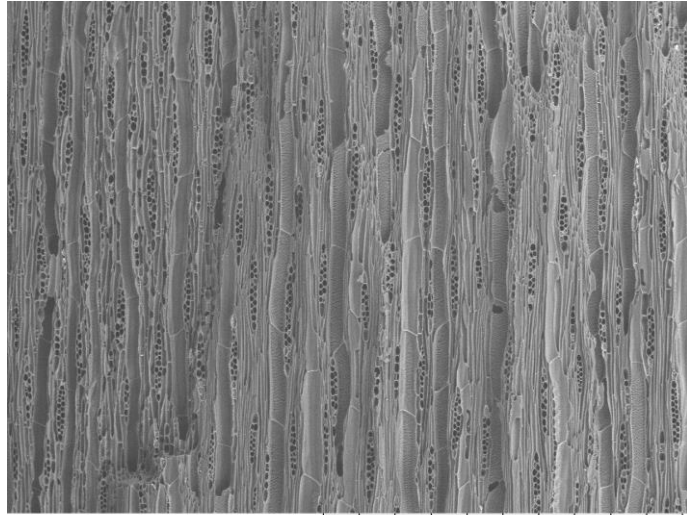
EWC 1609 2022/10/07 13:35 D2.5 x800 100 µm

Transverse 200x



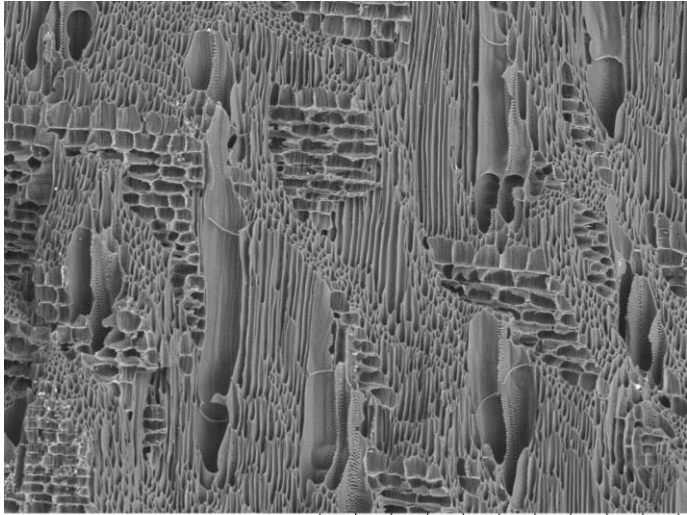
EWC 1609 2022/10/07 13:38 D2.3 x200 500 µm

Tangential



EWC 1609 2022/10/07 13:33 D2.5 x100 1 mm

Radial



EWC 1609 2022/07/26 01:40 L D3.7 x200 500 µm

EWC 1610 MYRTACEAE *Psidium variable* O. Berg

Common Name: "Guayabo"

Elevation: 160 m

Description: Tall tree.

Location: Ecuador, Manabí, Jama

Locality: El Quemado: Approximately 5 km NE of Jama, in the foothills of the Jama lowlands. Collected on a gently sloping hilltop. Convento topo map 1:50,000, cuadrícula (block) N80 E87.

Vessels

Size: <50µm

Freq.: 100+

Arrangement: solitary

Tyloses: absent

Rays:

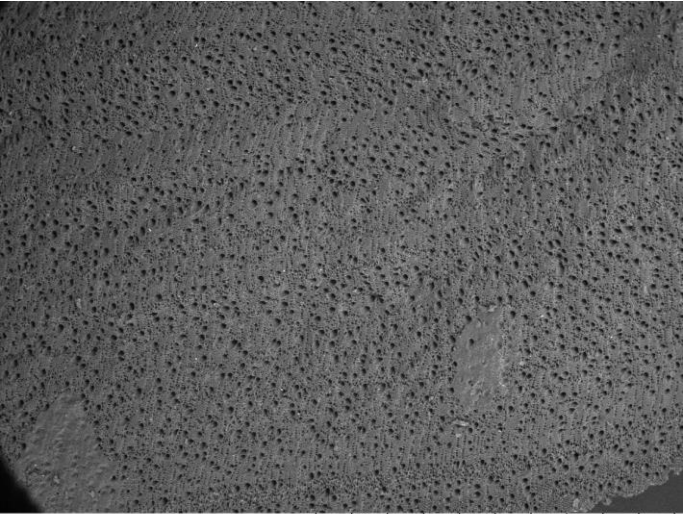
per mm: 12+

Thickness (cells): 1 to 3

Parenchyma Type: Banded (thin and thick)

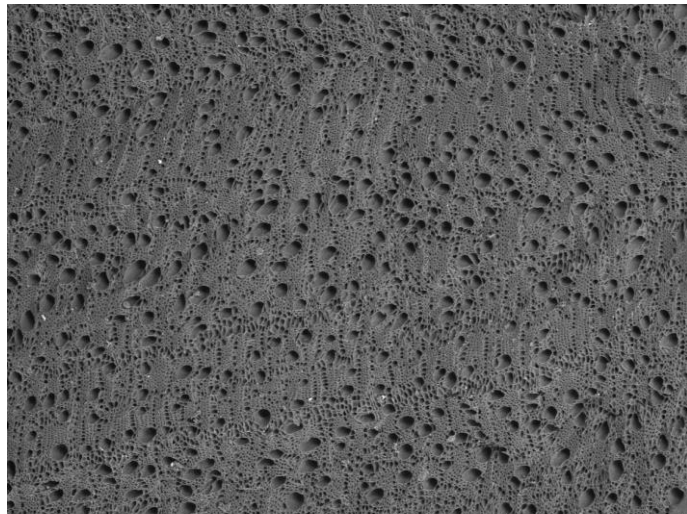
Porosity: semi-ring porous

Transverse 50x



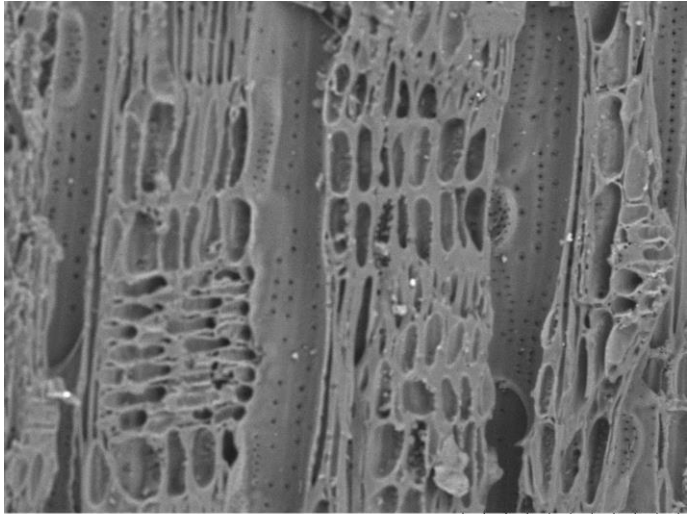
EWC 1610 2022/07/23 02:32 L D4.5 x50 2 mm

Transverse 100x



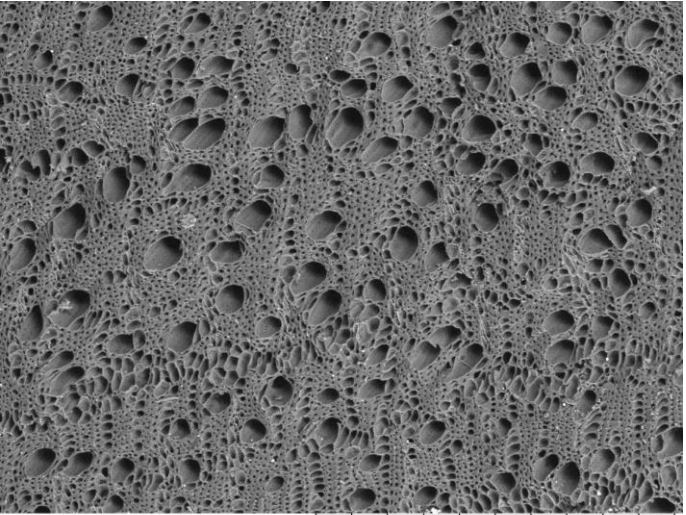
EWC 1610 2022/07/23 02:34 L D4.5 x100 1 mm

Vessel Wall



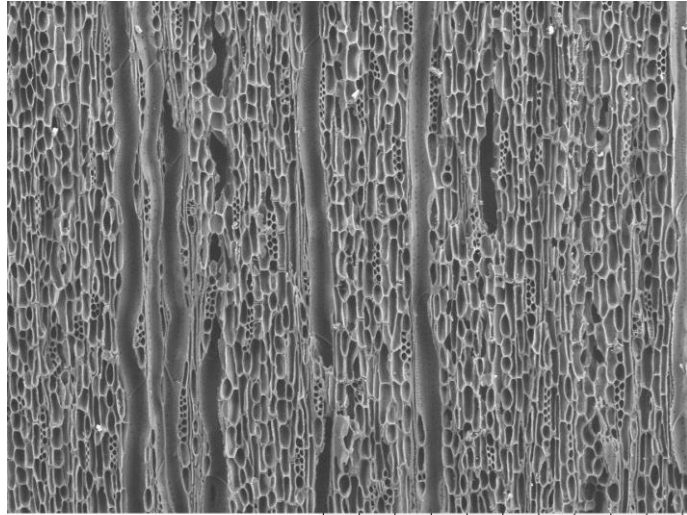
EWC 1607 2022/07/23 03:09 L D4.1 x600 100 um

Transverse 200x



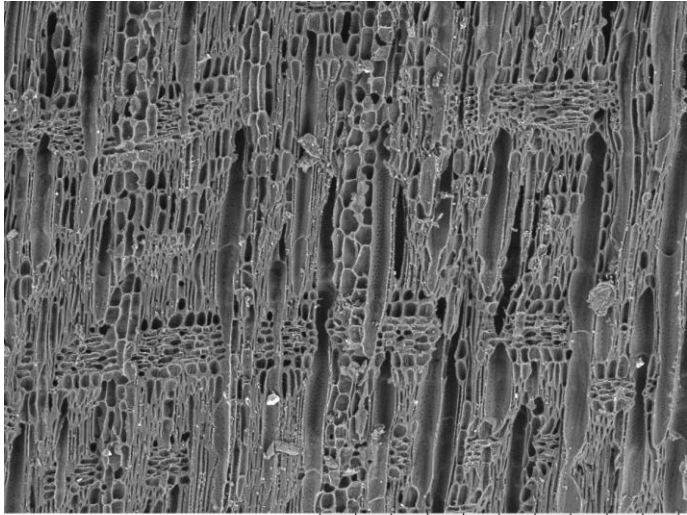
EWC 1610 2022/07/23 02:36 L D4.5 x200 500 um

Tangential



EWC 1610 2022/10/07 13:41 D2.4 x200 500 um

Radial



EWC 1610 2022/07/23 02:40 L D3.2 x200 500 um

EWC 1611 Unknown Identification

Vessels

Size: <50µm

Freq.: 5 to 20

Arrangement: solitary, pairs, chains, clusters

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: Diffuse, Absent, unilateral, scanty

Porosity: diffuse

Common Name: "catillo blanco," "guacharaca."

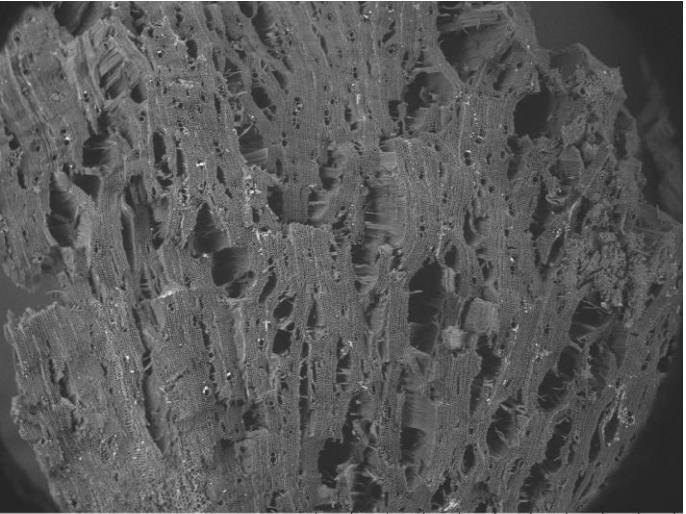
Elevation:

Description:

Location: Ecuador

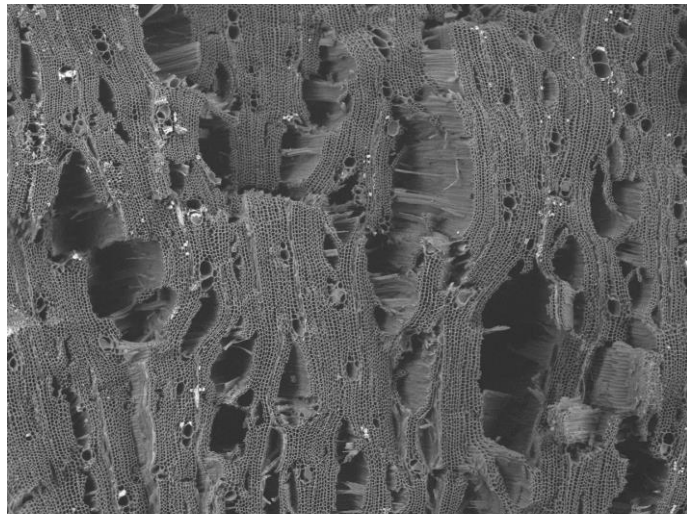
Locality:

Transverse 50x



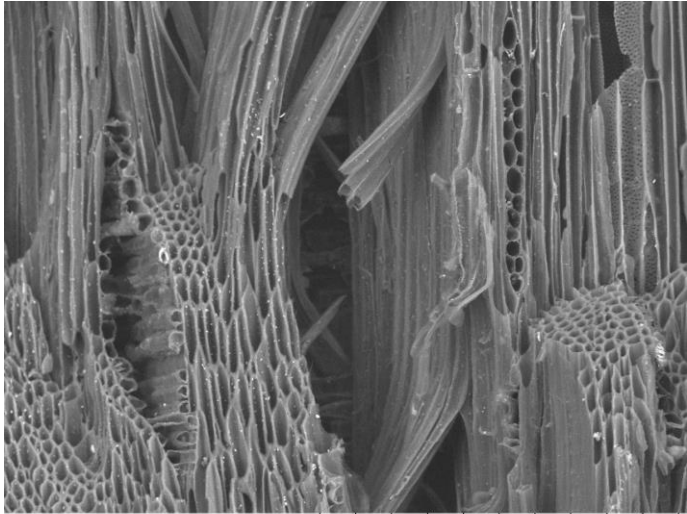
EWC 1611 2022/08/08 23:41 L D3.0 x50 2 mm

Transverse 100x



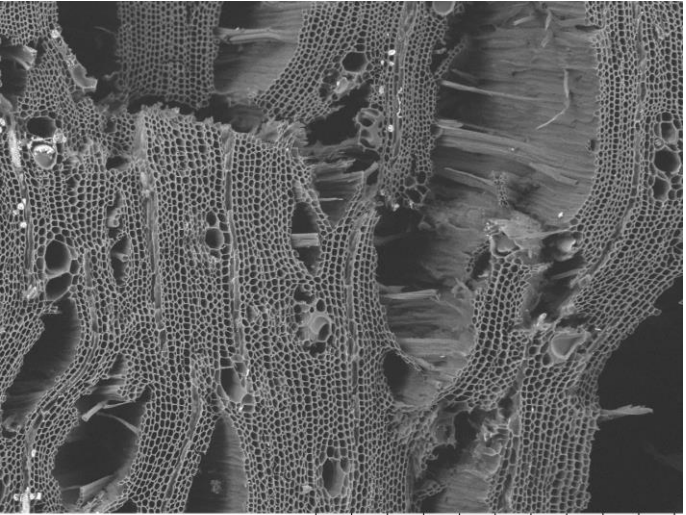
EWC 1611 2022/08/08 23:43 L D3.0 x100 1 mm

Vessel Wall



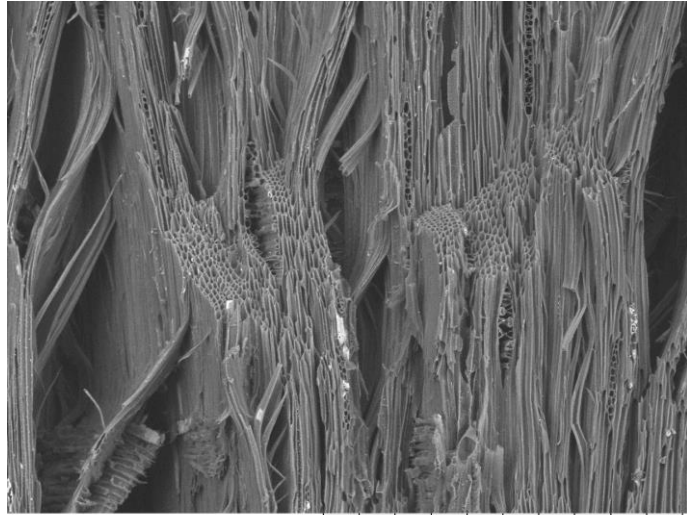
EWC 1611 2022/08/08 23:30 L D3.8 x500 200 µm

Transverse 200x



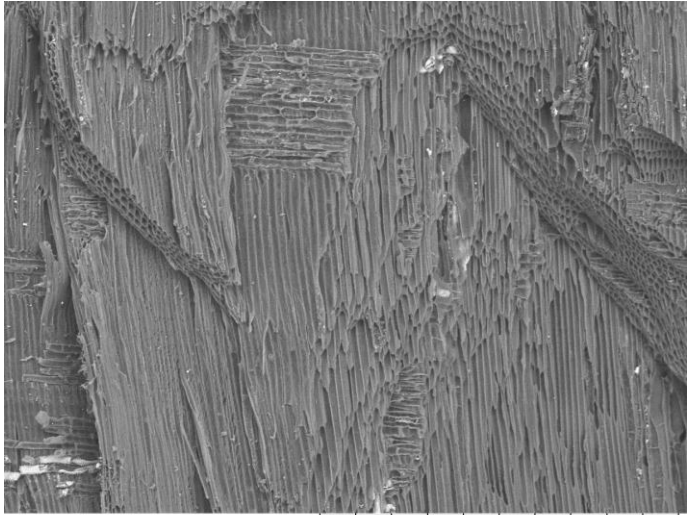
EWC 1611 2022/08/08 23:44 L D3.0 x200 500 µm

Tangential



EWC 1611 2022/08/08 23:25 L D3.8 x200 500 µm

Radial



EWC 1611 2022/08/08 23:37 L D5.2 x200 500 µm

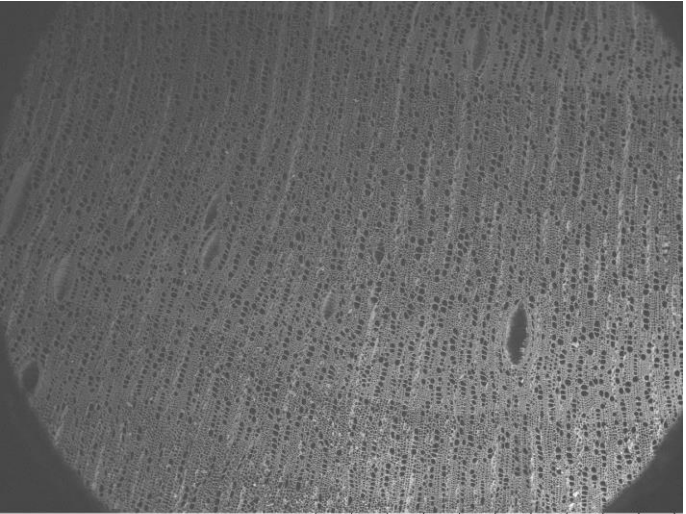
EWC 1612 Unknown Identification

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

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

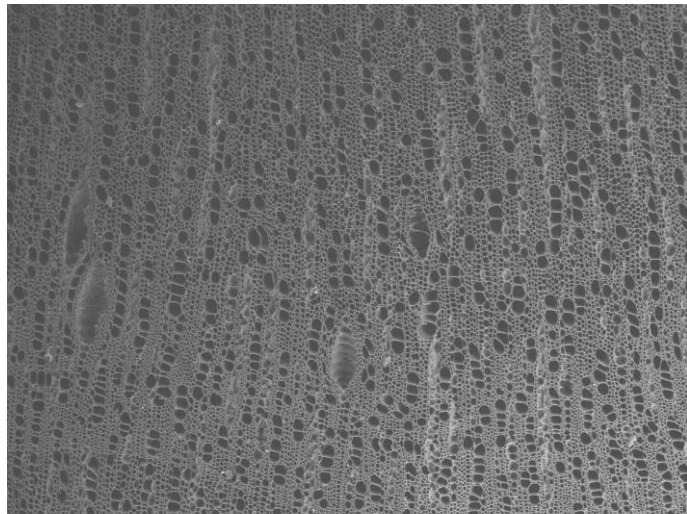
Common Name: "bruja"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



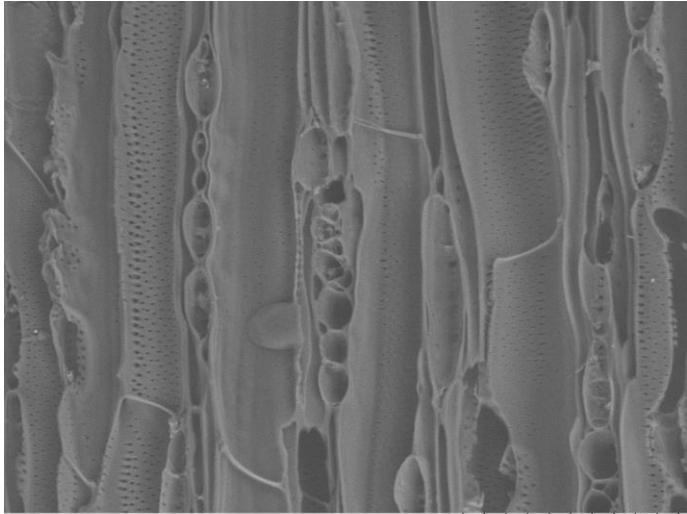
EWC 1612 2022/09/15 22:27 L D2.9 x50 2 mm

Transverse 100x



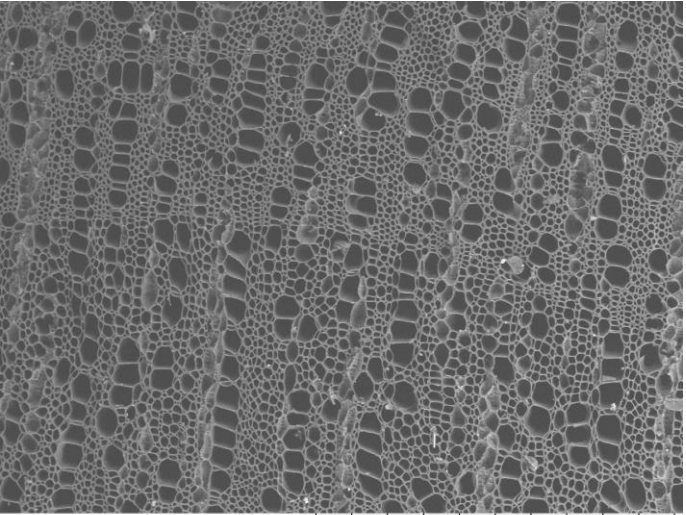
EWC 1612 2022/09/15 22:28 L D2.9 x100 1 mm

Vessel Wall



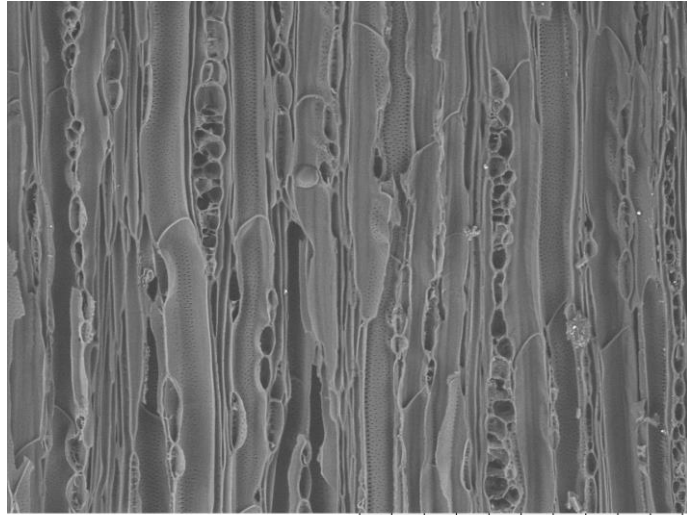
EWC 1612 2022/09/16 04:30 L D3.2 x600 100 um

Transverse 200x



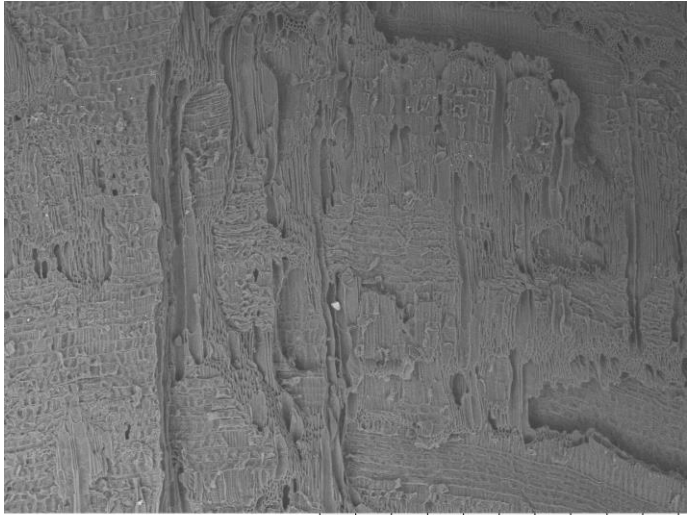
EWC 1612 2022/09/15 22:30 L D2.9 x200 500 um

Tangential



EWC 1612 2022/09/15 22:47 L D3.2 x300 300 um

Radial



EWC 1612 2022/09/15 22:38 L D4.4 x100 1 mm

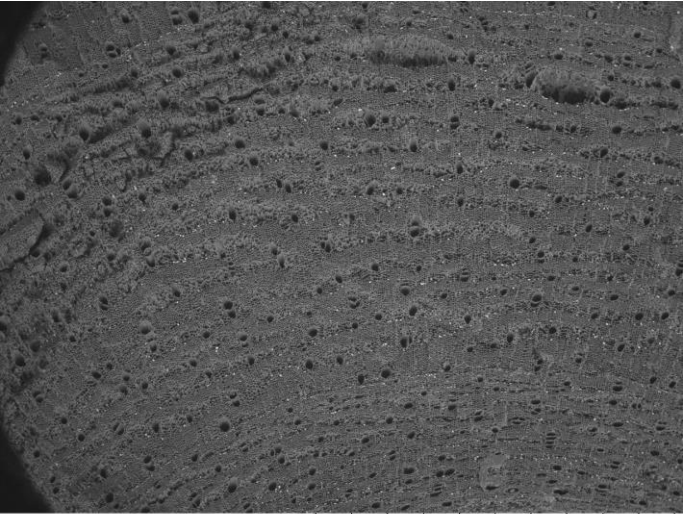
EWC 1613 FABACEAE *Machaerium millei* Standl.

Vessels
Size: <50µm, 50-100µm
Freq.: 20 to 40
Arrangement: solitary, chains, clusters
Tyloses: absent

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

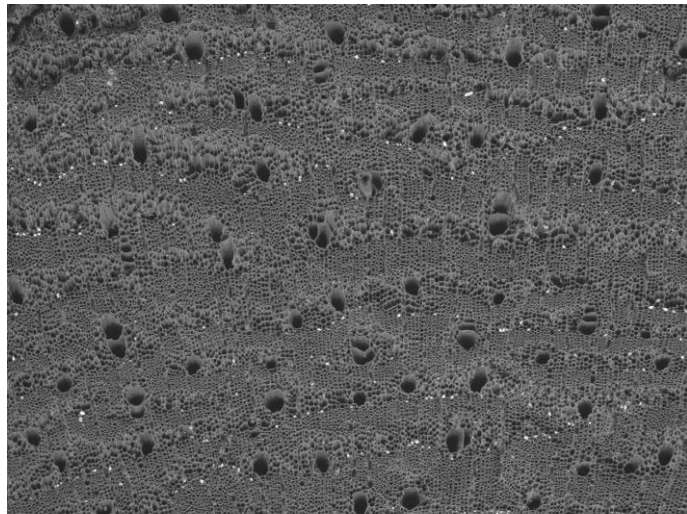
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



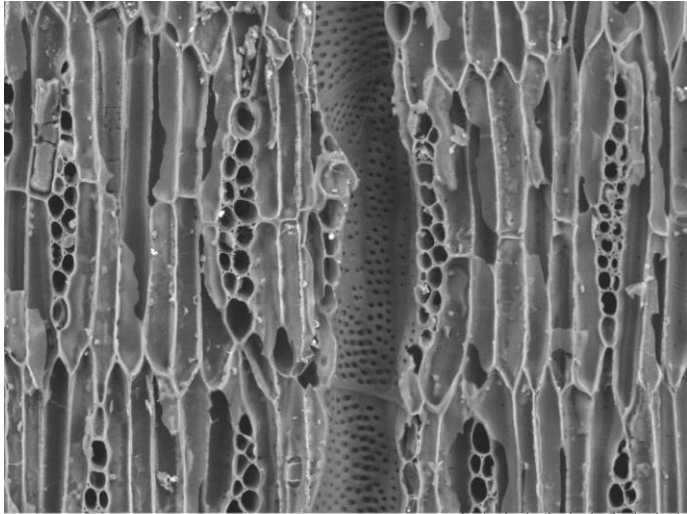
EWC 1613 2022/07/26 02:52 L D4.0 x50 2 mm

Transverse 100x



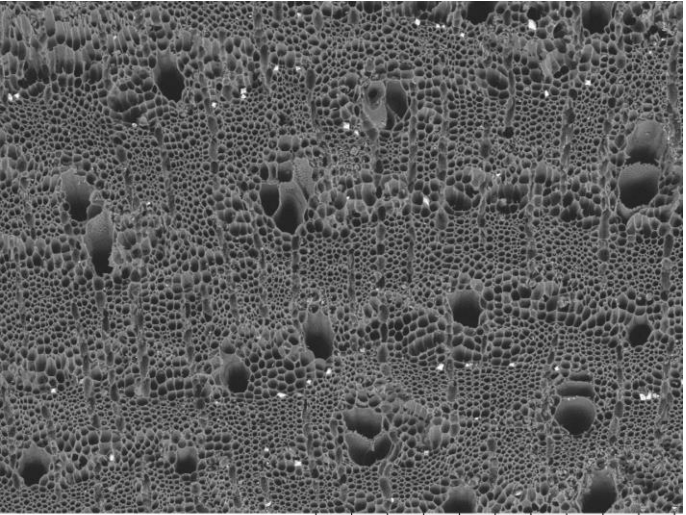
EWC 1613 2022/07/26 02:54 L D4.0 x100 1 mm

Vessel Wall



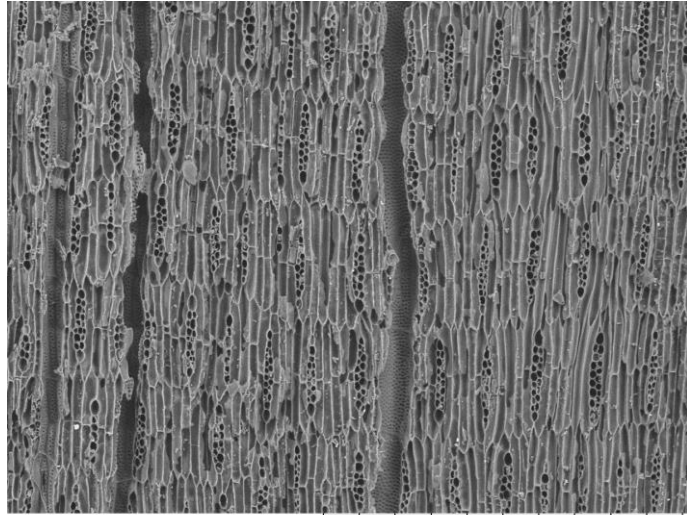
EWC 1613 2022/07/26 03:04 L D4.4 x600 100 µm

Transverse 200x



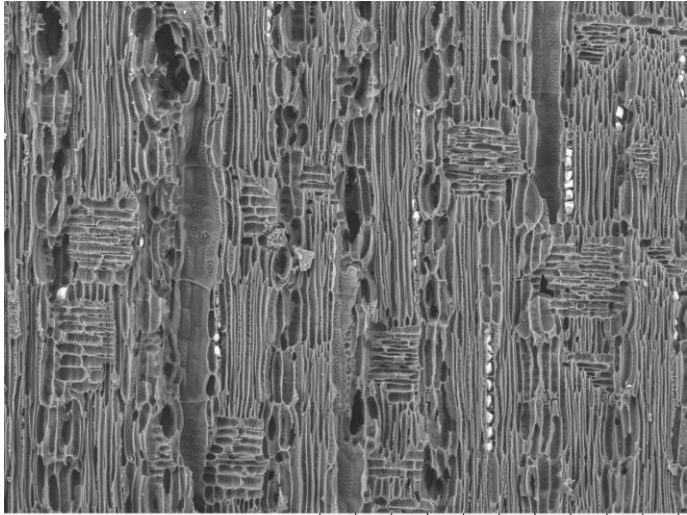
EWC 1613 2022/07/26 02:55 L D4.0 x200 500 µm

Tangential



EWC 1613 2022/07/26 03:03 L D4.4 x200 500 µm

Radial



EWC 1613 2022/10/07 13:46 D3.1 x200 500 µm

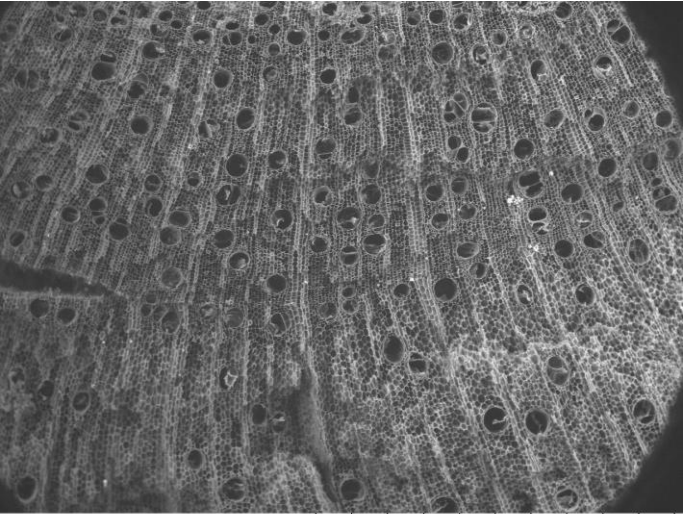
EWC 1614 BOMBACEAE *Pseudobombax millei* (Standl.) A. Robyns

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

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

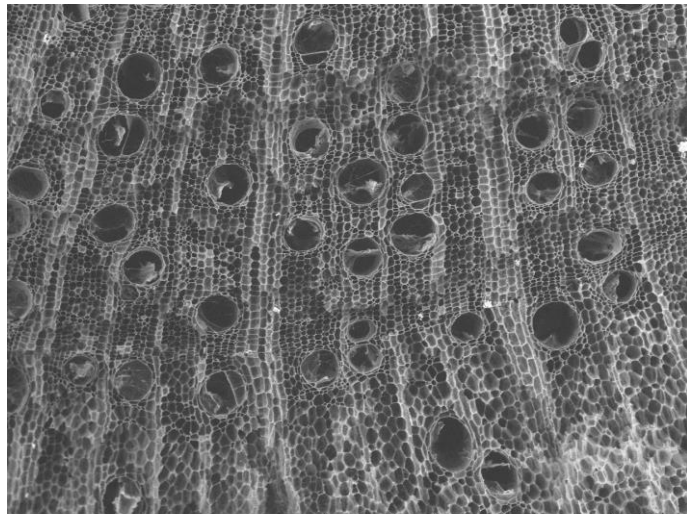
Common Name:
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



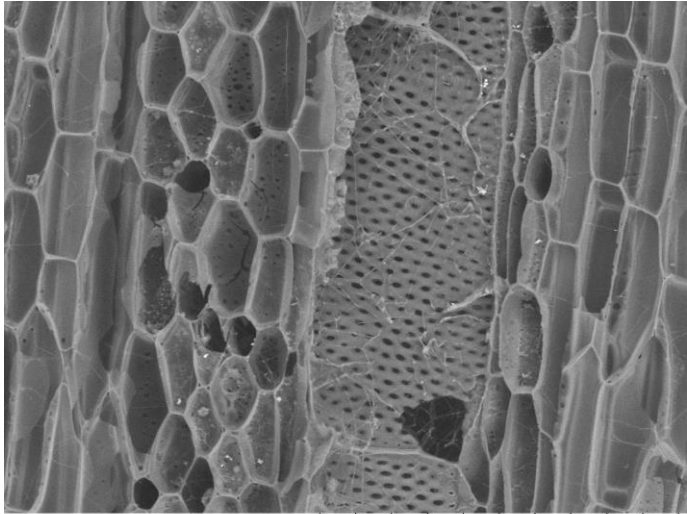
EWC 1614 2022/07/26 03:34 L D3.3 x50 2 mm

Transverse 100x



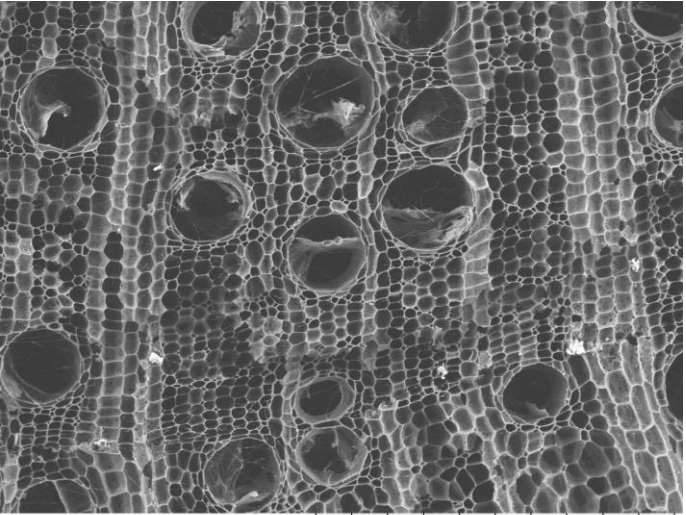
EWC 1614 2022/07/26 03:35 L D3.3 x100 1 mm

Vessel Wall



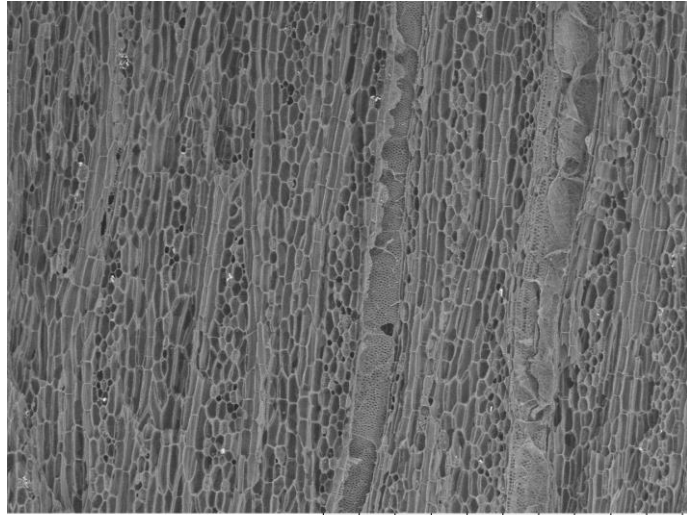
EWC 1614 2022/07/26 03:44 L D7.1 x500 200 µm

Transverse 200x



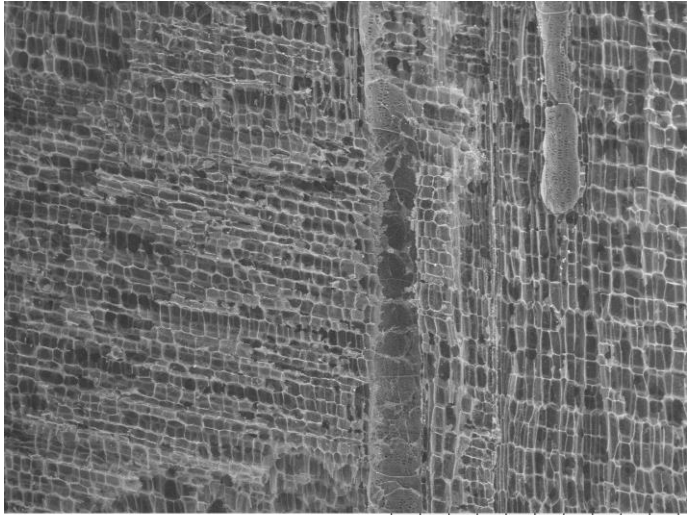
EWC 1614 2022/07/26 03:37 L D3.3 x200 500 µm

Tangential



EWC 1614 2022/07/26 03:42 L D7.1 x100 1 mm

Radial



EWC 1614 2022/10/07 13:56 D2.5 x80 1 mm

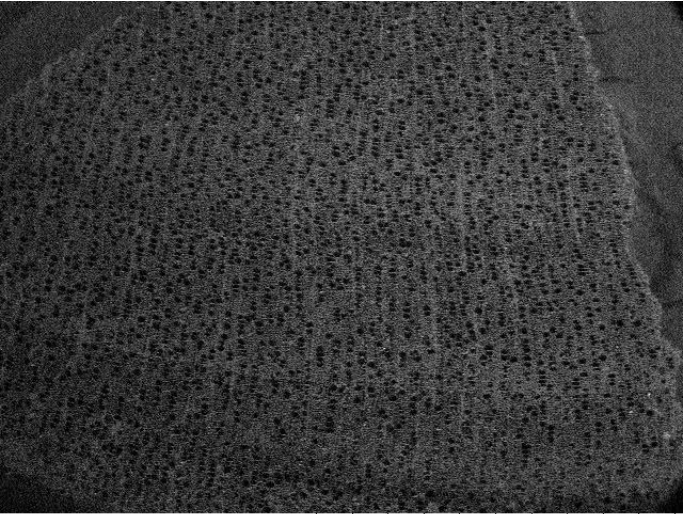
EWC 1615 Unknown Identification

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

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

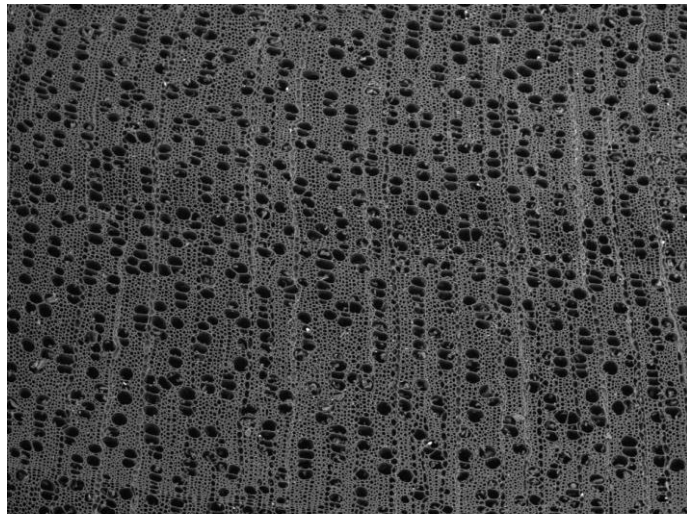
Common Name: "bruja"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



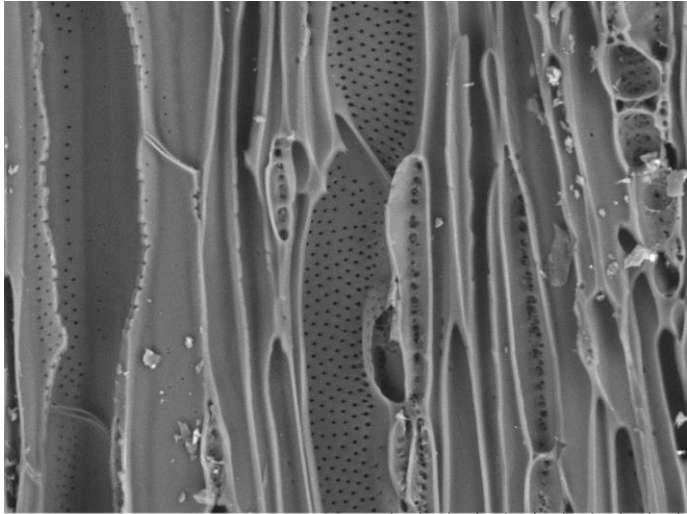
EWC 1615 2022/07/26 02:23 L D4.3 x50 2 mm

Transverse 100x



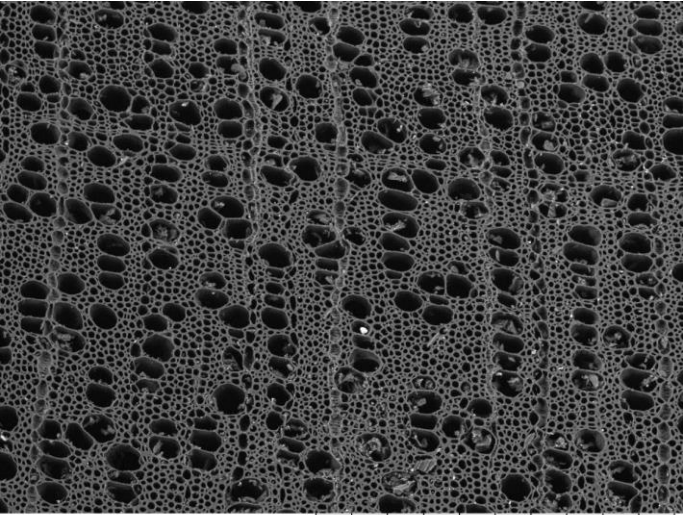
EWC 1615 2022/07/26 02:24 L D4.3 x100 1 mm

Vessel Wall



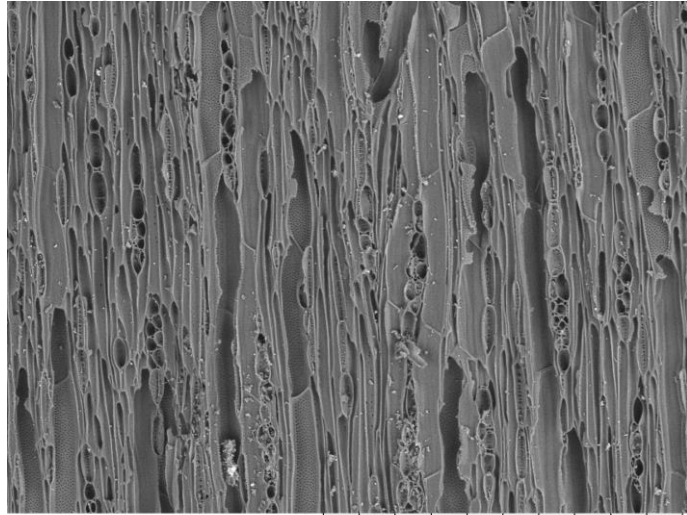
EWC 1615 2022/07/26 02:48 L D4.7 x800 100 µm

Transverse 200x



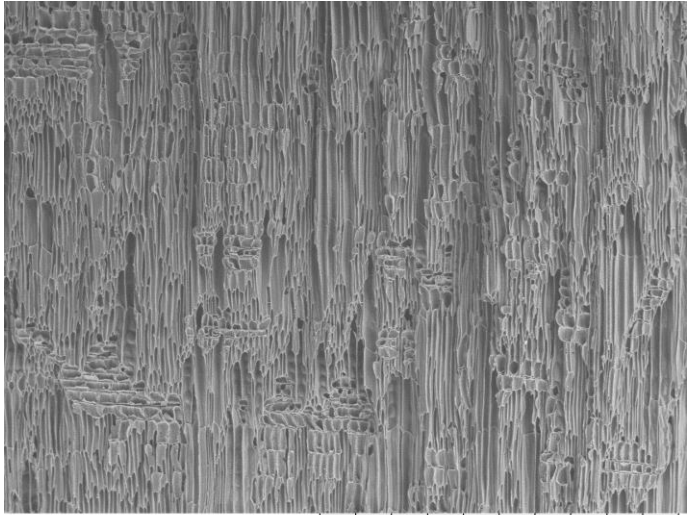
EWC 1615 2022/07/26 02:26 L D4.3 x200 500 µm

Tangential



EWC 1615 2022/07/26 02:47 L D4.7 x200 500 µm

Radial



EWC 1615 2022/10/08 13:54 D2.2 x100 1 mm

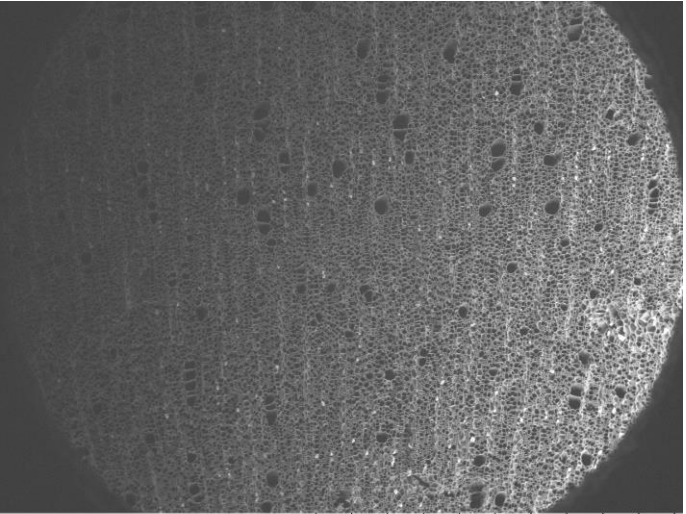
EWC 1616 RHAMNACEAE *Ziziphus thyrsoflora* Benth.

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

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

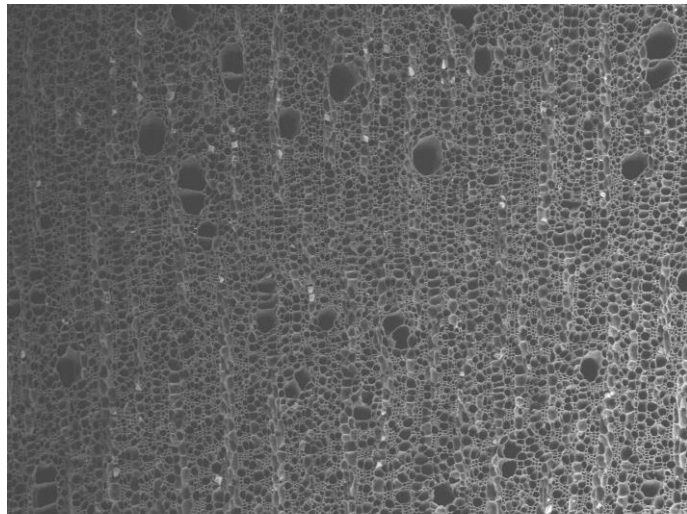
Common Name: "Ébano"
Elevation: 160 m
Description: Large tree with spines on trunk and branches.
Location: Ecuador, Manabí, Jama
Locality: El Quemado: Approximately 5 km NE of Jama, in the foothills of the Jama lowlands. Collected on a gently sloping hilltop. Convento topo map 1:50,000, cuadrícula (block) N80 E87.

Transverse 50x



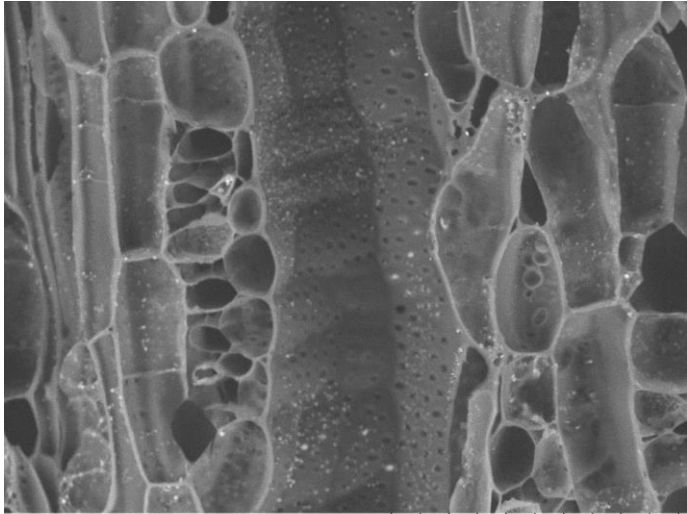
EWC 1616 2022/09/16 05:27 L D2.1 x50 2 mm

Transverse 100x



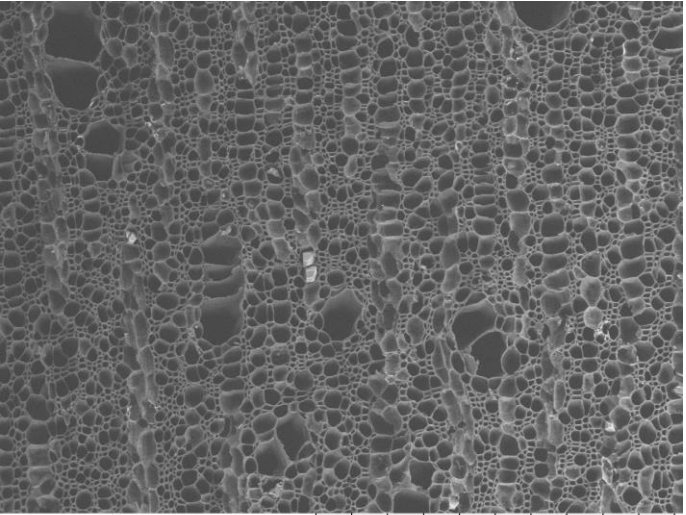
EWC 1616 2022/09/16 05:28 L D2.1 x100 1 mm

Vessel Wall



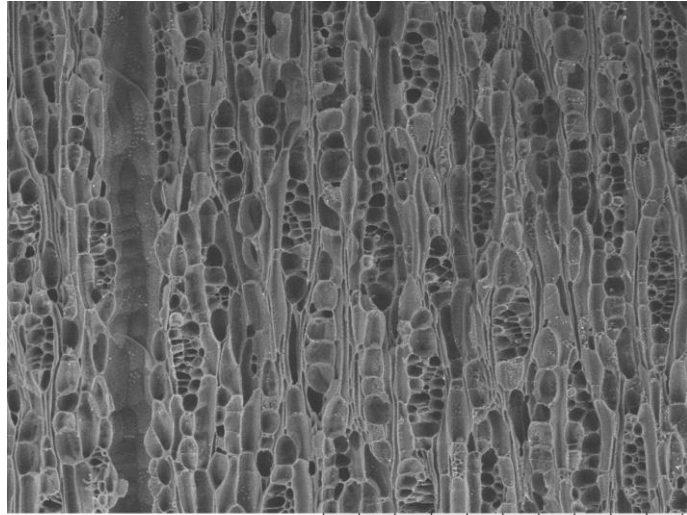
EWC 1616 2022/09/16 05:52 L D3.5 x800 100 µm

Transverse 200x



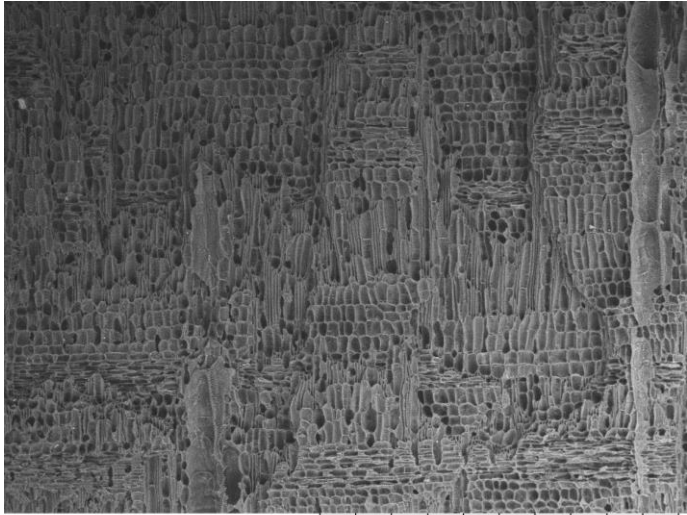
EWC 1616 2022/09/16 05:30 L D2.1 x200 500 µm

Tangential 200x



EWC 1616 2022/09/16 05:49 L D3.5 x200 500 µm

Radial 100x



EWC 1616 2022/09/16 05:37 L D3.8 x100 1 mm

EWC 1619 PRIMULACEAE *Jacquinia* L.

Common Name: "Barbasco"

Elevation: 30 m

Description: Small tree with an orange spherical fruit (aprox. 3 cm in diameter). Forest with closed canopy and few remnant trees.

Location: Ecuador, Manabí

Locality: Jama River Valley. Jama, Area 1: Approximately 1 km directly South of Jama, and West of the Jama River. Jama topo map 1:50,000, cuadrícula (block) N77 E81. On a NW facing slope.

Vessels

Size: 50-100µm

Freq.: <5, 5-20

Arrangement: solitary, pairs

Tyloses: common

Rays:

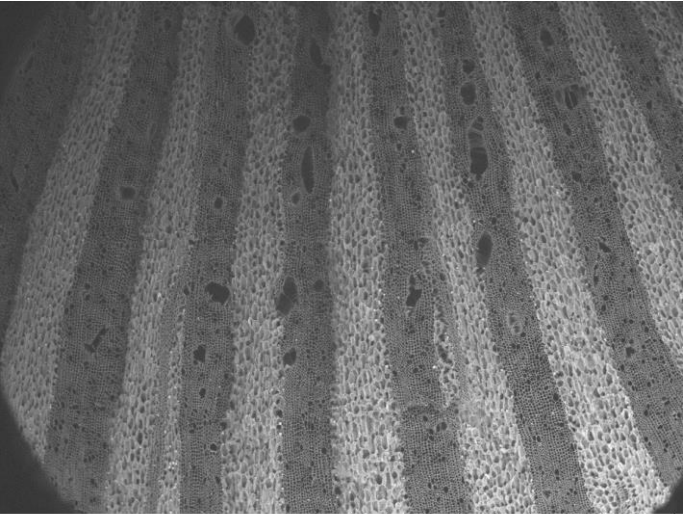
per mm: <4

Thickness (cells), 4+

Parenchyma Type: Absent, Scanty, Diffuse

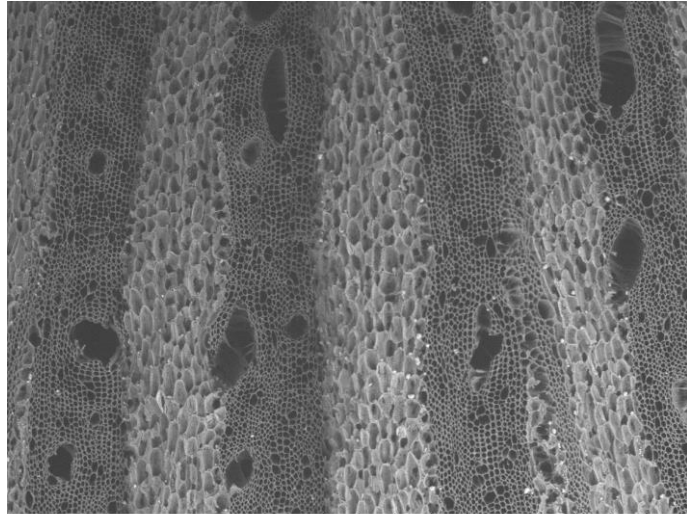
Porosity: diffuse

Transverse 50x



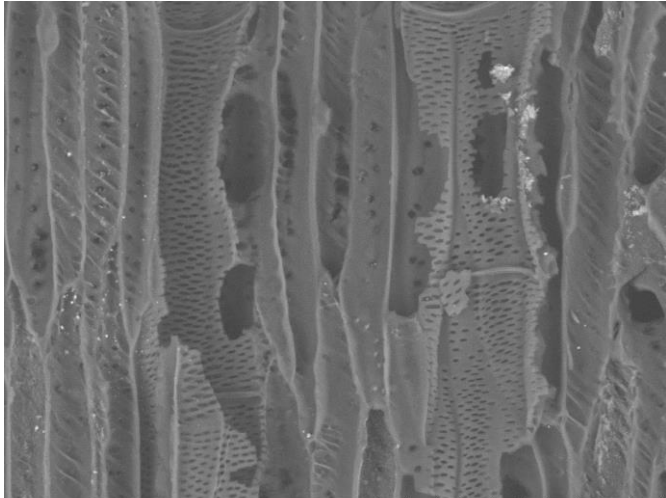
EWC 1619 2022/09/22 05:18 L D3.6 x50 2 mm

Transverse 100x



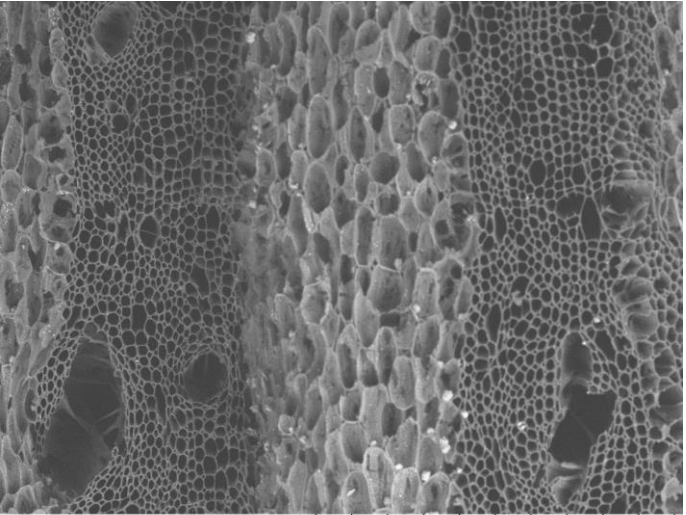
EWC 1619 2022/09/22 05:19 L D3.6 x100 1 mm

Vessel Wall



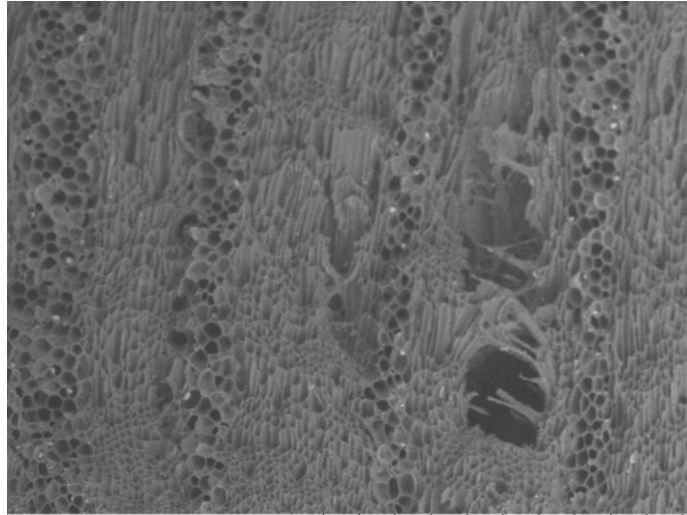
EWC 1619 2022/09/22 05:01 L D5.5 x800 100 µm

Transverse 200x



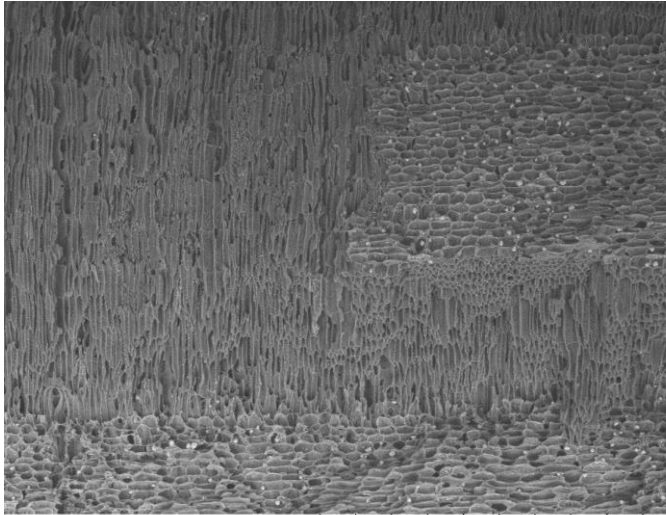
EWC 1619 2022/09/22 05:20 L D3.6 x200 500 µm

Tangential



EWC 1619 2022/09/22 05:26 L D4.5 x200 500 µm

Radial



EWC 1619 2022/09/22 04:58 L D5.5 x100 1 mm

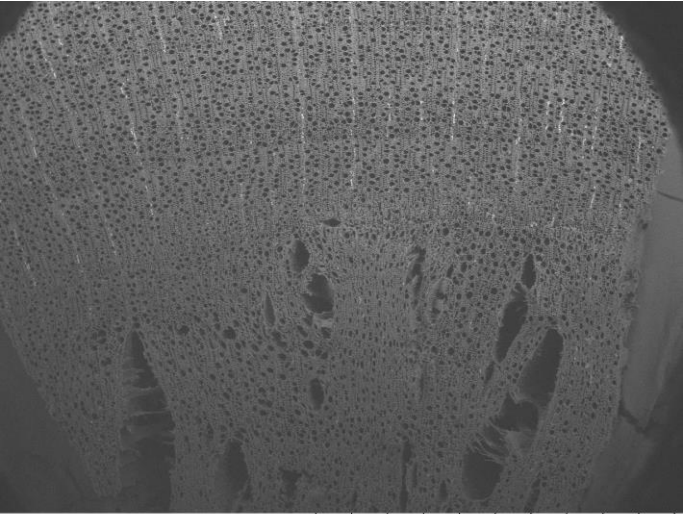
EWC 1621 RUBIACEAE *Randia humboldtiana* (Roem. & Schult.) DC.

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

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

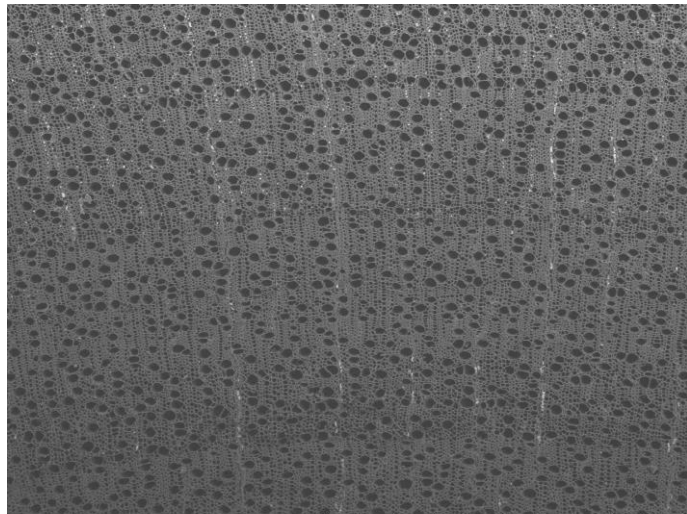
Common Name: "Cereza de Monte"
Elevation: 30 m
Description: Small tree with paired spines on branches and a distinctive branching pattern.. Collected on NW facing slope. Forest with closed canopy.
Location: Ecuador, Manabí
Locality: Jama River Valley. Jama, Area 1: Approximately 1 km directly South of Jama, and West of the Jama River. Jama topo map 1:50,000, cuadrícula (block) N77 E81

Transverse 50x



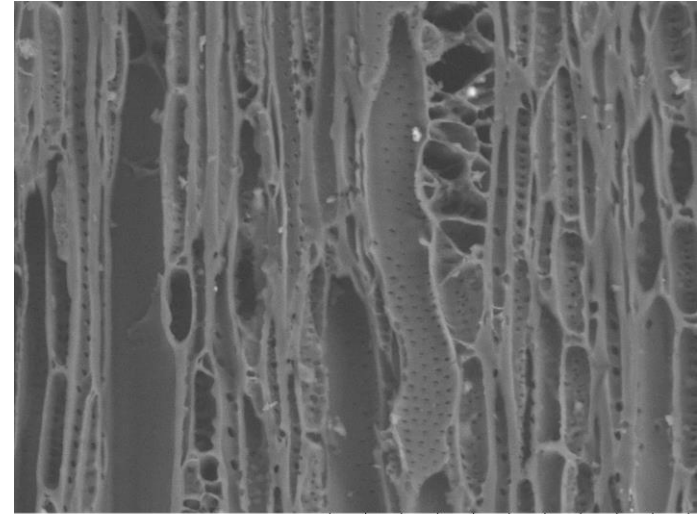
EWC 1621 2022/09/16 02:34 L D3.3 x50 2 mm

Transverse 100x



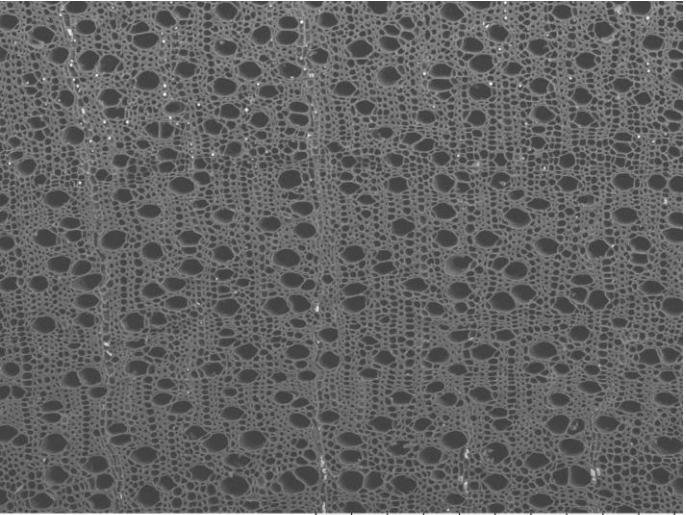
EWC 1621 2022/09/16 02:36 L D3.3 x100 1 mm

Vessel Wall



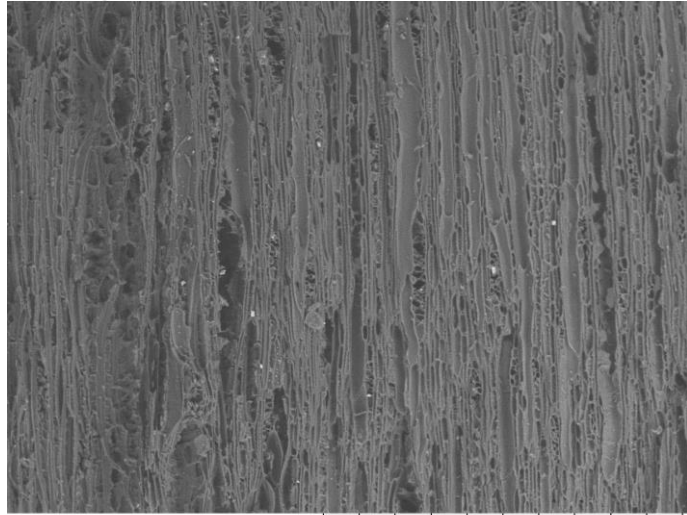
EWC 1621 2022/09/16 02:57 L D4.0 x1.0k 100 µm

Transverse 200x



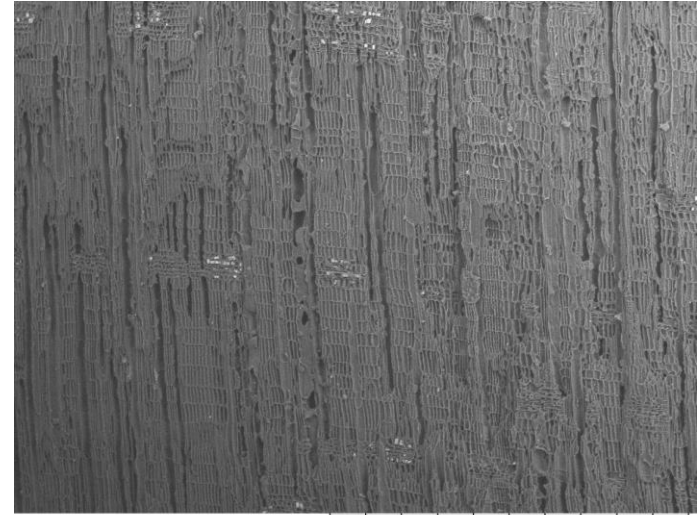
EWC 1621 2022/09/16 02:37 L D3.3 x200 500 µm

Tangential



EWC 1621 2022/09/16 02:53 L D3.9 x200 500 µm

Radial



EWC 1621 2022/09/16 02:44 L D4.2 x100 1 mm

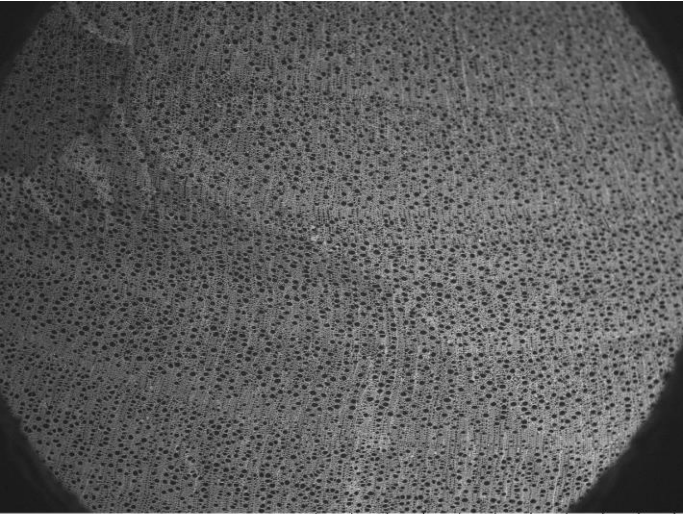
EWC1622 MALPIGHIACEAE *Bunchosia cornifolia* Kunth

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

Rays:
per mm: 4-12, 12+
Thickness (cells): uniseriate
Parenchyma Type: Diffuse, Diffuse-in-aggregates, Absent
Porosity: semi-ring porous

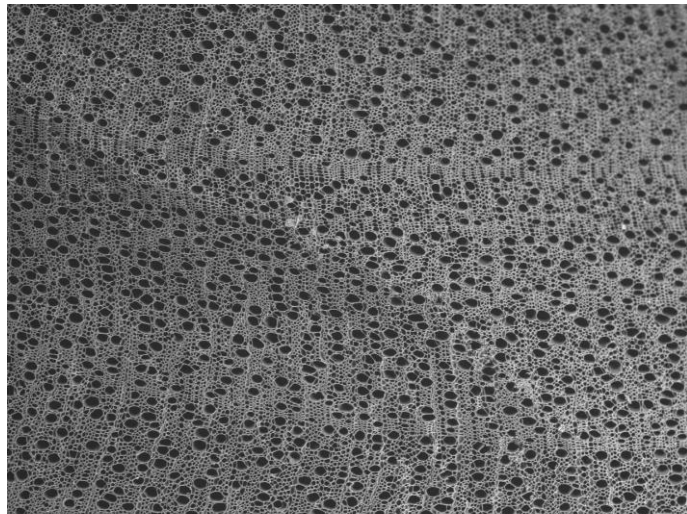
Common Name: "Cereza de Monte"
Elevation: 20 m
Description: Small tree with paired spines at the tips of branches.
Location: Ecuador, Manabí, Jama
Locality: Jama, Area 1: Approximately 1 km directly south of Jama, and west of the Jama River. Collected on NW facing slope. In a wooded area with closed canopy and few remnant trees. Jama topo map 1:50,000, cuadrícula (block) N77 E81.

Transverse 50x



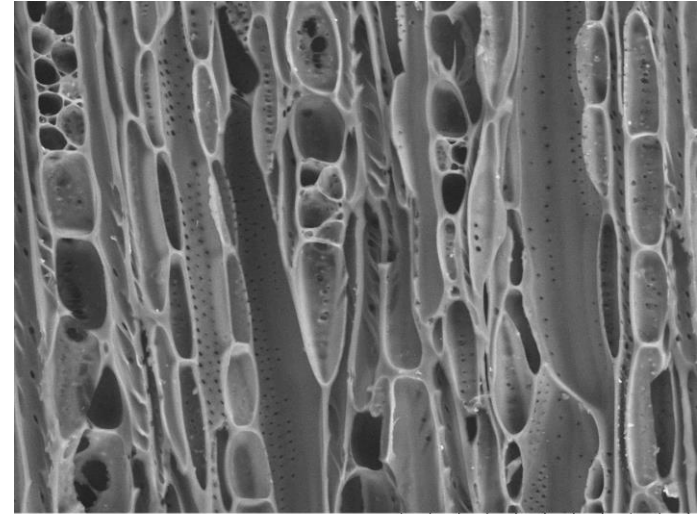
EWC 1622 2022/07/26 04:30 L D2.6 x50 2 mm

Transverse 100x



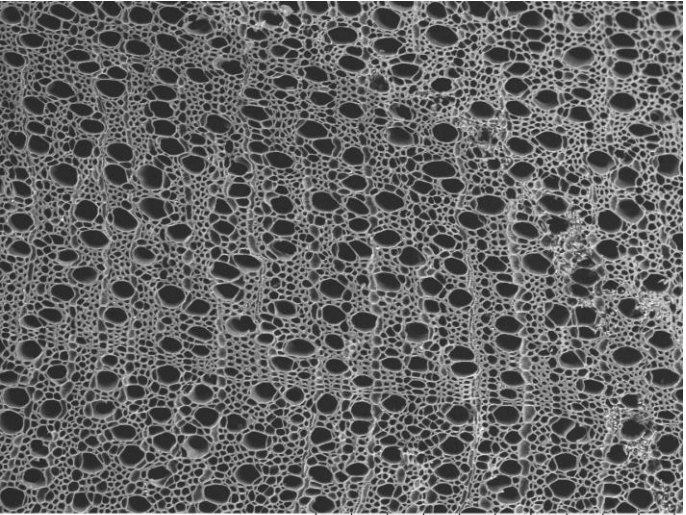
EWC 1622 2022/07/26 04:31 L D2.6 x100 1 mm

Vessel Wall



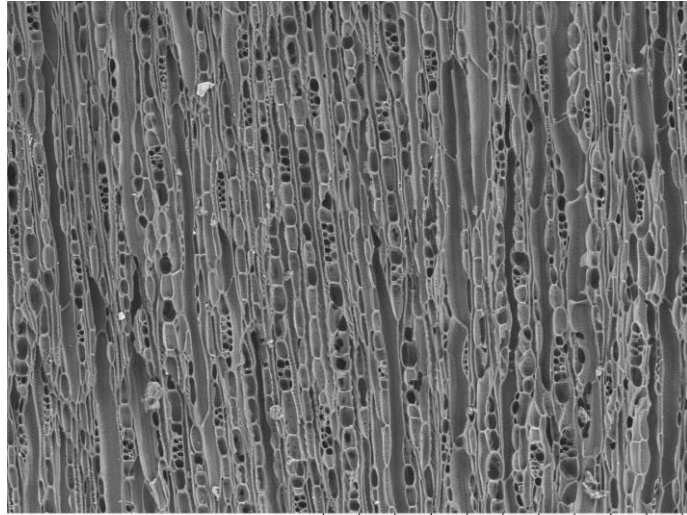
EWC 1622 2022/07/26 04:38 L D3.7 x800 100 µm

Transverse 200x



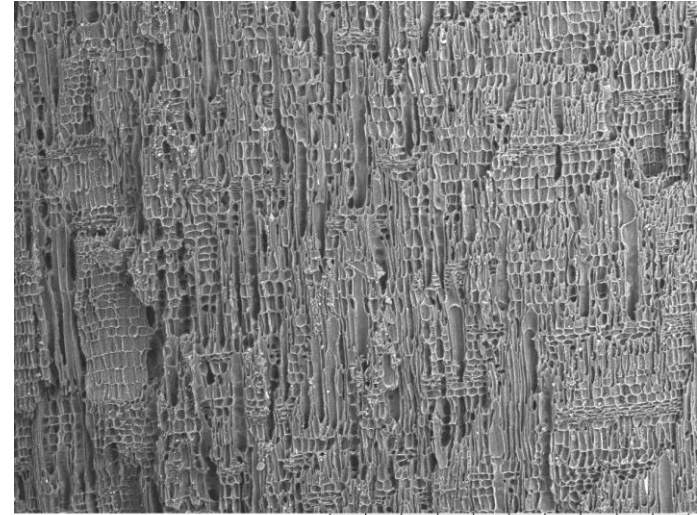
EWC 1622 2022/07/26 04:32 L D2.6 x200 500 µm

Tangential



EWC 1622 2022/07/26 04:36 L D3.7 x200 500 µm

Radial



EWC 1622 2022/07/26 04:41 L D5.9 x100 1 mm

EWC 1623 RUBIACEAE *Randia humboldtiana* (Roem. & Schult.) DC.

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

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

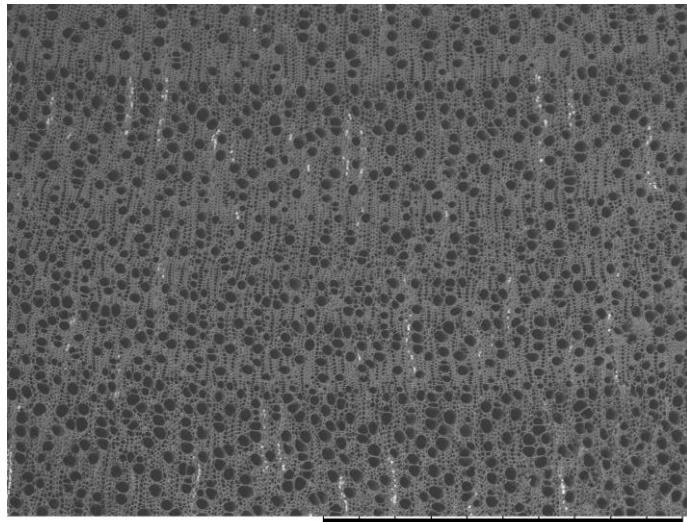
Common Name: "Cereza de Monte"
Elevation: 30 m
Description: Small tree with single spines on trunk; double on branches.. In a wooded area with closed canopy and few remnant trees.
Location: Ecuador, Manabí
Locality: Jama River Valley. Jama, Area 1: Approximately 1 km directly South of Jama, and West of the Jama River. Collected on NW facing slope. Jama topo map 1:50,000, cuadrícula (block) N77 E81.

Transverse 50x



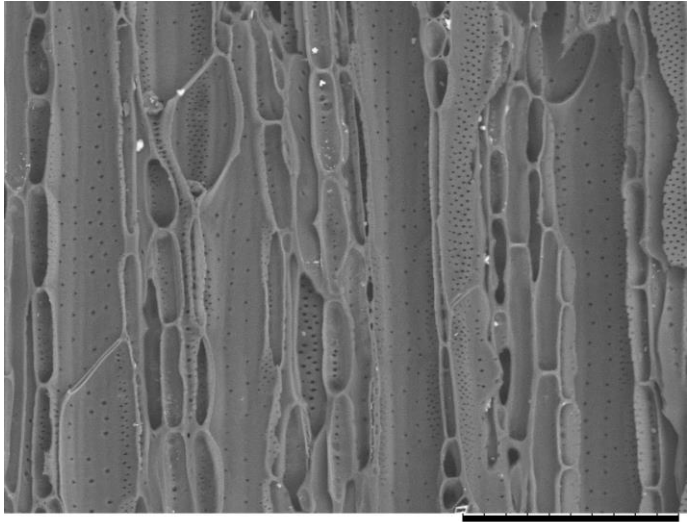
EWC 1623 2022/07/26 03:56 L D6.4 x50 2 mm

Transverse 100x



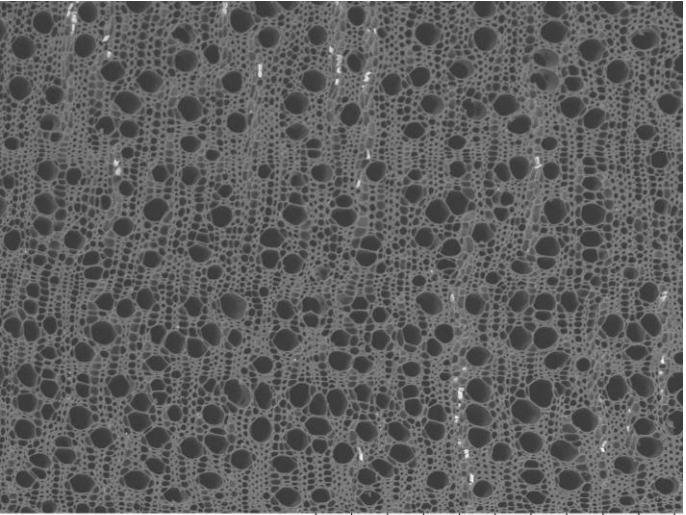
EWC 1623 2022/07/26 03:57 L D6.4 x100 1 mm

Vessel Wall



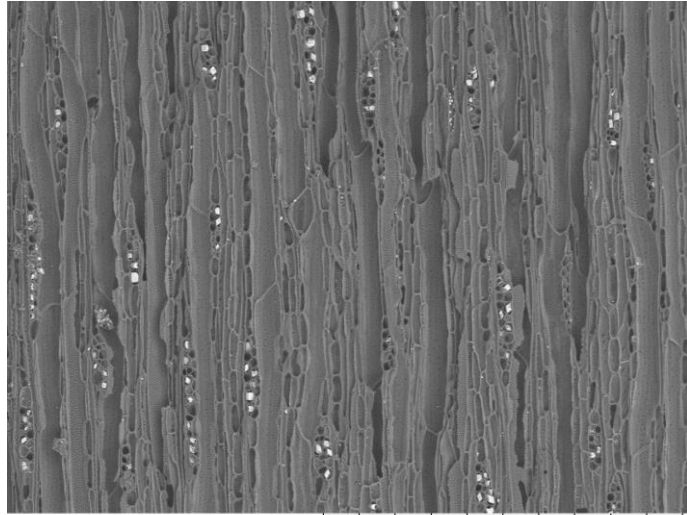
EWC 1623 2022/07/26 04:09 L D7.0 x600 100 um

Transverse 200x



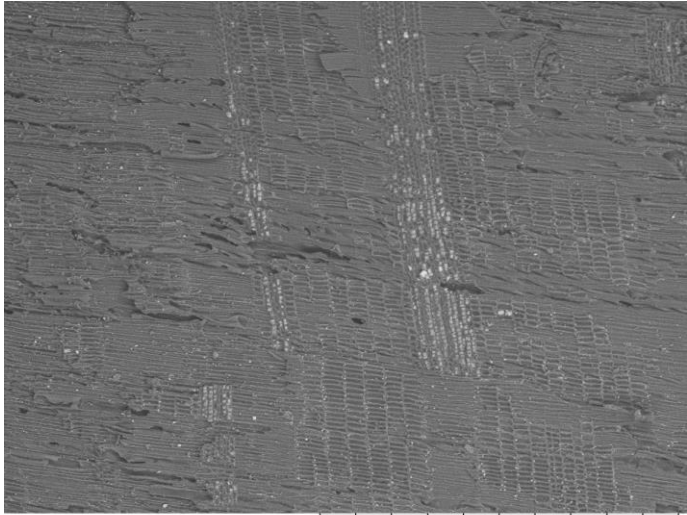
EWC 1623 2022/07/26 04:00 L D6.4 x200 500 um

Tangential



EWC 1623 2022/07/26 04:08 L D7.0 x200 500 um

Radial



EWC 1623 2022/07/26 04:03 L D7.7 x100 1 mm

EWC 1624 FABACEAE *Bauhinia*

Vessels

Size: <50µm, 50-100µm

Freq.: 20 to 40, 40 to 100

Arrangement: solitary, pairs, chains, clusters

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 1 to 3, 4+

Parenchyma Type: Banded (thick or thin), Vascentric (winged, confluent, unilateral), Diffuse-in-aggregates

Porosity: diffuse

Common Name:

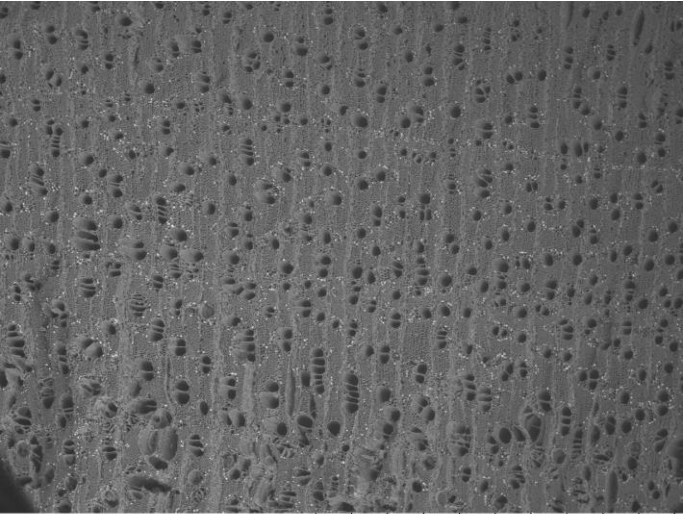
Elevation:

Description:

Location: Ecuador

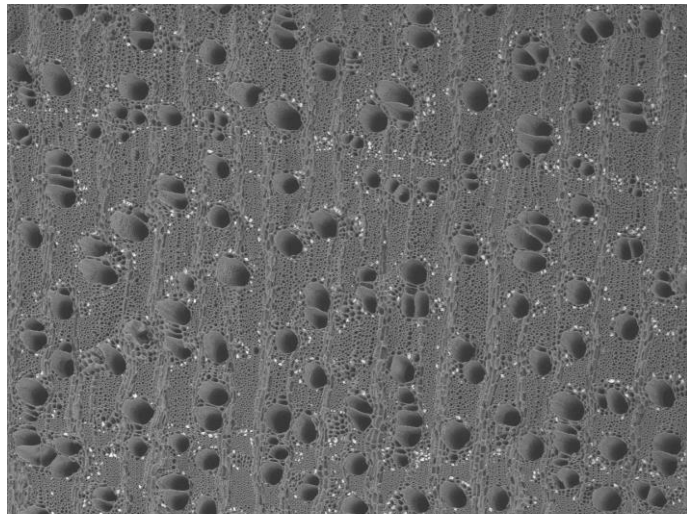
Locality:

Transverse 50x



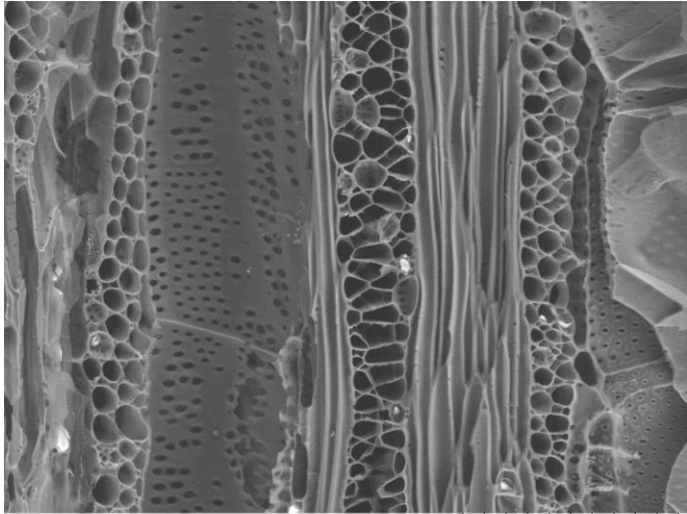
EWC 1624 2022/07/27 22:32 L D4.5 x50 2 mm

Transverse 100x



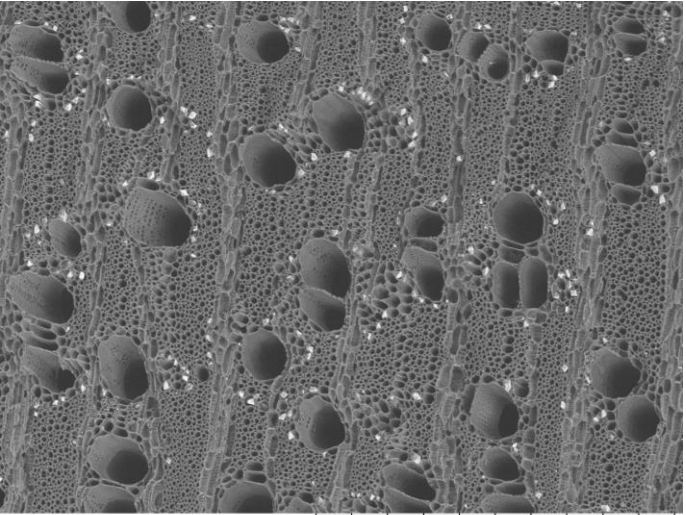
EWC 1624 2022/07/27 22:34 L D4.5 x100 1 mm

Vessel Wall



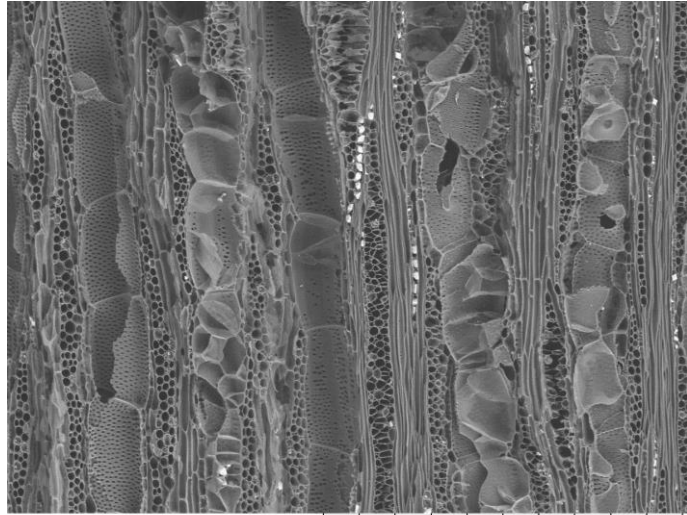
EWC 1624 2022/07/27 22:42 L D3.3 x600 100 um

Transverse 200x



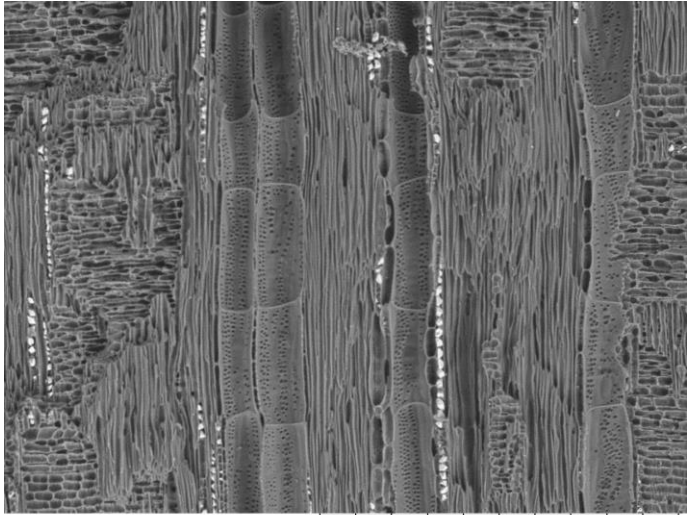
EWC 1624 2022/07/27 22:36 L D4.5 x200 500 um

Tangential



EWC 1624 2022/07/27 22:40 L D3.3 x200 500 um

Radial



EWC 1624 2022/07/27 22:45 L D3.8 x200 500 um

EWC 1625 Unknown Identification

Vessels

Size: <50µm

Freq.: 40 to 100, 100+

Arrangement: solitary, pairs, chains

Tyloses: absent

Rays:

per mm: 4-12, 12+

Thickness (cells): uniseriate, 1 to 3

Parenchyma Type: Diffuse, Diffuse-in-aggregates, Absent

Porosity: diffuse, semi-ring porous

Common Name: "clavo blanco"

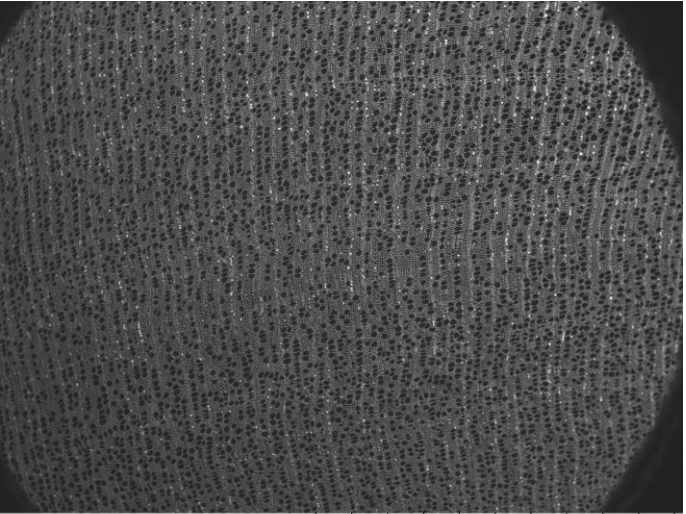
Elevation: 30 m

Description: Upperstory tree. Locally known as "Clavo Blanco". In a wooded area with closed canopy and few remnant trees.

Location: Ecuador, Manabí, Jama

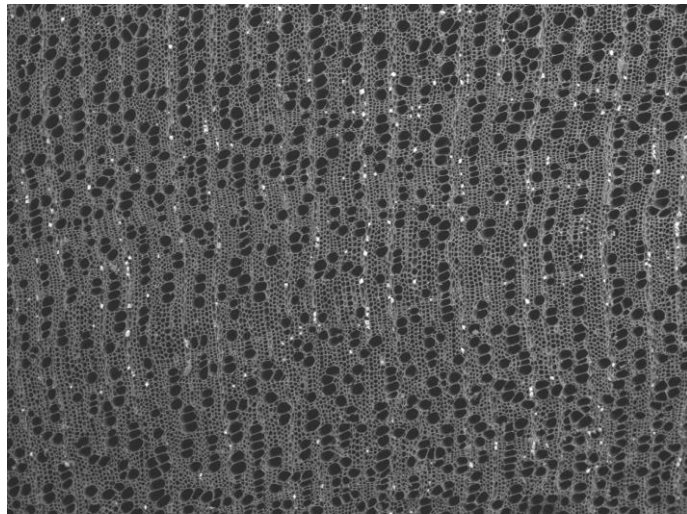
Locality: Jama River Valley. Jama, Area 1: Approximately 1 km directly South of Jama, and West of the Jama River. Jama topo map 1:50,000, cuadrícula (block) N77 E81. Collected on NW facing slope.

Transverse 50x



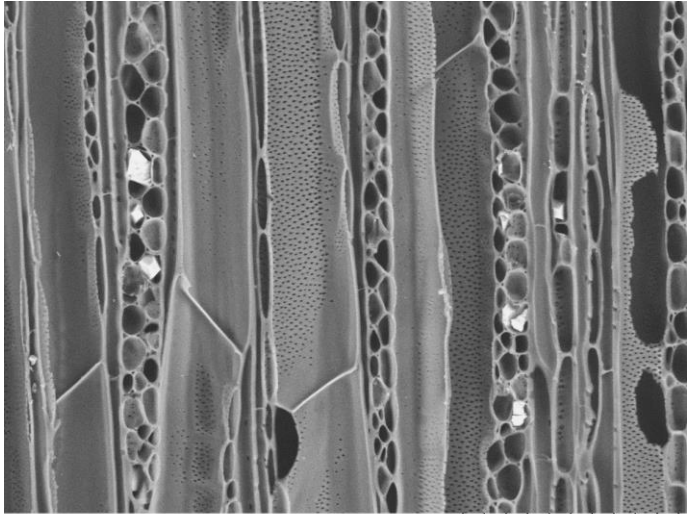
EWC 1625 2022/07/26 04:46 L D2.9 x50 2 mm

Transverse 100x



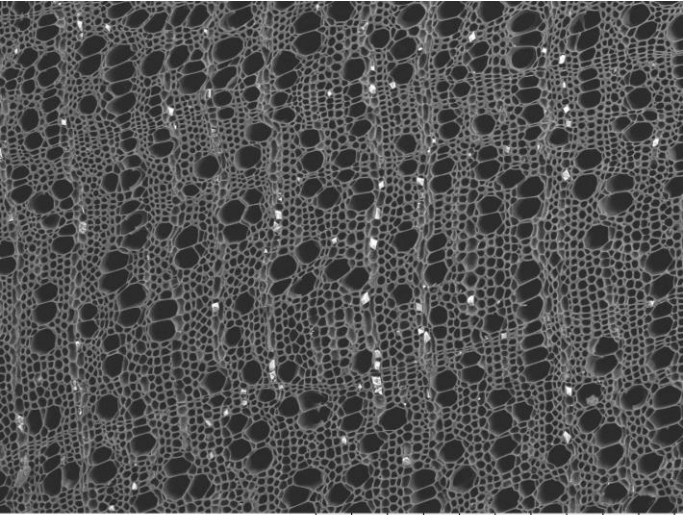
EWC 1625 2022/07/26 04:47 L D2.9 x100 1 mm

Vessel Wall



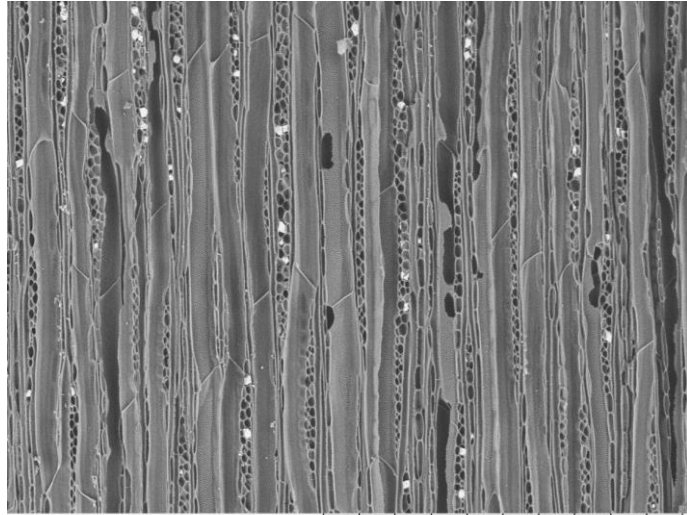
EWC 1625 2022/07/27 22:25 L D3.7 x600 100 um

Transverse 200x



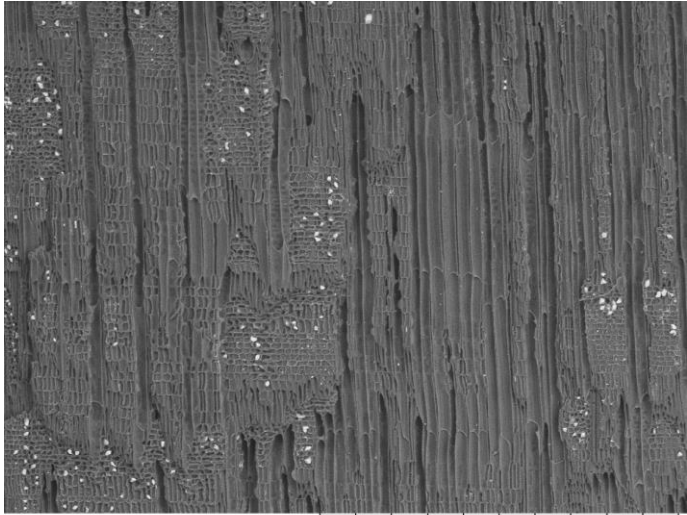
EWC 1625 2022/07/26 04:48 L D2.9 x200 500 um

Tangential



EWC 1625 2022/07/27 22:24 L D3.7 x200 500 um

Radial



EWC 1625 2022/07/27 22:28 L D5.2 x100 1 mm

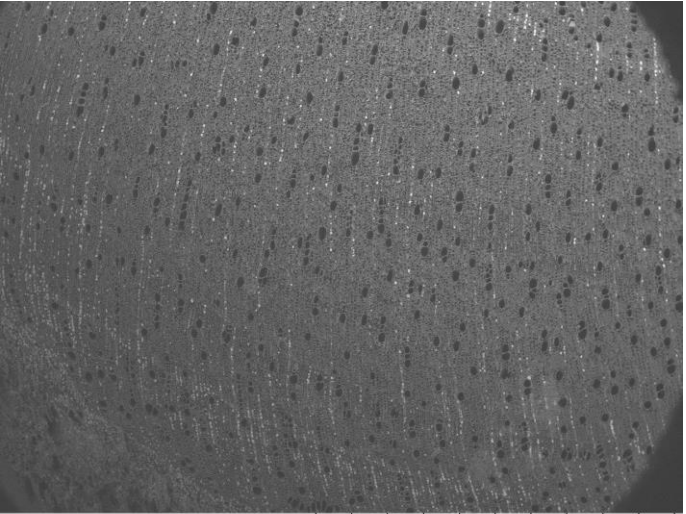
EWC 1626 Unknown Identification

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

Rays:
per mm: 4-12
Thickness (cells): mostly uniseriate
Parenchyma Type: Diffuse-in-aggregates
Porosity: diffuse

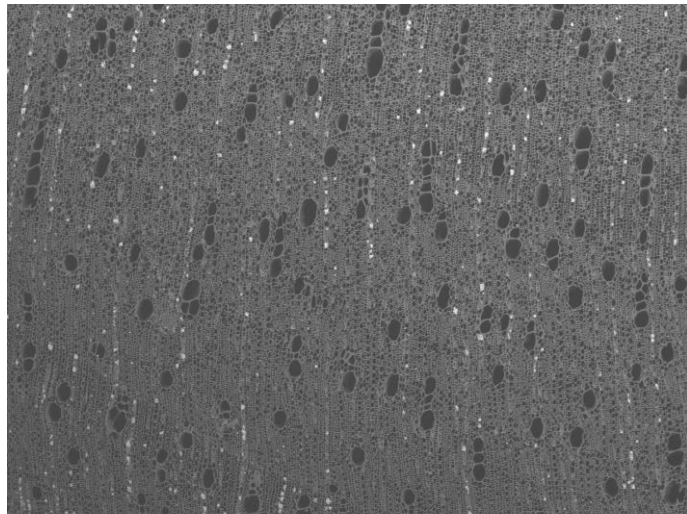
Common Name: "chala"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



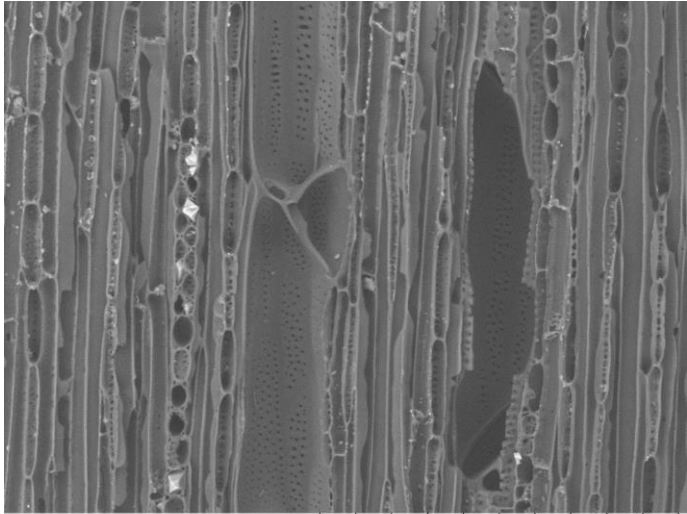
EWC 1626 2022/09/09 05:45 L D3.7 x50 2 mm

Transverse 100x



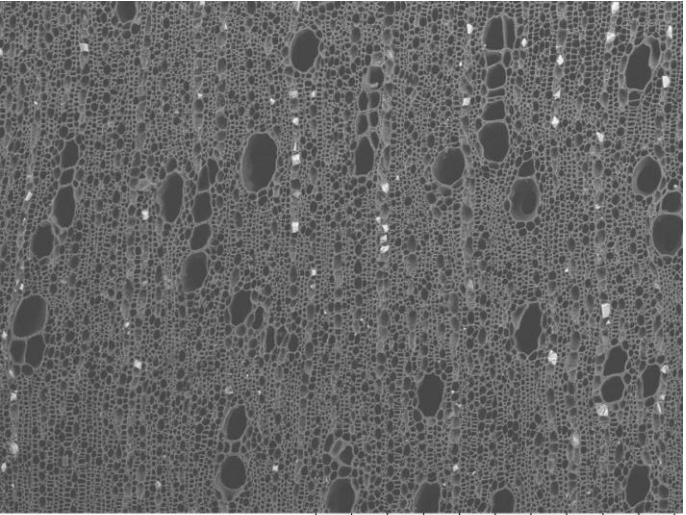
EWC 1626 2022/09/09 05:46 L D3.7 x100 1 mm

Vessel Wall



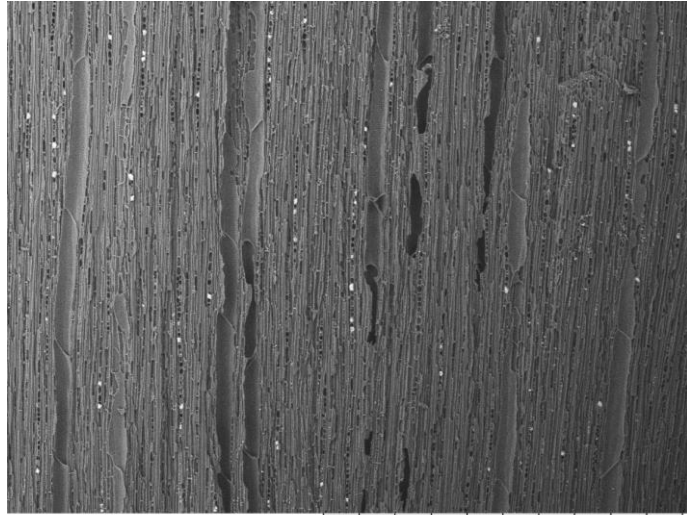
EWC 1626 2022/09/09 06:01 L D4.8 x500 200 um

Transverse 200x



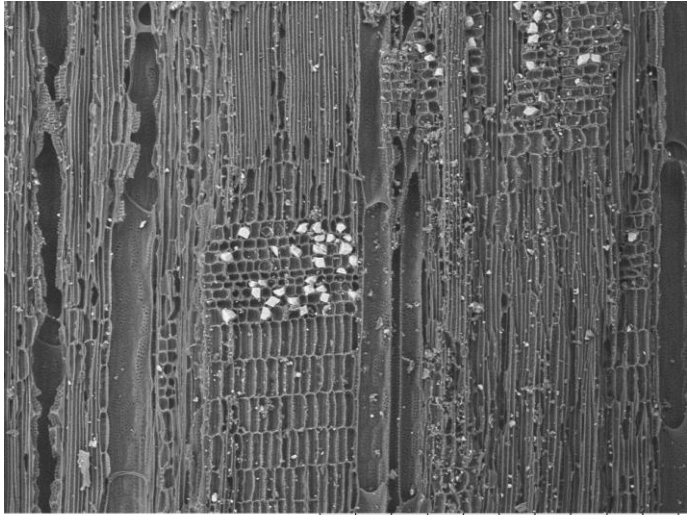
EWC 1626 2022/09/09 05:48 L D3.7 x200 500 um

Tangential



EWC 1626 2022/09/09 05:57 L D4.8 x100 1 mm

Radial



EWC 1626 2022/09/09 06:05 L D3.9 x200 500 um

EWC 1627 FABACEAE

Vessels

Size: <50-100, 100-200 μm

Freq.: 20 to 40

Arrangement: solitary and clusters

Tyloses: absent

Rays:

per mm: 12+

Thickness (cells): 1 to 3

Parenchyma Type: Vasicentric (lozenge and winged)

Porosity: diffuse

Common Name: "pela caballo"

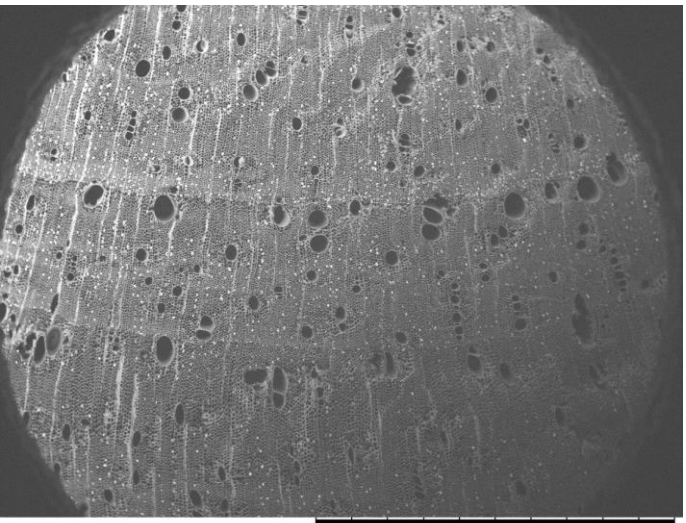
Elevation:

Description:

Location: Ecuador

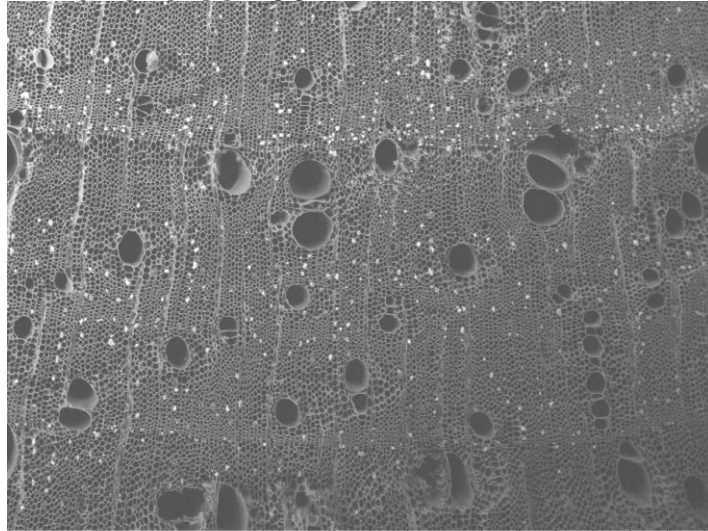
Locality:

Transverse 50x



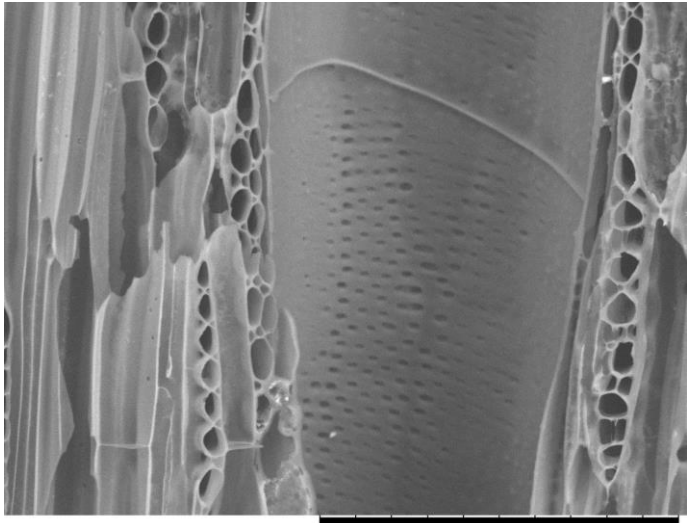
EWC 1627 2022/09/15 04:35 L D2.0 x50 2 mm

Transverse 100x



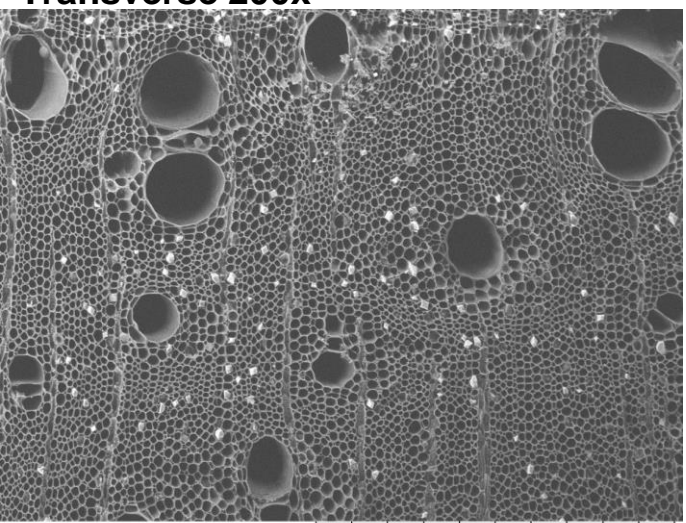
EWC 1627 2022/09/15 04:36 L D2.0 x100 1 mm

Vessel Wall



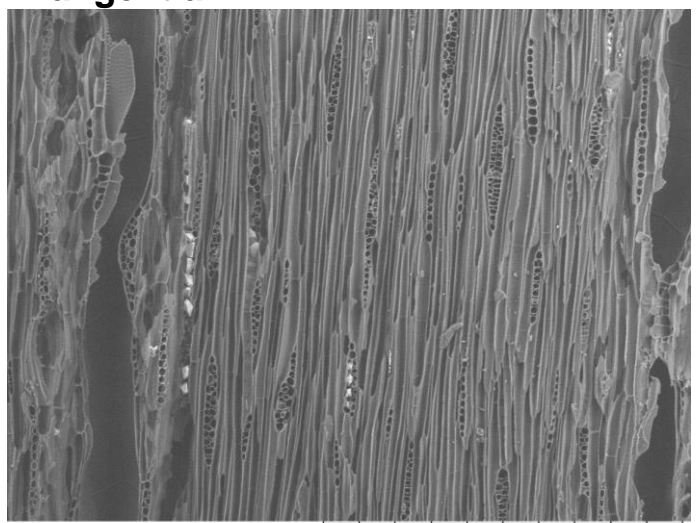
EWC 1627 2022/10/14 16:56 D5.4 x1.0k 100 um

Transverse 200x



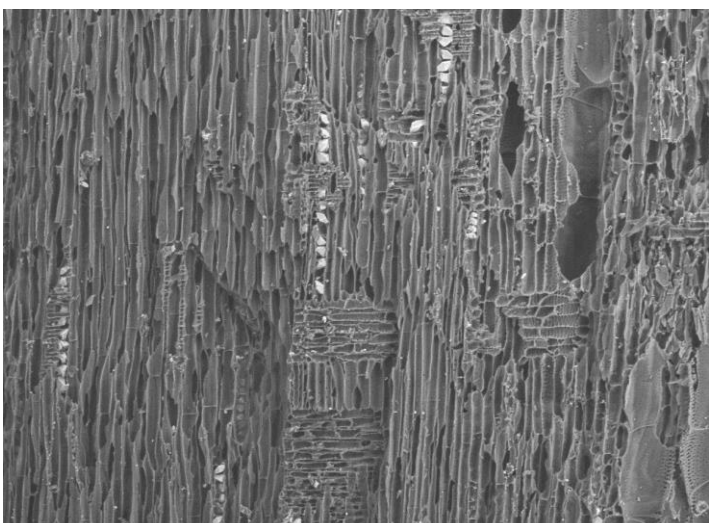
EWC 1627 2022/09/15 04:37 L D2.0 x200 500 um

Tangential



EWC 1627 2022/09/15 04:42 L D2.8 x200 500 um

Radial



EWC 1627 2022/09/15 04:50 L D3.0 x200 500 um

EWC 1628 PRIMULACEAE *Jacquinia* L.

Vessels

Size: <50µm

Freq.: 40 to 100

Arrangement: solitary, pairs, chains

Tyloses: absent

Rays:

per mm: <4

Thickness (cells): 4+

Parenchyma Type: Absent, diffuse

Porosity: diffuse

Common Name: "Barbasco"

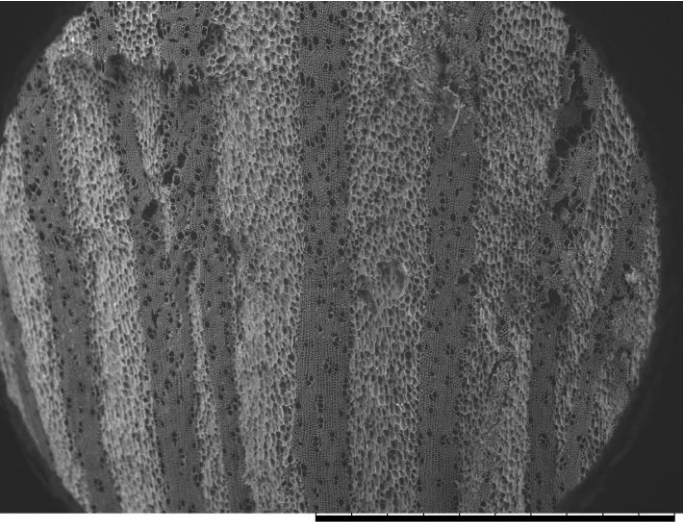
Elevation: 30 m

Description: Upperstory tree with leathery leaves. In a wooded area with closed canopy and few remnant trees.

Location: Ecuador, Manabí

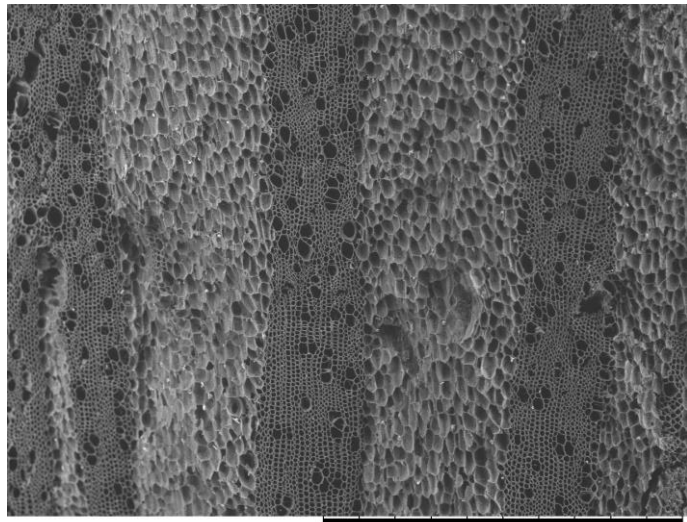
Locality: Jama River Valley. Jama, Area 1: Approximately 1 km directly South of Jama, and West of the Jama River. Collected on NW facing slope. Jama topo map 1:50,000, cuadrícula (block) N77 E81.

Transverse 50x



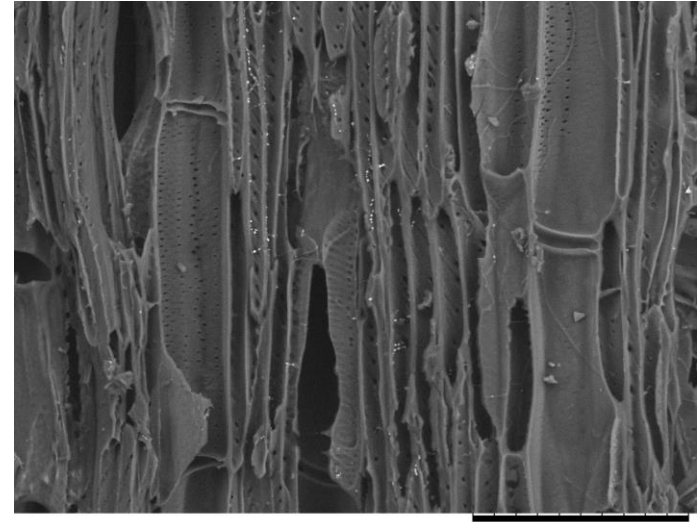
EWC 1628 2022/08/11 00:51 L D2.0 x50 2 mm

Transverse 100x



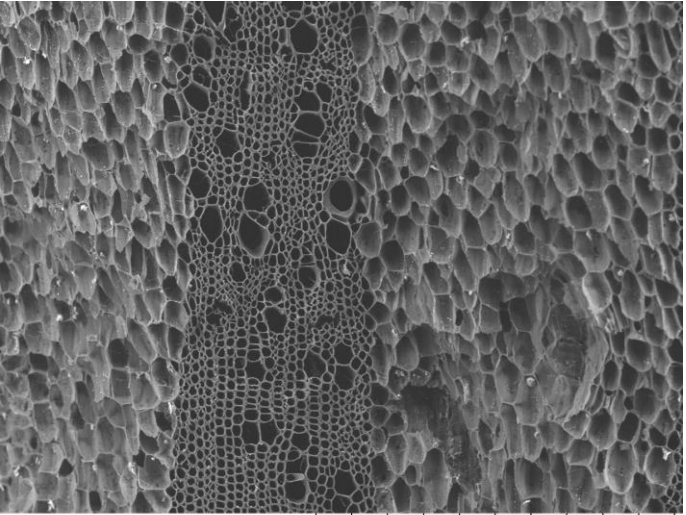
EWC 1628 2022/08/11 00:53 L D2.0 x100 1 mm

Vessel Wall



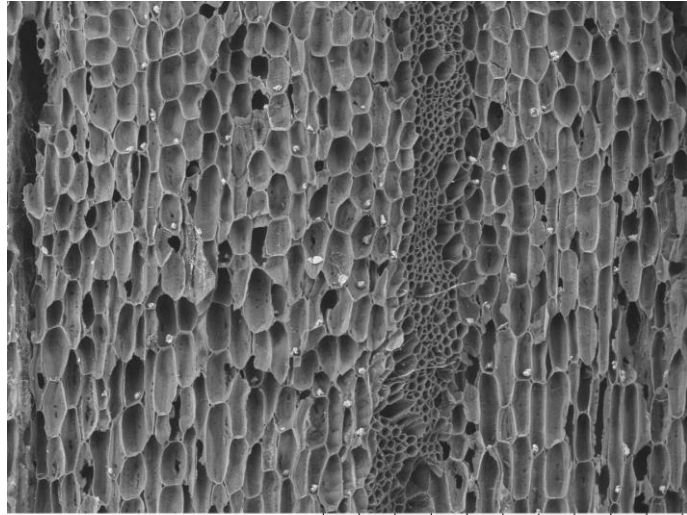
EWC 1628 2022/09/21 01:35 L D4.0 x600 100 µm

Transverse 200x



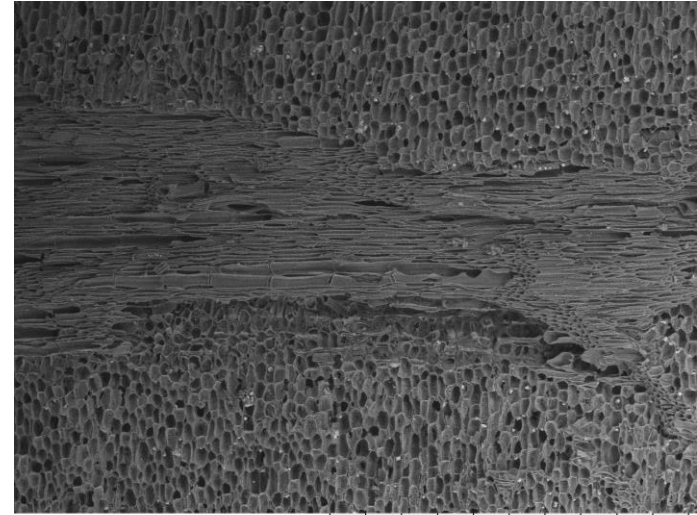
EWC 1628 2022/08/11 00:54 L D2.0 x200 500 µm

Tangential



EWC 1628 2022/08/11 00:58 L D3.6 x200 500 µm

Radial



EWC 1628 2022/09/21 01:32 L D4.0 x100 1 mm

EWC 1629 FABACEAE *Acacia*

Vessels

Size: 100-200µm

Freq.: 5 to 20

Arrangement: solitary, pairs, chains

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): 4+

Parenchyma Type Vasicentric aliform

Porosity: diffuse

Common Name:

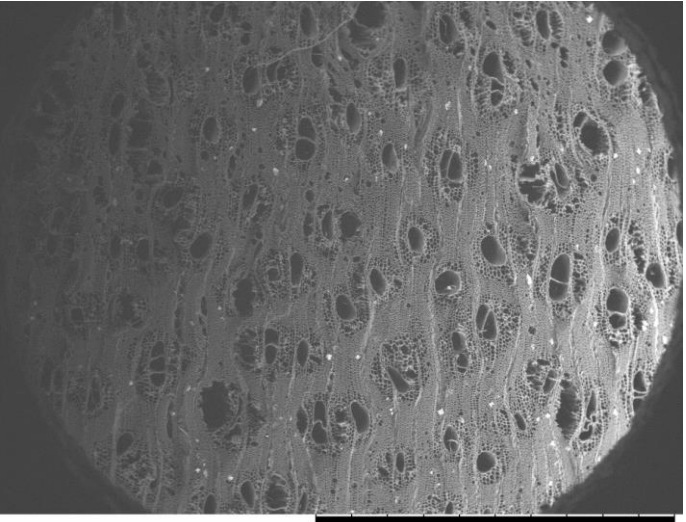
Elevation:

Description:

Location: Ecuador

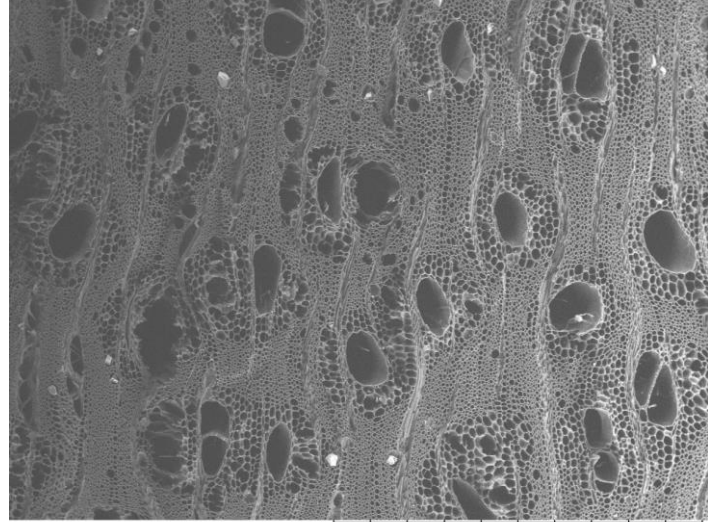
Locality:

Transverse 50x



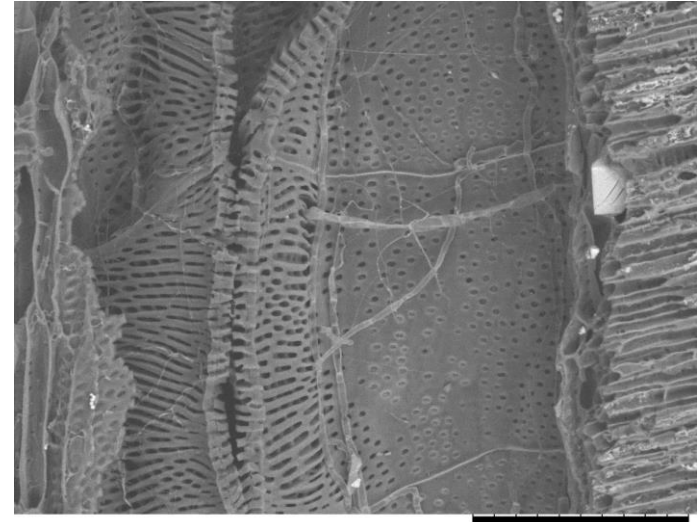
EWC 1629 2022/09/15 05:05 L D1.9 x50 2 mm

Transverse 100x



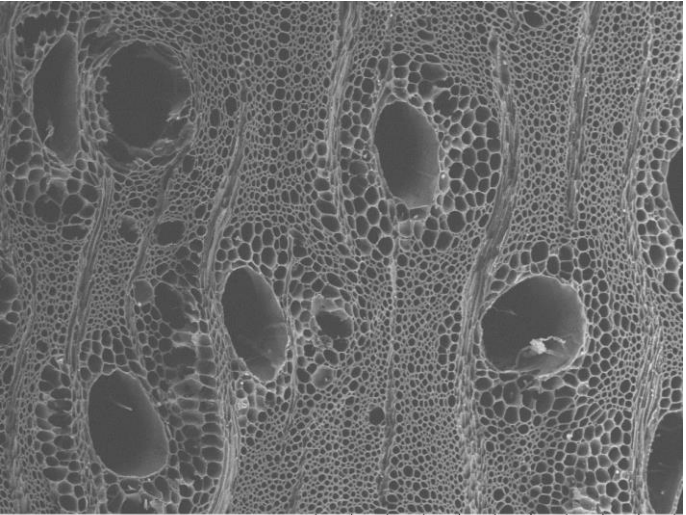
EWC 1629 2022/09/15 05:06 L D1.9 x100 1 mm

Vessel Wall



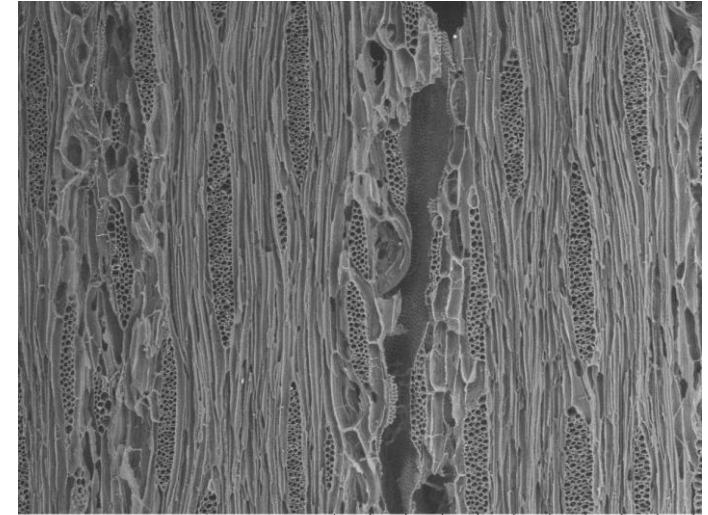
EWC 1629 2022/09/22 05:13 L D5.1 x600 100 um

Transverse 200x



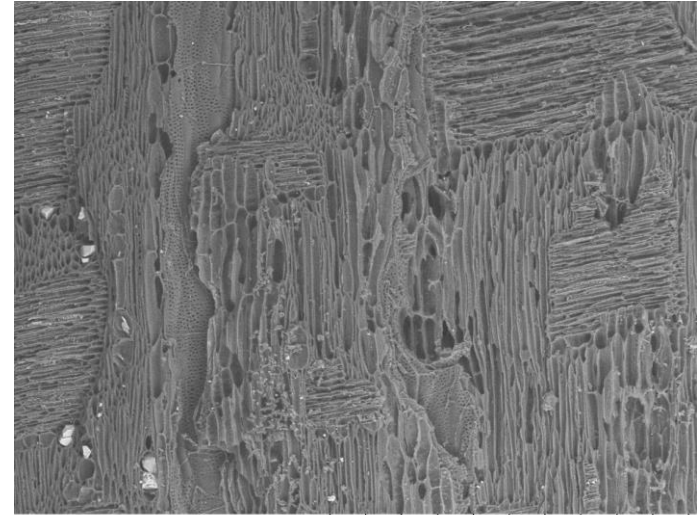
EWC 1629 2022/09/15 05:08 L D1.9 x200 500 um

Tangential



EWC 1629 2022/09/22 05:06 L D4.4 x200 500 um

Radial



EWC 1629 2022/09/22 05:12 L D5.1 x200 500 um

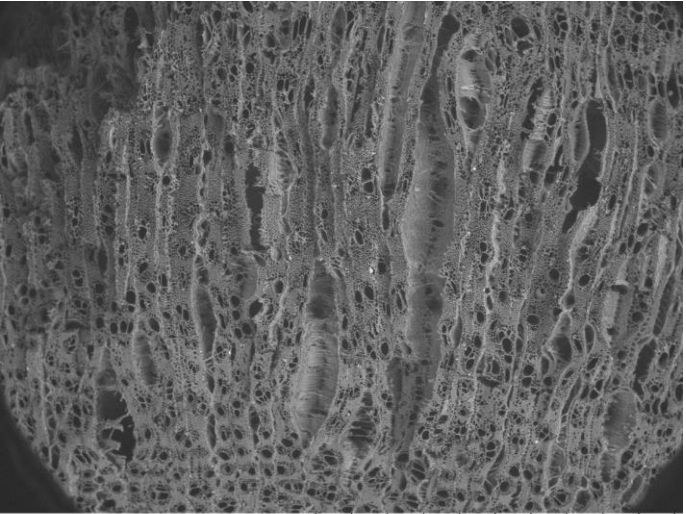
EWC 1630 MALVACEAE

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

Rays:
per mm: 4-12
Thickness (cells): uniseriate
Parenchyma Type: Vascentric
(unilateral, winged, confluent), Diffuse
Porosity: semi-ring porous

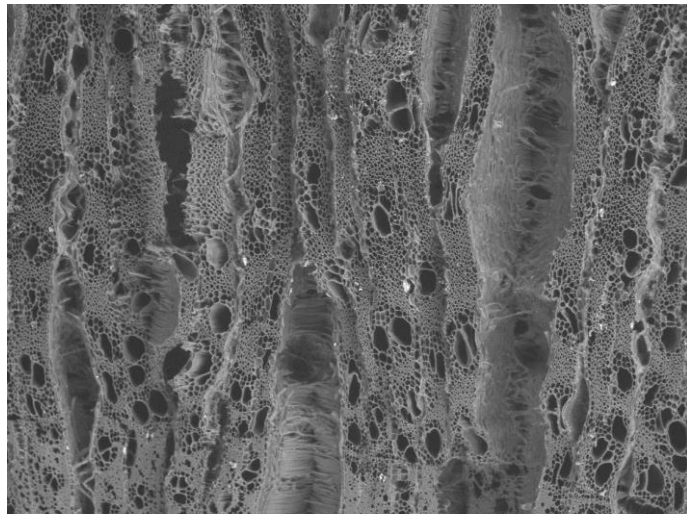
Common Name: "pata de galinazo"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



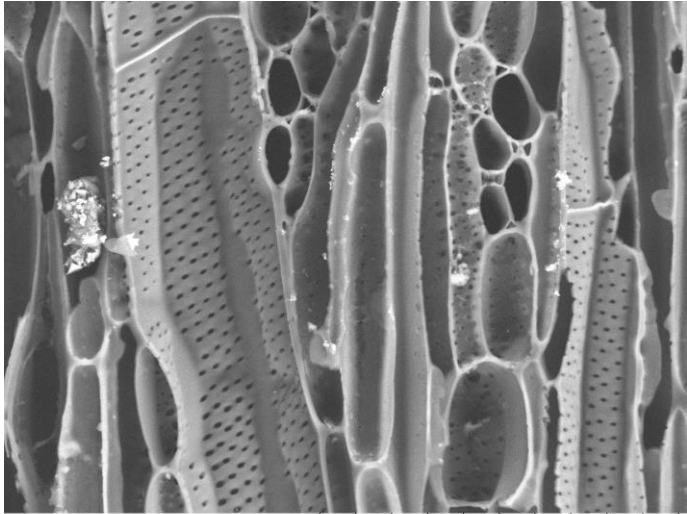
EWC 1630 2022/08/09 01:27 L D3.3 x50 2 mm

Transverse 100x



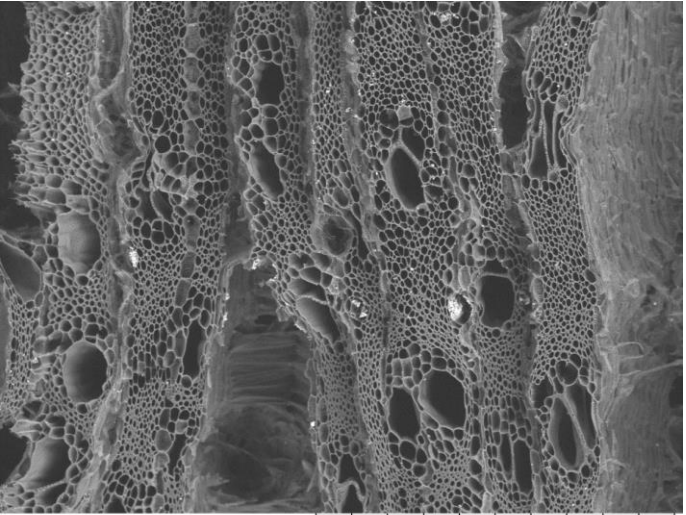
EWC 1630 2022/08/09 01:28 L D3.3 x100 1 mm

Vessel Wall



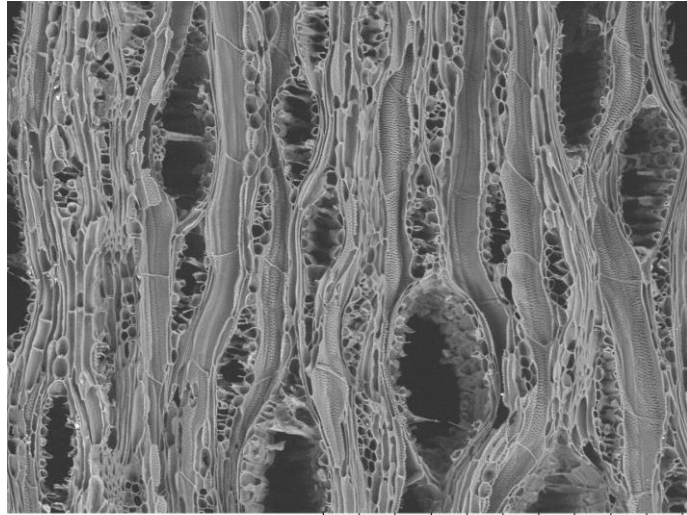
EWC 1630 2022/10/08 14:01 D2.1 x1.0k 100 um

Transverse 200x



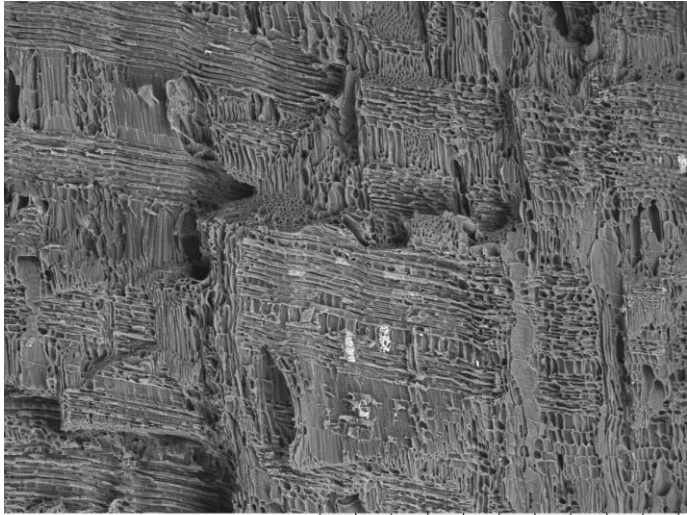
EWC 1630 2022/08/09 01:29 L D3.3 x200 500 um

Tangential



EWC 1630 2022/08/09 01:39 L D4.7 x200 500 um

Radial



EWC 1630 2022/08/09 01:33 L D3.9 x100 1 mm

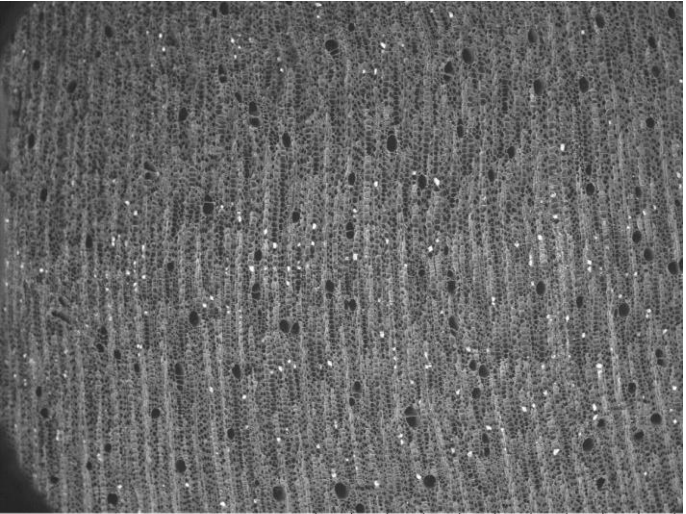
EWC 1631 RHAMNACEAE *Ziziphus thyrsoiflora* Benth.

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

Rays:
per mm: 12+
Thickness (cells): 1 to 3
Parenchyma Type: Thin bands,
Diffuse-in-Aggregates
Porosity: diffuse

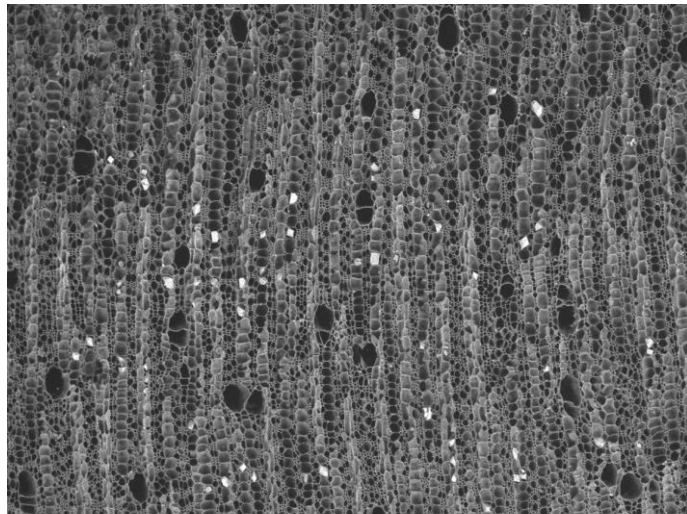
Common Name: "Ébano"
Elevation: 20 m
Description: Understory tree with paired spines on trunk.
Location: Ecuador, Manabí, Jama
Locality: Jama, Area 2: Approximately 1 km directly south of Jama, and west of the Jama River. Collected from the floor of the Jama River Valley. Jama topo map 1:50,000. cuadrícula (block) N77 E81.

Transverse 50x



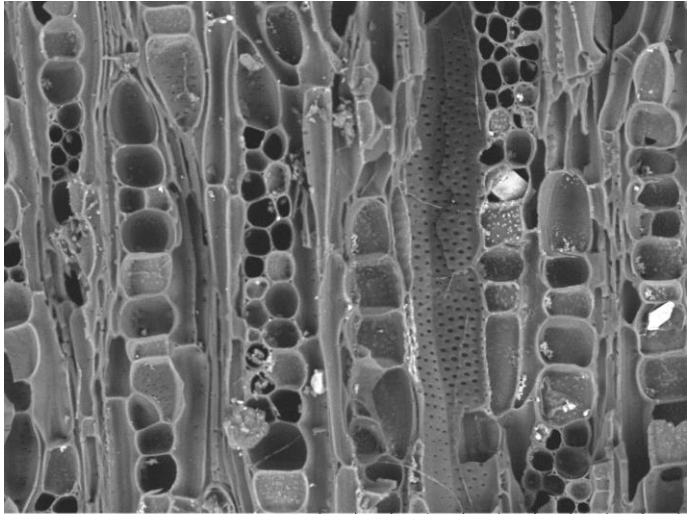
EWC 1631 2022/08/09 01:45 L D4.1 x50 2 mm

Transverse 100x



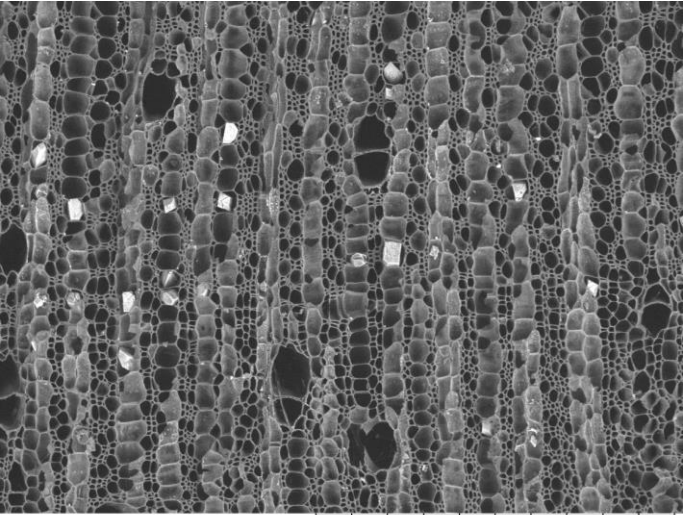
EWC 1631 2022/08/09 01:45 L D4.1 x100 1 mm

Vessel Wall



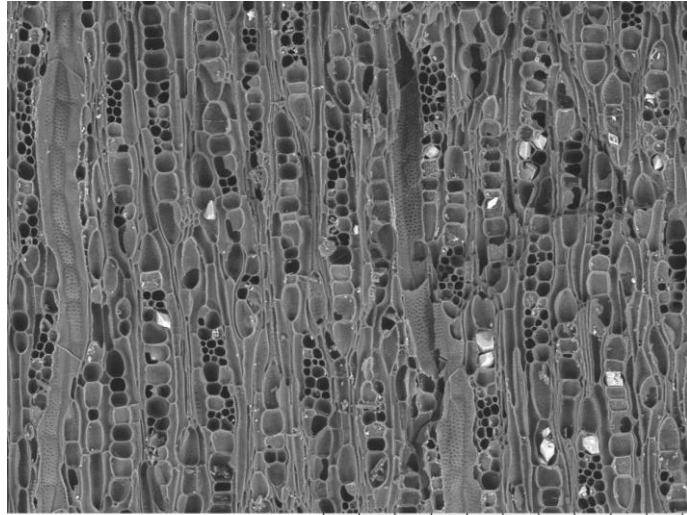
EWC 1631 2022/08/09 01:19 L D4.7 x500 200 µm

Transverse 200x



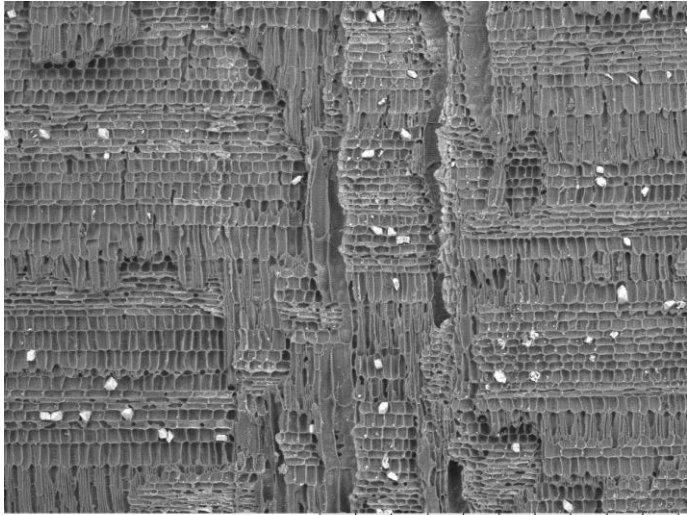
EWC 1631 2022/08/09 01:46 L D4.1 x200 500 µm

Tangential



EWC 1631 2022/08/09 01:17 L D4.7 x200 500 µm

Radial



EWC 1631 2022/08/09 01:22 L D5.1 x100 1 mm

EWC 1632 FABACEAE

Vessels

Size: 50-100µm, 100-200µm

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: Vasicentric,
Unilateral, Diffuse

Porosity: diffuse

Common Name: "pela caballo"

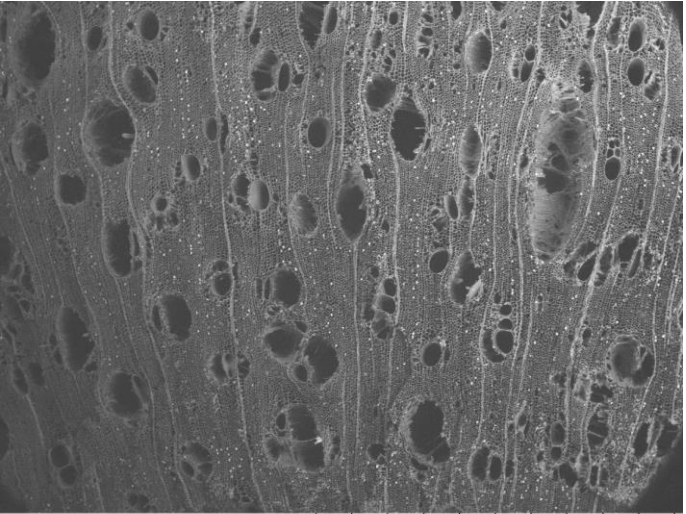
Elevation:

Description:

Location: Ecuador

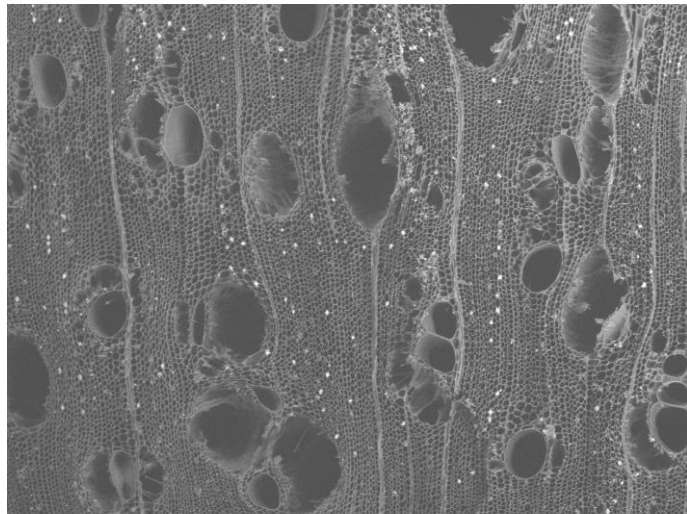
Locality:

Transverse 50x



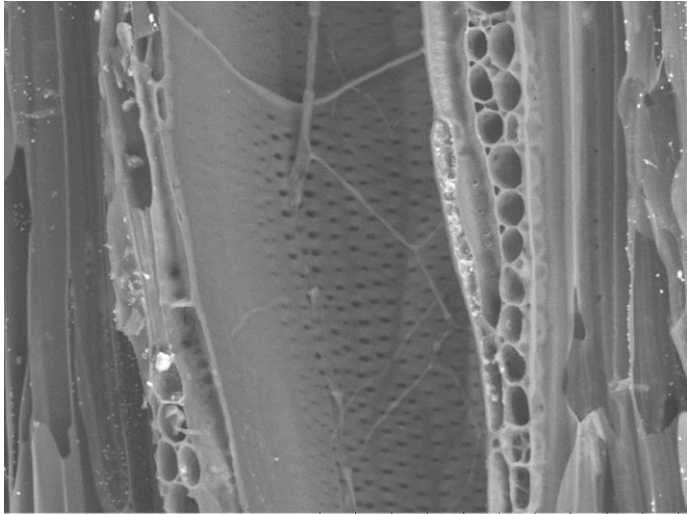
EWC 1632 2022/09/22 23:09 L D4.0 x50 2 mm

Transverse 100x



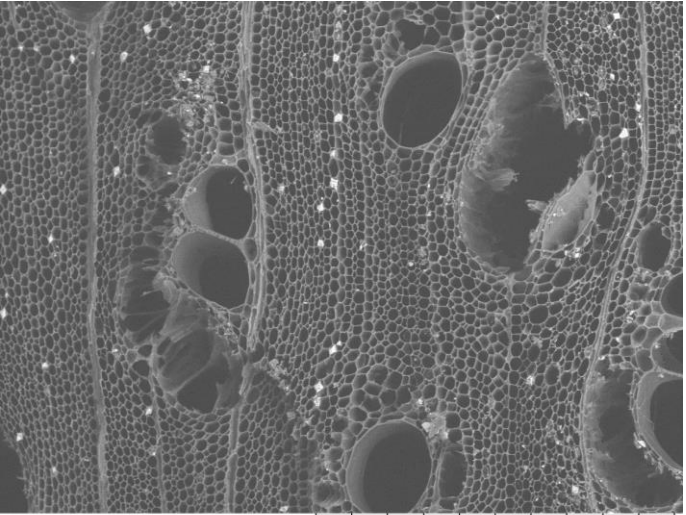
EWC 1632 2022/09/22 23:10 L D4.0 x100 1 mm

Vessel Wall



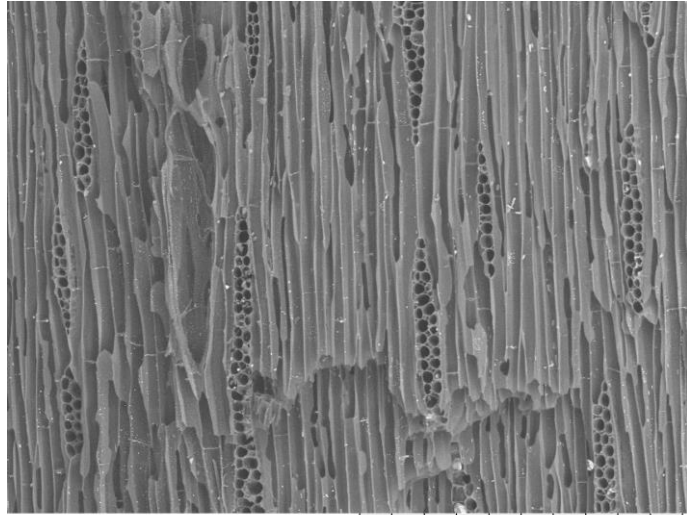
EWC 1632 2022/09/22 23:06 L D4.5 x1.0k 100 um

Transverse 200x



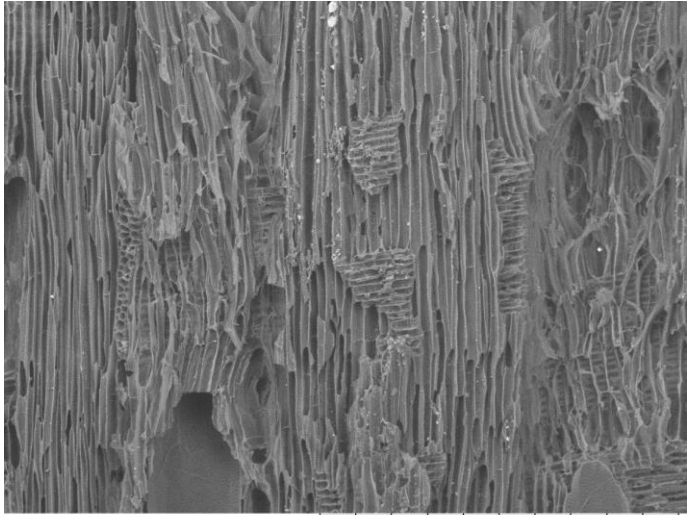
EWC 1632 2022/09/22 23:11 L D4.0 x200 500 um

Tangential



EWC 1632 2022/09/22 23:03 L D4.5 x300 300 um

Radial



EWC 1632 2022/09/22 22:56 L D5.4 x200 500 um

EWC 1633 FABACEAE

Vessels

Size: 100-200µm

Freq.: 5 to 20

Arrangement: solitary, chains, clusters

Tyloses: absent

Rays:

per mm: 4-12

Thickness (cells): uniseriate, 1 to 3, of two distinct sizes

Parenchyma Type: Scanty, vasicentric

Porosity: semi-ring porous

Common Name: "pela caballo"

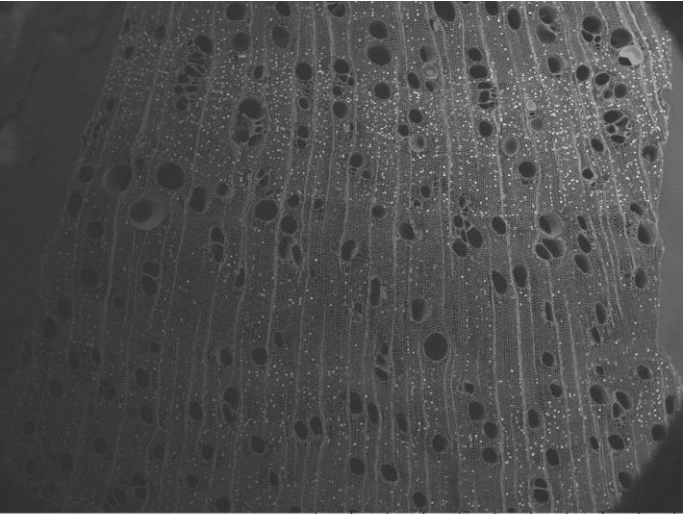
Elevation:

Description:

Location: Ecuador

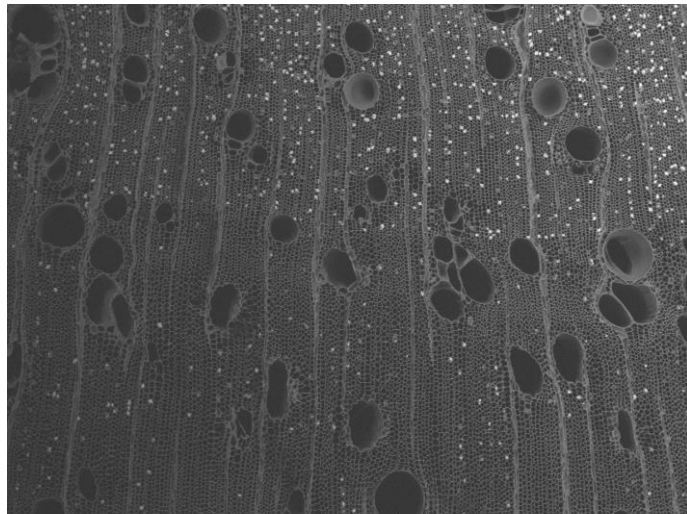
Locality:

Transverse 50x



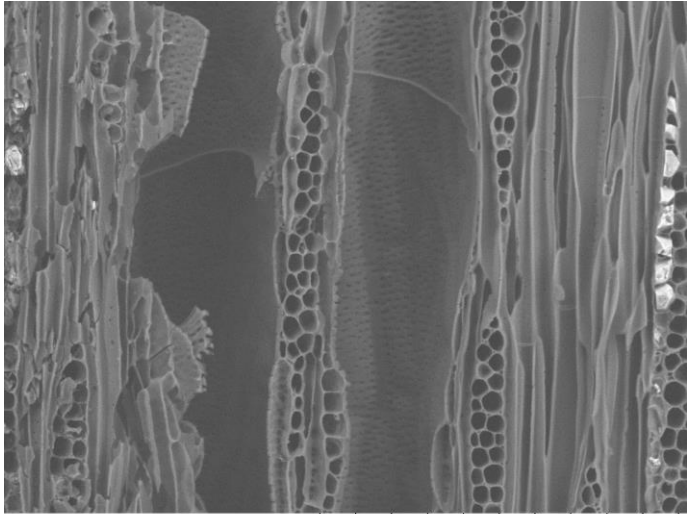
EWC 1633 2022/09/23 02:39 L D3.6 x50 2 mm

Transverse 100x



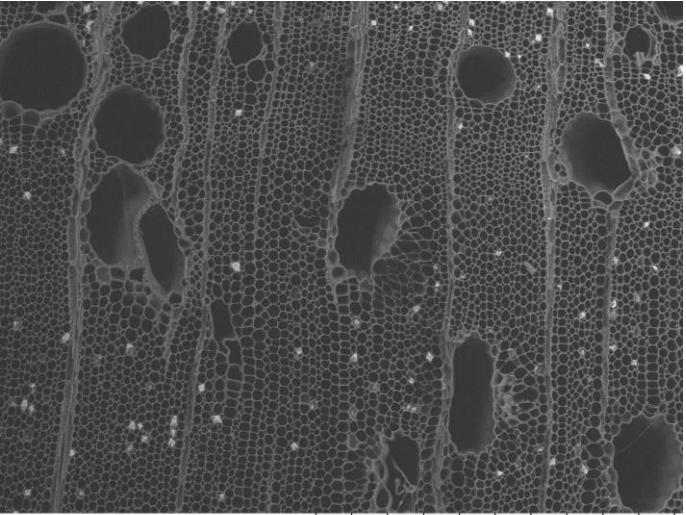
EWC 1632 2022/09/23 02:36 L D3.6 x100 1 mm

Vessel Wall



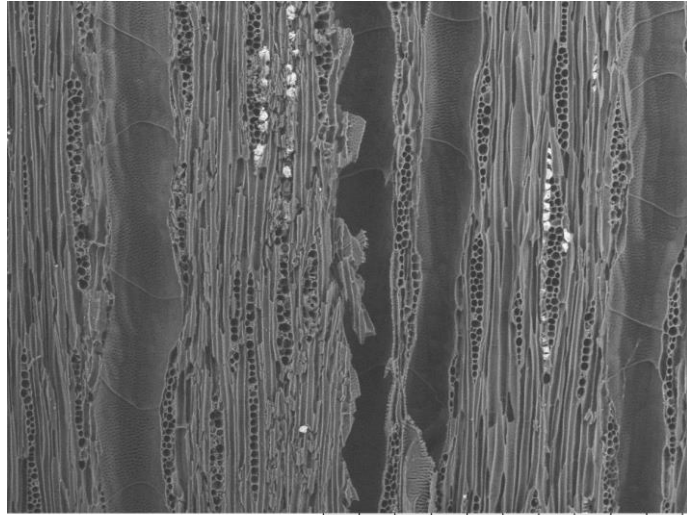
EWC 1633 2022/09/23 02:50 L D3.5 x500 200 um

Transverse 200x



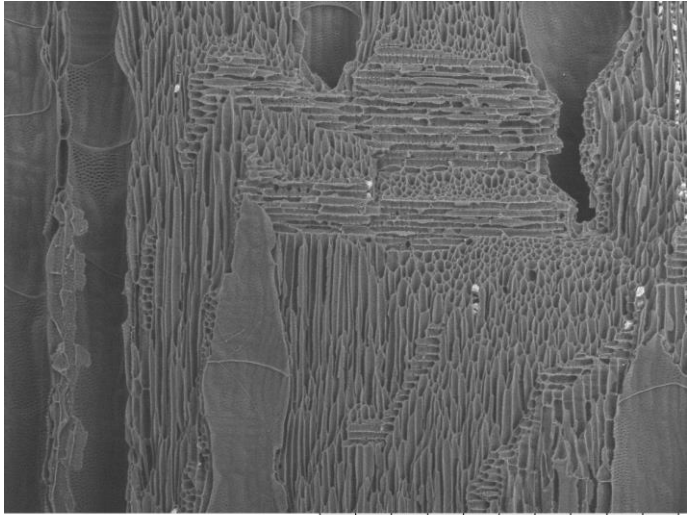
EWC 1633 2022/09/23 02:40 L D3.6 x200 500 um

Tangential



EWC 1633 2022/09/23 02:49 L D3.5 x200 500 um

Radial



EWC 1633 2022/09/23 02:44 L D4.2 x200 500 um

EWC 1634 CORDIACEAE *Cordia lutea* Lam

Common Name: "Muyuyu"

Elevation: 20 m

Description: Tree or shrub with racemose yellow flrs.

Location: Ecuador, Manabí, Jama

Locality: Jama, Area 2: Approximately 1 km directly south of Jama, and west of the Jama River. Collected from the floor of the Jama River Valley. Jama topo map 1:50,000. cuadrícula (blcok) N77 E81.

Vessels

Size: 50-100µm

Freq.: 20 to 40, 40 to 100

Arrangement: solitary, pairs, clusters

Tyloses: common

Rays:

per mm: 4-12

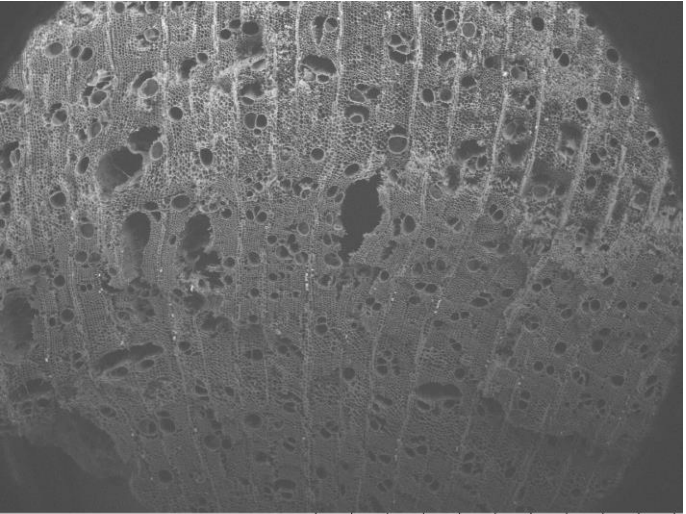
Thickness (cells): 1 to 3

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

Porosity: semi-ring porous

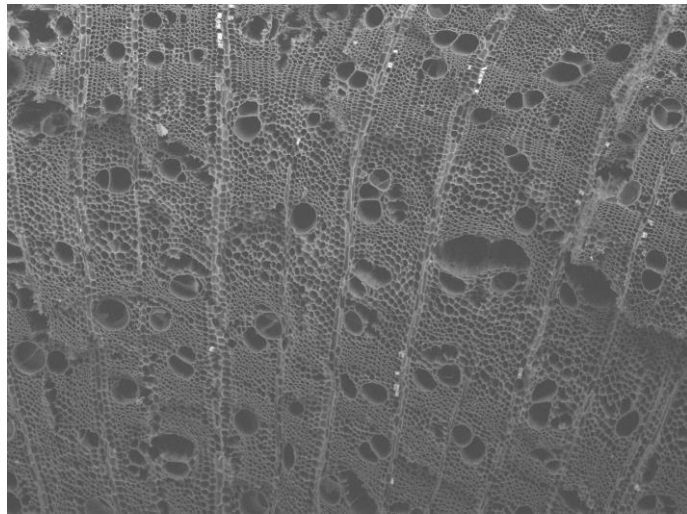
Vessel Wall

Transverse 50x

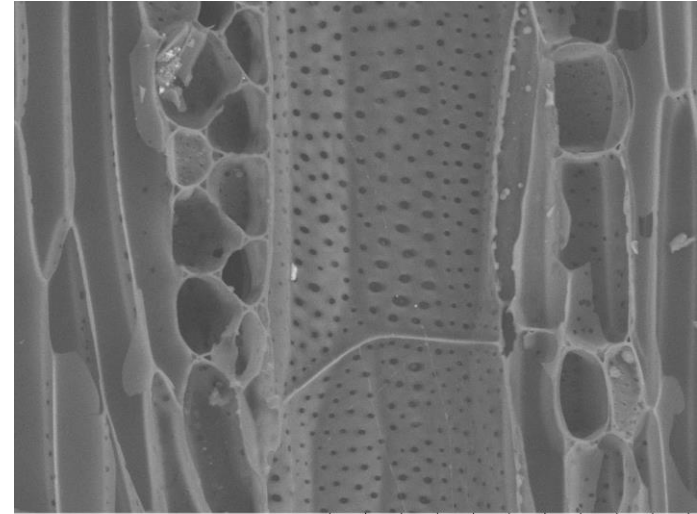


EWC 1634 2022/09/23 02:54 L D2.8 x50 2 mm

Transverse 100x

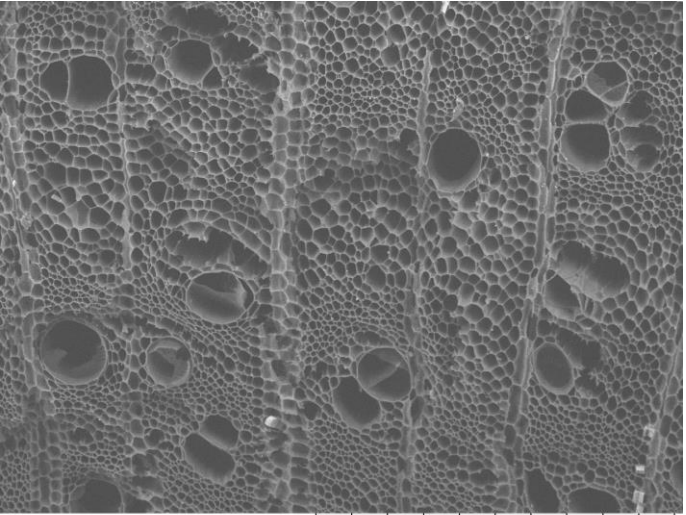


EWC 1634 2022/09/23 02:56 L D2.8 x100 1 mm



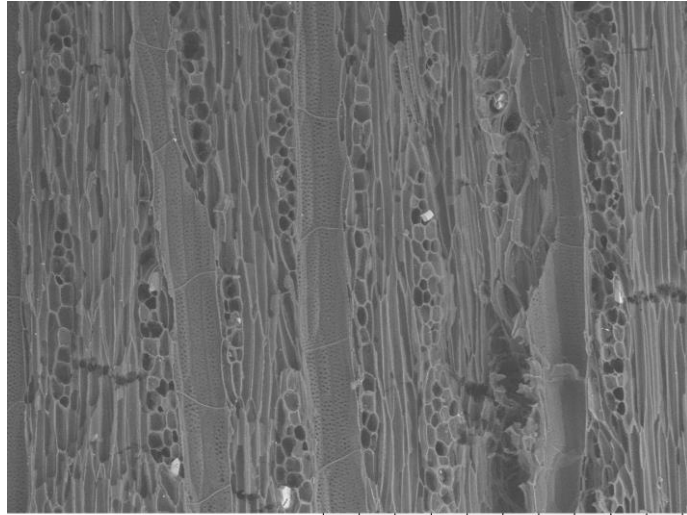
EWC 1634 2022/09/23 03:07 L D4.1 x1.0k 100 um

Transverse 200x



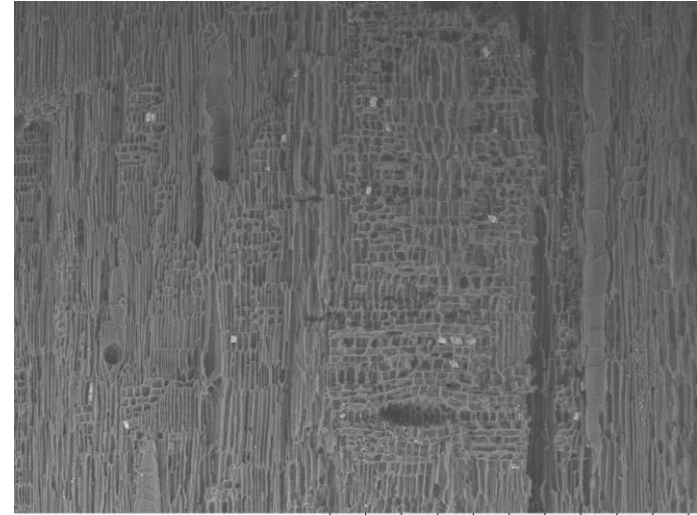
EWC 1634 2022/09/23 02:57 L D2.8 x200 500 um

Tangential



EWC 1634 2022/09/23 03:04 L D4.1 x200 500 um

Radial



EWC 1634 2022/09/23 02:59 L D4.5 x100 1 mm

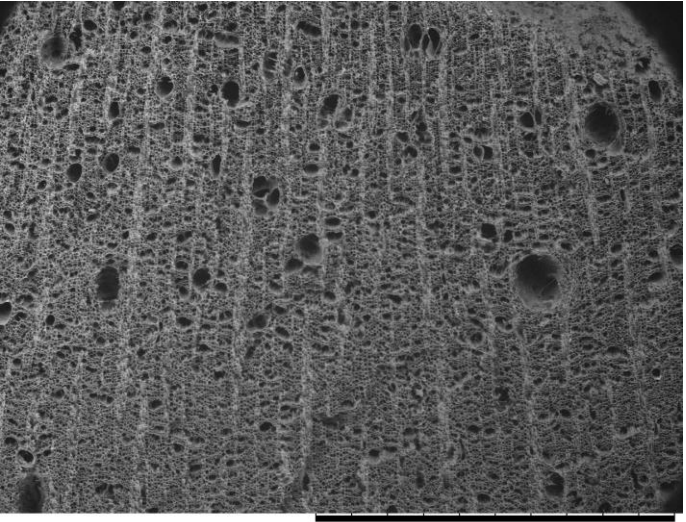
EWC 1635 MALVACEAE *Guazuma ulmifolia* Lam.

Common Name: "guasmo"
Elevation: 20 m
Description: Understory tree with dark brown bark.
Location: Ecuador, Manabí, Jama
Locality: Jama, Area 2: Approximately 1 km directly south of Jama, and west of the Jama River. Collected from the floor of the Jama River Valley. Jama topo map 1:50,000, cuadrícula (block) N77 E81.

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

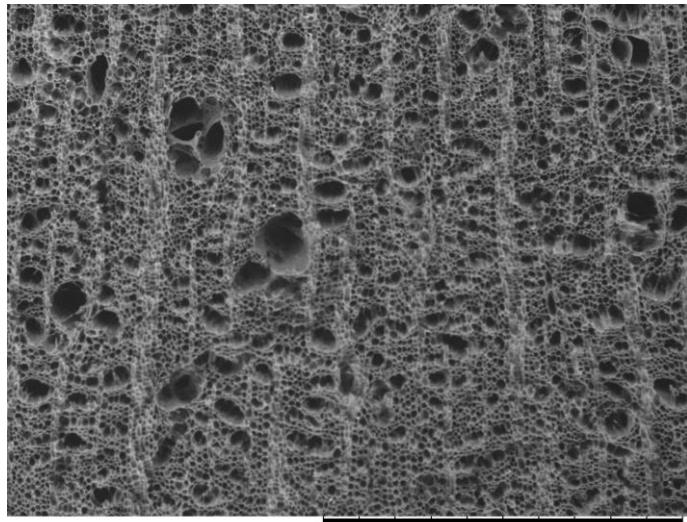
Rays:
per mm: 4-12
Thickness (cells): 1-3, 4+
Parenchyma Type: Diffuse-in-aggregates, thin bands
Porosity: diffuse

Transverse 50x



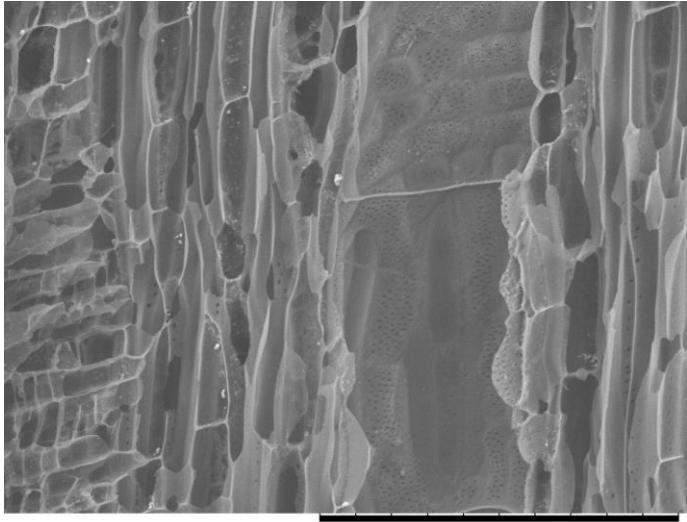
EWC 1635 2022/09/23 18:03 L D4.0 x50 2 mm

Transverse 100x



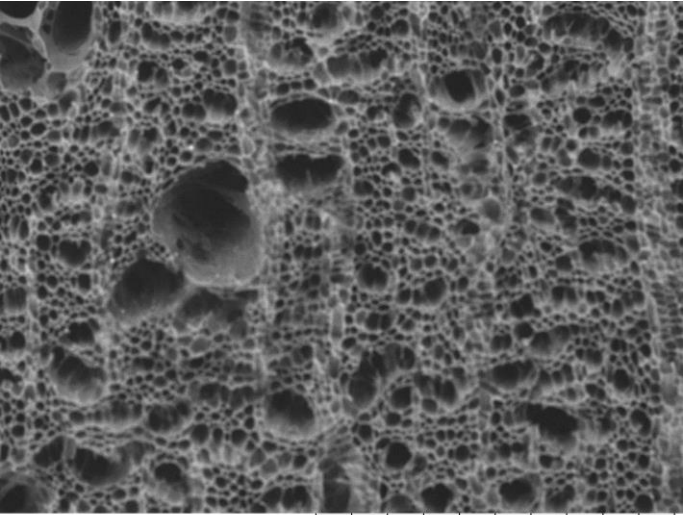
EWC 1635 2022/09/23 18:04 L D4.0 x100 1 mm

Vessel Wall 500x



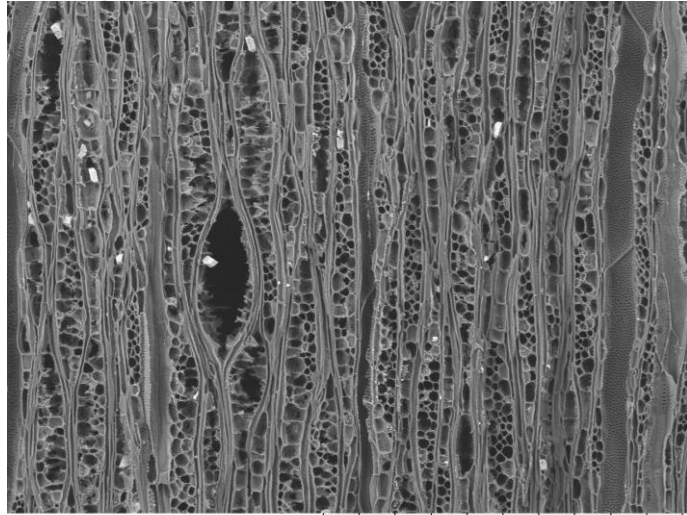
EWC 1635 2022/10/07 17:29 D2.9 x500 200 µm

Transverse 200x



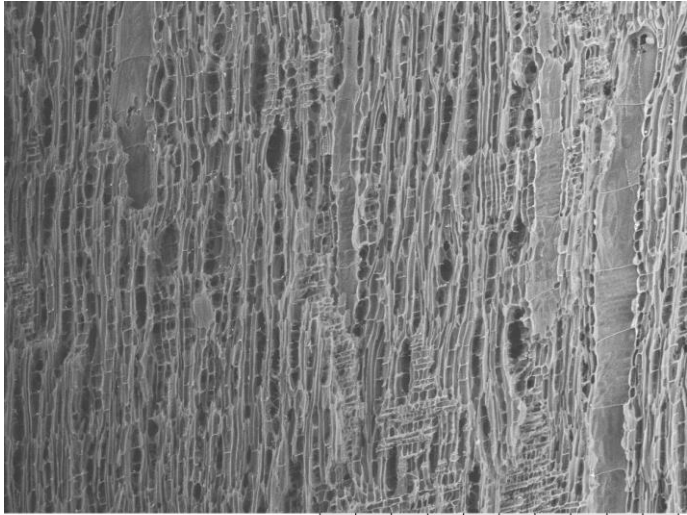
EWC 1635 2022/09/23 18:05 L D4.0 x200 500 µm

Tangential 200x



EWC 1635 2022/09/23 17:38 L D4.0 x200 500 µm

Radial 100x



EWC 1635 2022/10/07 17:23 D2.9 x100 1 mm

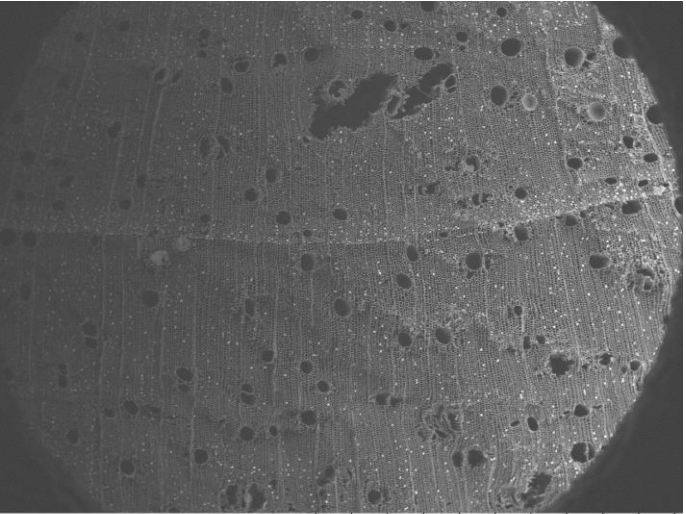
EWC 1637 Unknown Identification

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

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

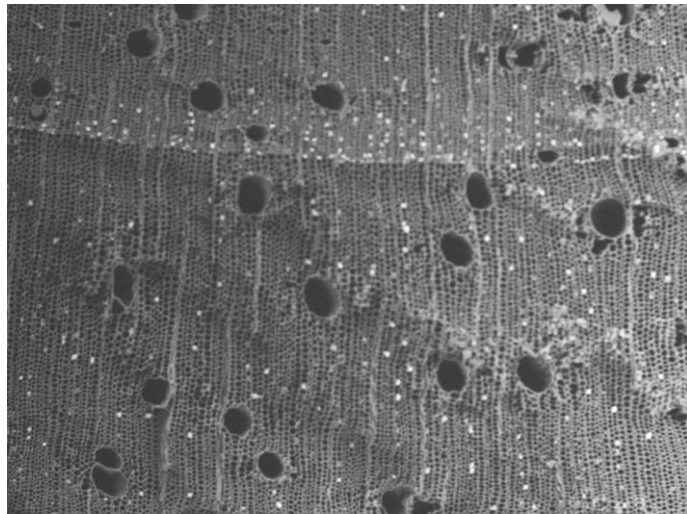
Common Name: "pate de paloma"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



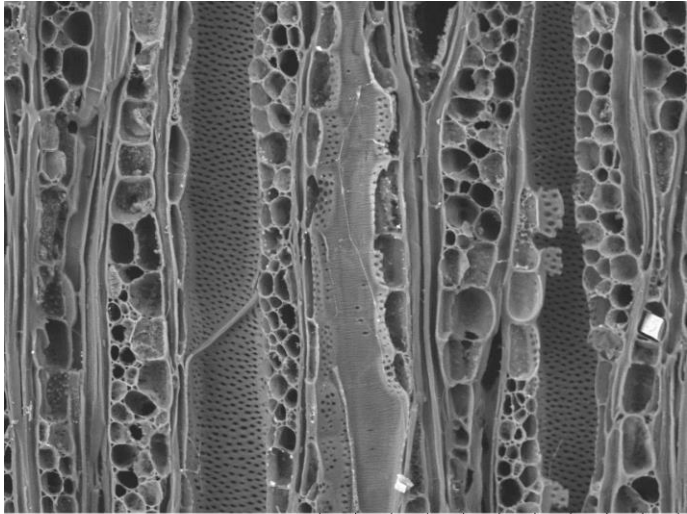
EWC 1637 2022/10/07 17:44 D2.2 x50 2 mm

Transverse 100x



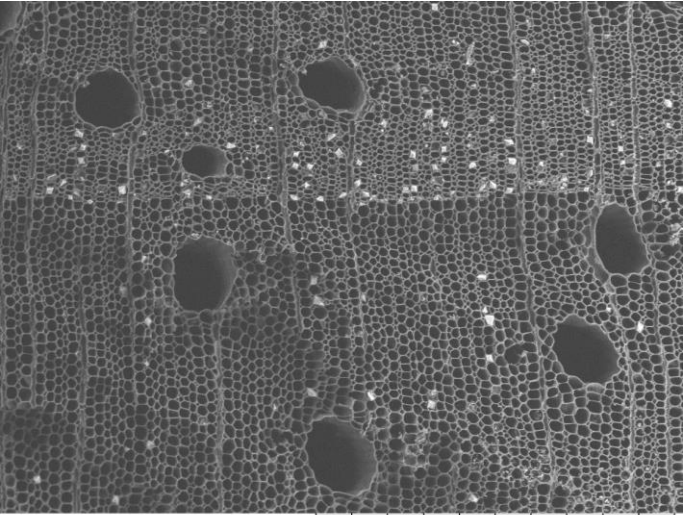
EWC 1637 2022/10/07 17:41 D2.9 x100 1 mm

Vessel Wall 500x



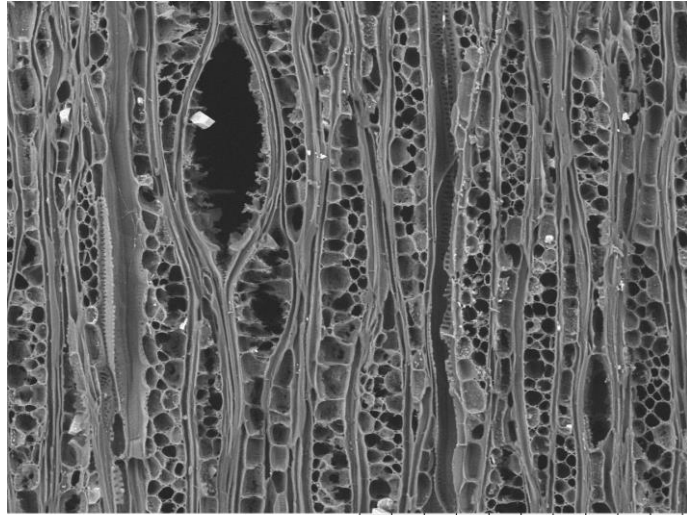
EWC 1637 2022/09/23 17:55 L D4.0 x500 200 µm

Transverse 200x



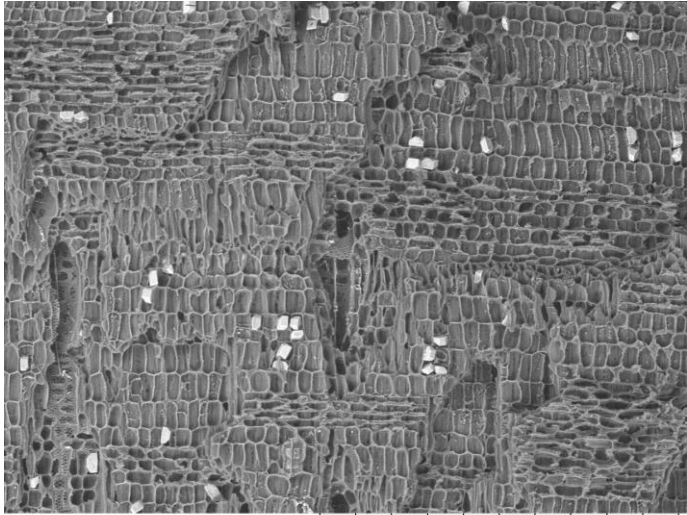
EWC 1637 2022/10/07 17:45 D2.2 x200 500 µm

Tangential 200x



EWC 1637 2022/09/23 17:53 L D4.0 x300 300 µm

Radial 200x



EWC 1637 2022/09/23 17:51 L D4.0 x200 500 µm

EWC 1641 FABACEAE

Vessels

Size: <50-100µm

Freq.: 40 to 100

Arrangement: solitary, pairs, chains

Tyloses: absent

Rays:

per mm: 12+

Thickness (cells): 1 to 3, of two distinct sizes

Parenchyma Type: Diffuse, Diffuse-in-aggregates, Scanty

Porosity: diffuse

Common Name: "pela caballo"

Elevation:

Description:

Location: Ecuador

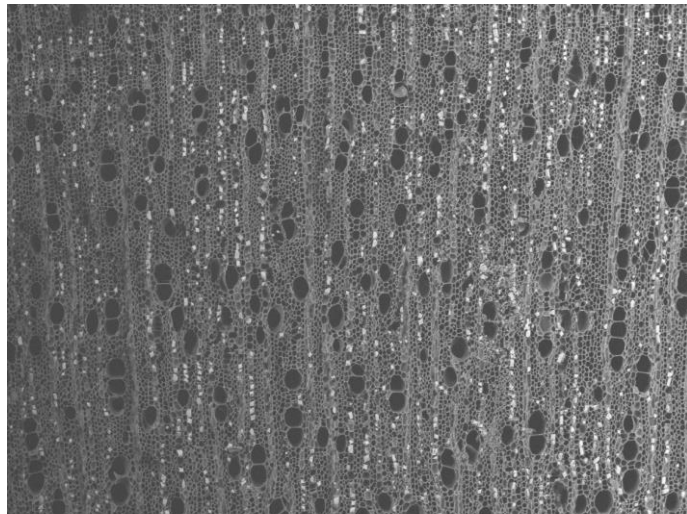
Locality:

Transverse 50x



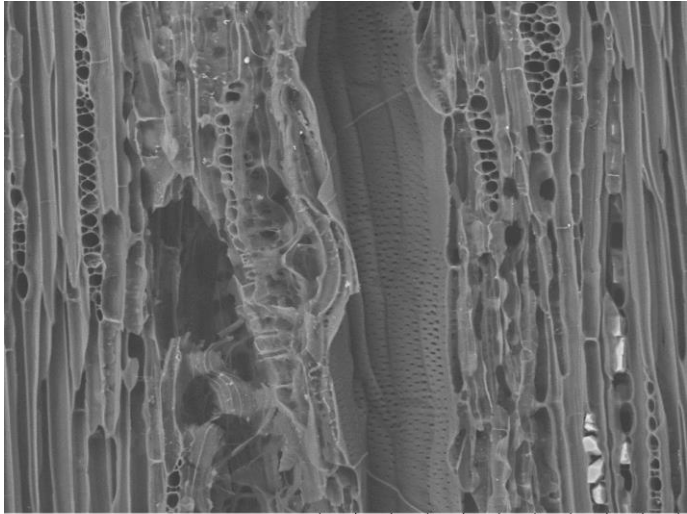
EWC 1641 2022/10/07 17:48 D2.2 x50 2 mm

Transverse 100x



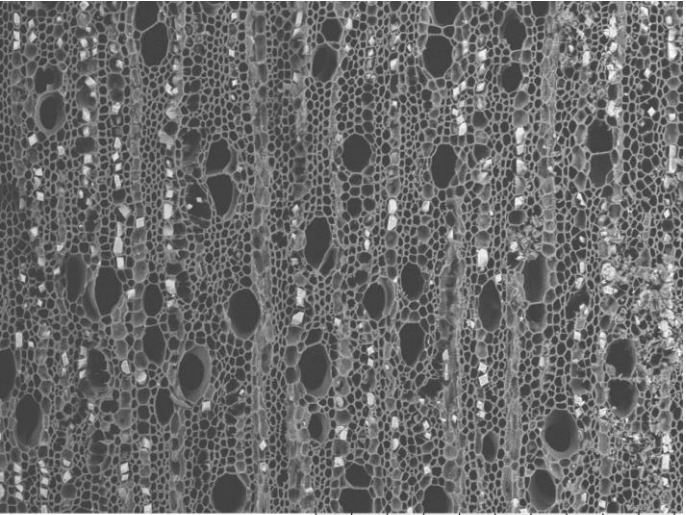
EWC 1641 2022/10/07 17:50 D3.3 x100 1 mm

Vessel Wall 500x



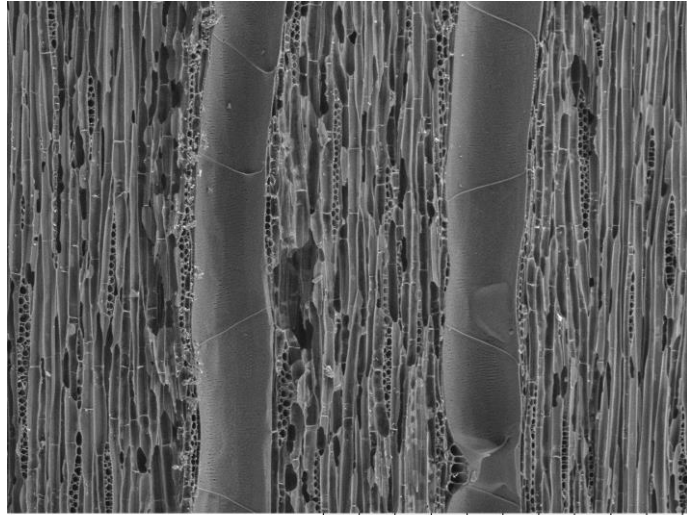
EWC 1641 2022/10/07 17:59 D3.5 x500 200 um

Transverse 200x



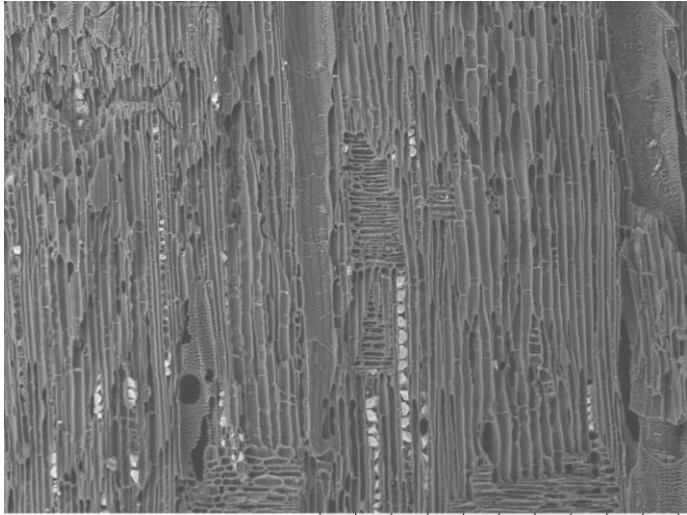
EWC 1641 2022/10/07 17:51 D3.3 x200 500 um

Tangential 200x



EWC 1641 2022/10/27 09:37 D2.6 x200 500 um

Radial 200x



EWC 1641 2022/10/07 18:03 D3.2 x200 500 um

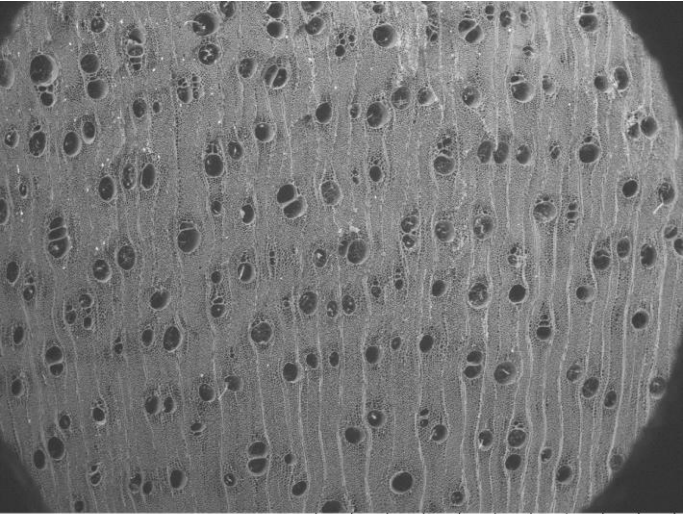
EWC 1642 FABACEAE *Prosopis juliflora* (Sw.) DC.

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

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

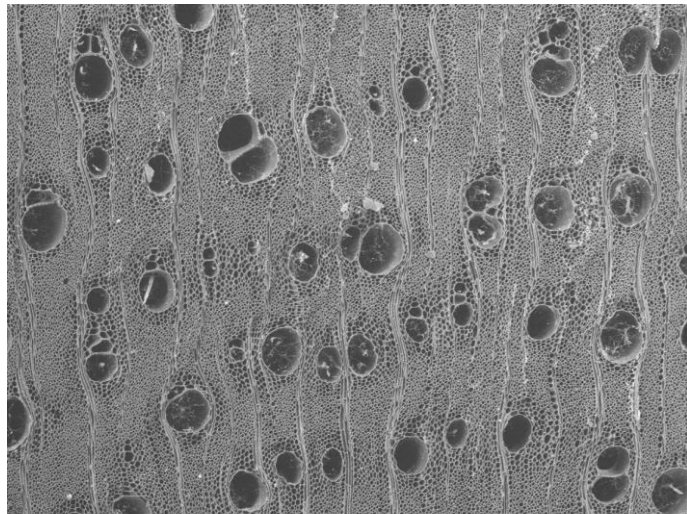
Common Name: "Algarrobo"
Elevation: 20 m
Description: Small tree with paired thorns on stem.
Location: Ecuador, Manabí, Jama
Locality:

Transverse 50x



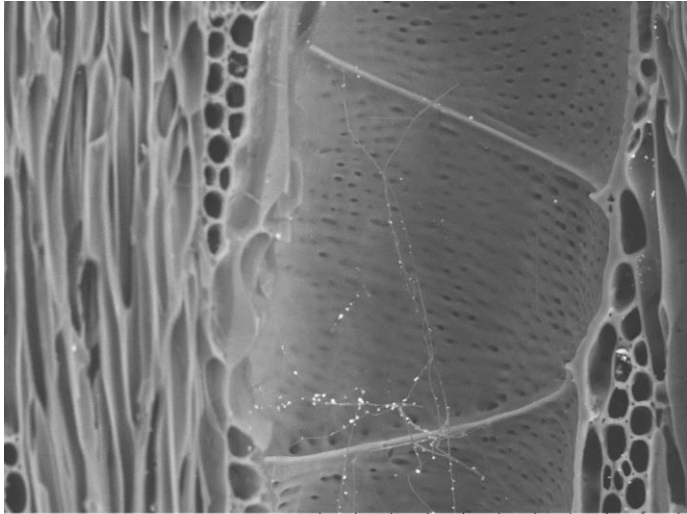
EWC 1642 2022/10/07 10:11 D3.1 x50 2 mm

Transverse 100x



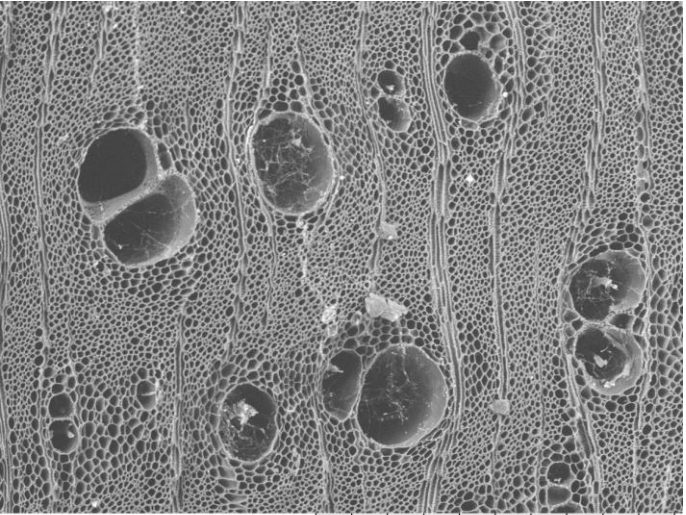
EWC 1642 2022/10/07 10:12 D3.1 x100 1 mm

Vessel Wall



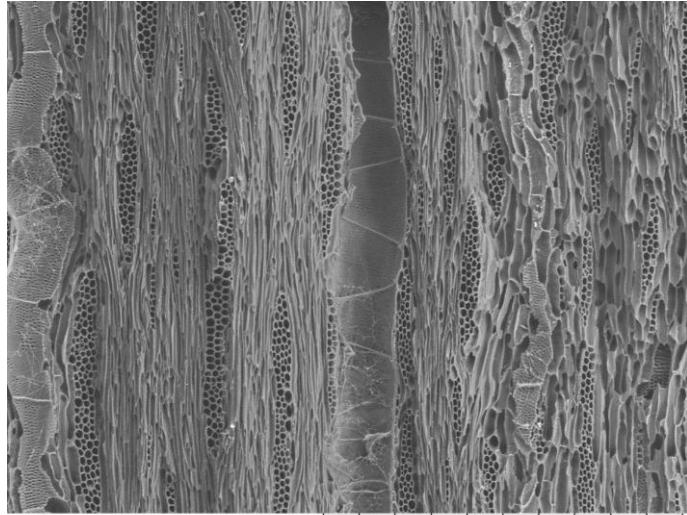
EWC 1642 2022/10/07 10:23 D2.6 x1.0k 100 µm

Transverse 200x



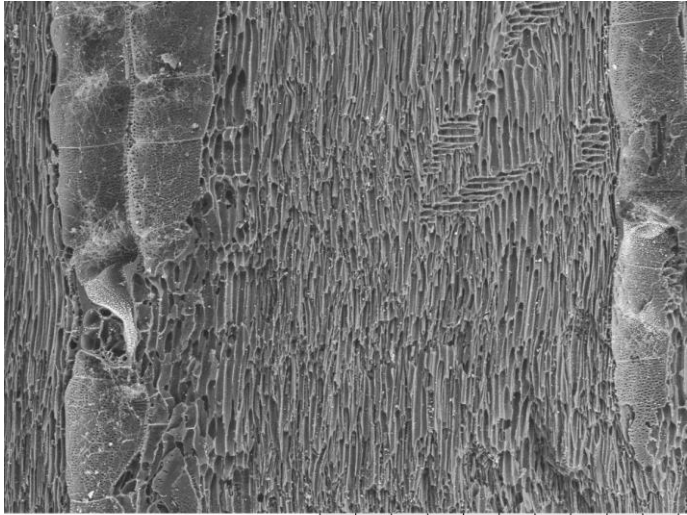
EWC 1642 2022/10/07 10:13 D3.1 x200 500 µm

Tangential



EWC 1642 2022/10/07 10:20 D2.6 x200 500 µm

Radial



EWC 1642 2022/10/07 10:27 D2.7 x200 500 µm

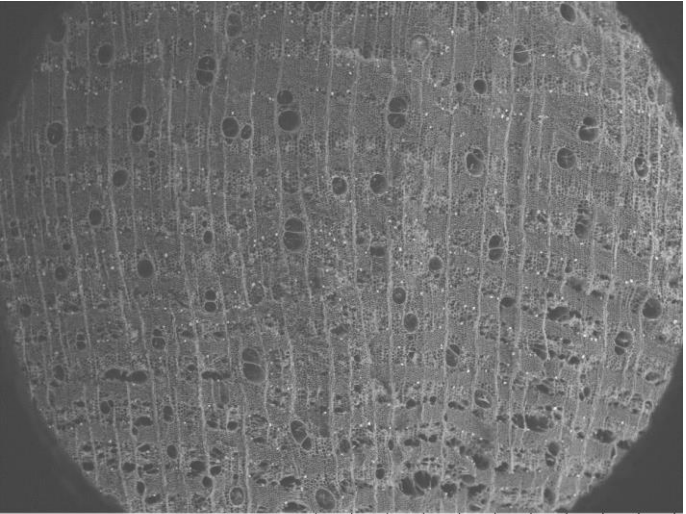
EWC 1643 SAPINDACEAE *Sapindus saponaria* L.

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

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

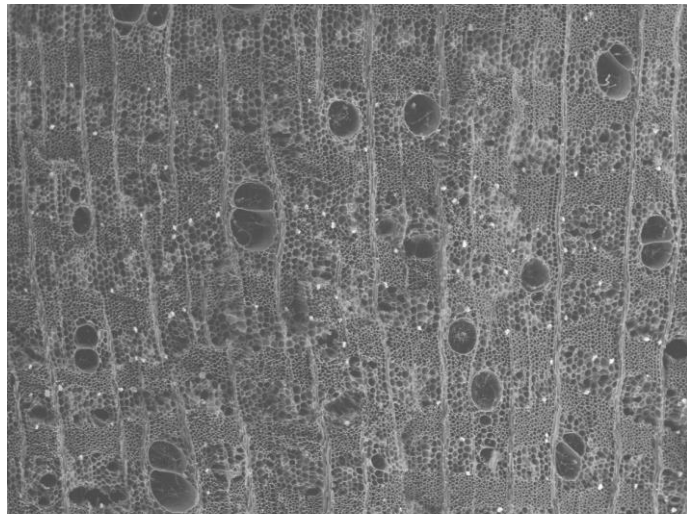
Common Name: "Jaboncillo"
Elevation: 20 m
Description: Understory tree with enlarged, bulbous area on leaf axis.
Location: Ecuador, Manabí, Jama
Locality: Jama, Area 2: Approximately 1 km SW of Jama. Collected from a farm in the Jama River Valley. Jama topo map 1:50,000, cuadrícula (block) N77 E81.
Vessel Wall

Transverse 50x

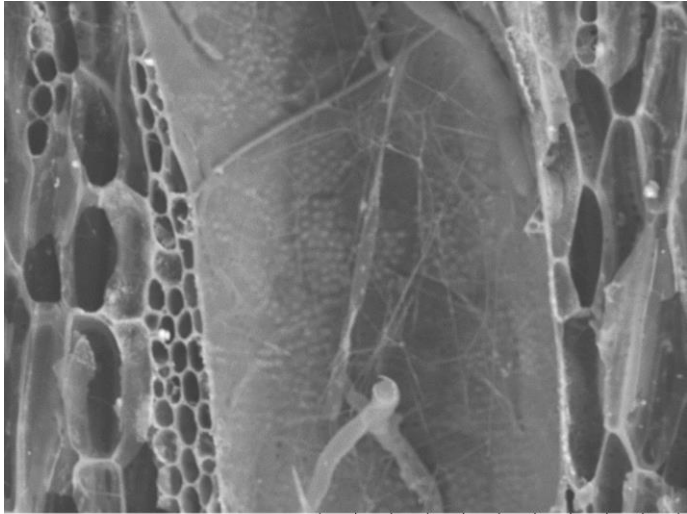


EWC 1643 2022/10/07 10:38 D2.4 x50 2 mm

Transverse 100x

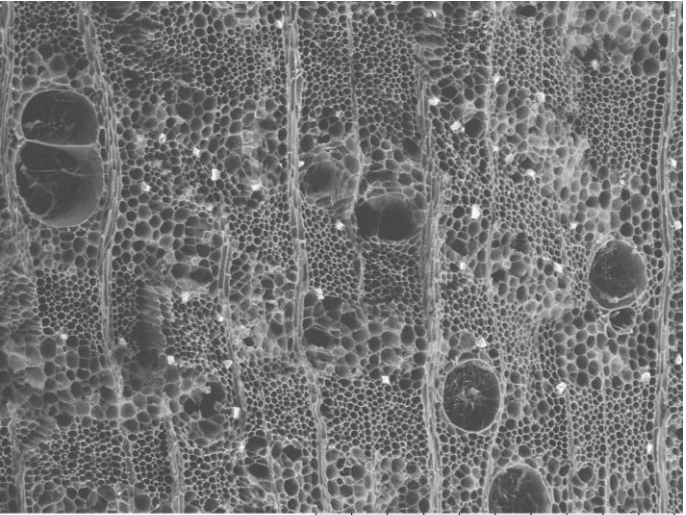


EWC 1643 2022/10/07 10:39 D2.4 x100 1 mm



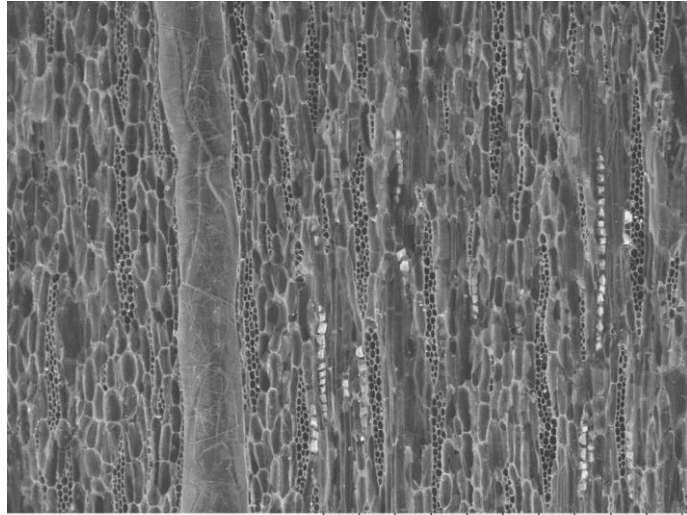
EWC 1643 2022/10/07 10:46 D2.7 x1.0k 100 um

Transverse 200x



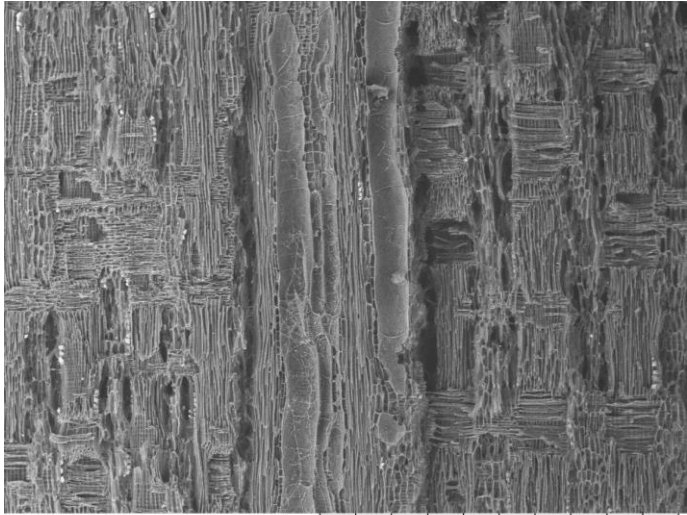
EWC 1643 2022/10/07 10:40 D2.4 x200 500 um

Tangential



EWC 1643 2022/10/07 10:44 D2.7 x200 500 um

Radial



EWC 1643 2022/10/07 10:47 D2.8 x100 1 mm

EWC 1646 ANACARDIACEAE *Spondias mombin* L.

Vessels

Size: 100-200µm, 200+µm

Freq.: 20 to 40

Arrangement: solitary, pairs, chains

Tyloses: common

Rays:

per mm: 4-12

Thickness (cells): 1 to 3

Parenchyma Type: absent, scanty

Porosity: diffuse

Common Name: "Jobo (ovo) de Monte"

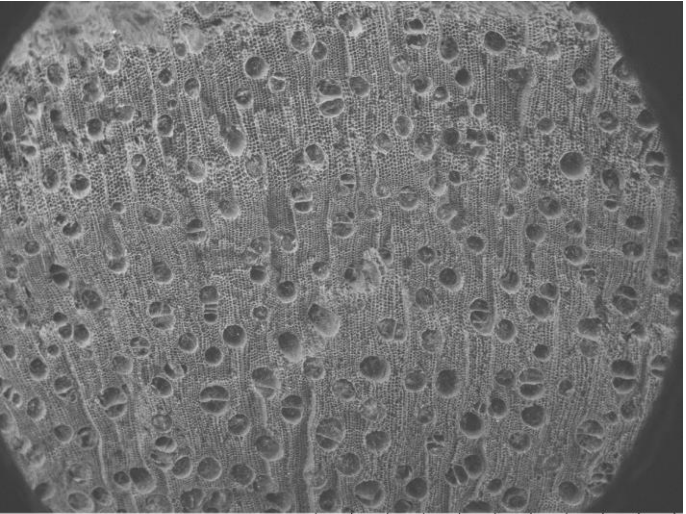
Elevation: 20 m

Description: Large tree with edible orange-ish yellow fruits.

Location: Ecuador, Manabí, Jama

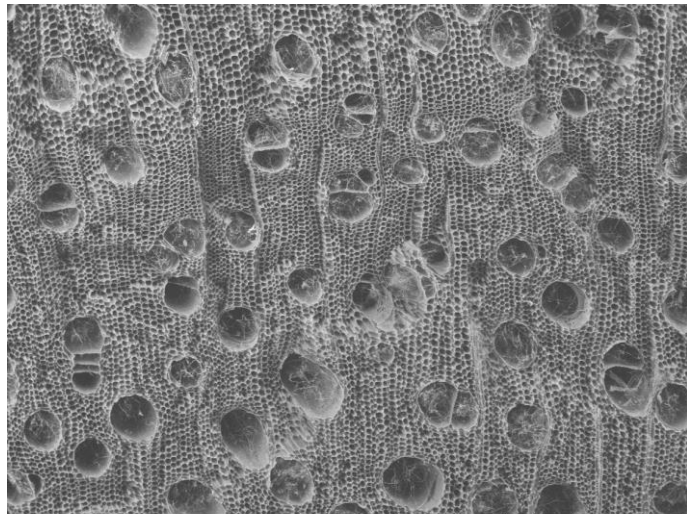
Locality: Jama, Area 2: Approximately 1 km SW of Jama. Collected from a farm in the Jama River Valley. Jama to Loja, 100, cuadrícula (block) N77 E81.

Transverse 50x



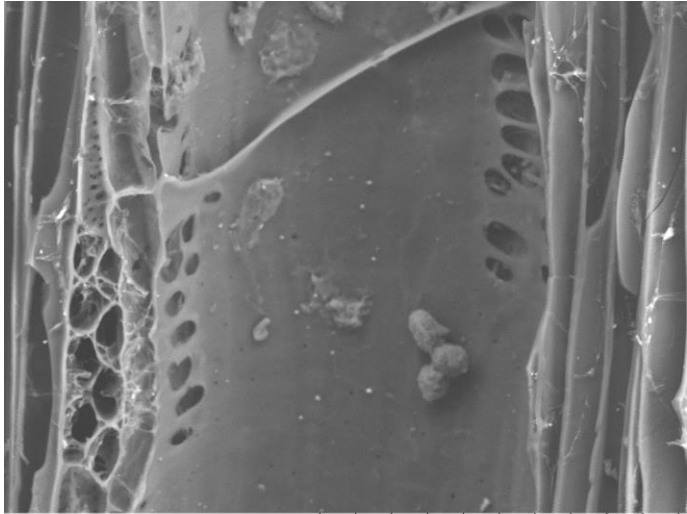
EWC 1646 2022/10/07 14:20 D2.7 x50 2 mm

Transverse 100x



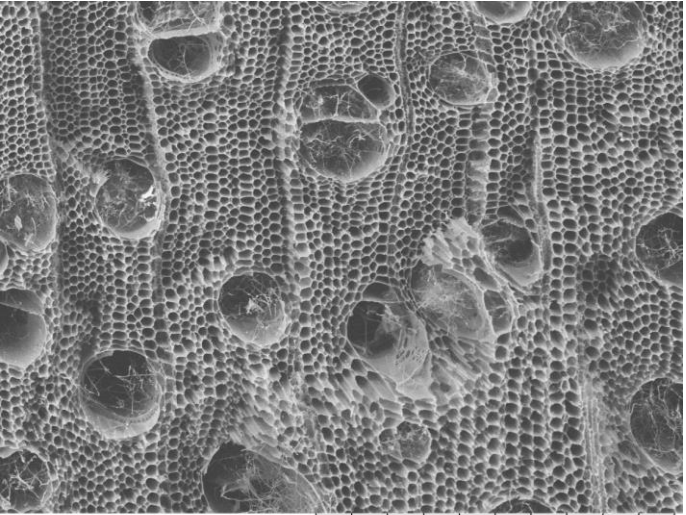
EWC 1646 2022/10/07 14:22 D2.7 x100 1 mm

Vessel Wall



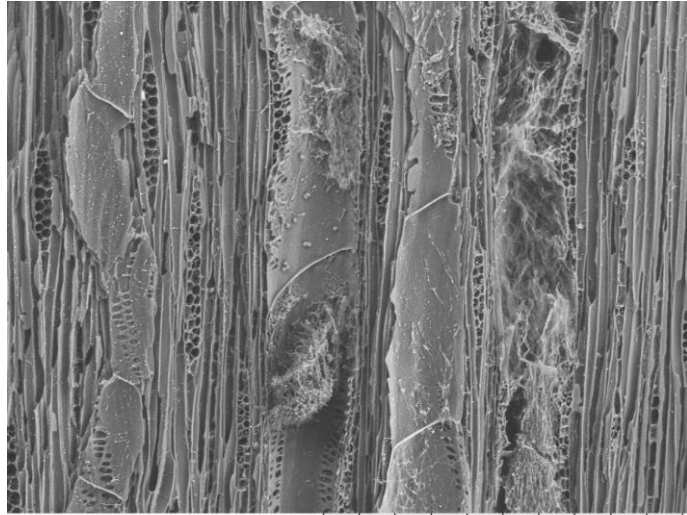
EWC 1646 2022/10/07 14:58 D2.3 x1.0k 100 µm

Transverse 200x



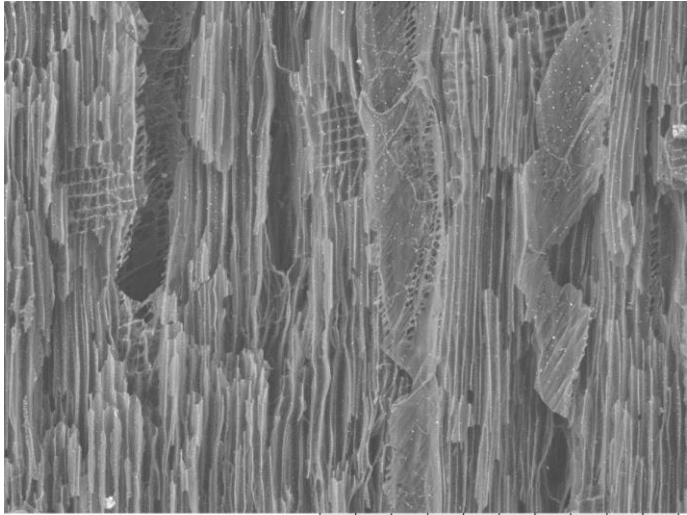
EWC 1646 2022/10/07 14:23 D2.7 x200 500 µm

Tangential



EWC 1646 2022/10/07 14:55 D2.3 x200 500 µm

Radial



EWC 1646 2022/10/07 14:28 D3.1 x200 500 µm

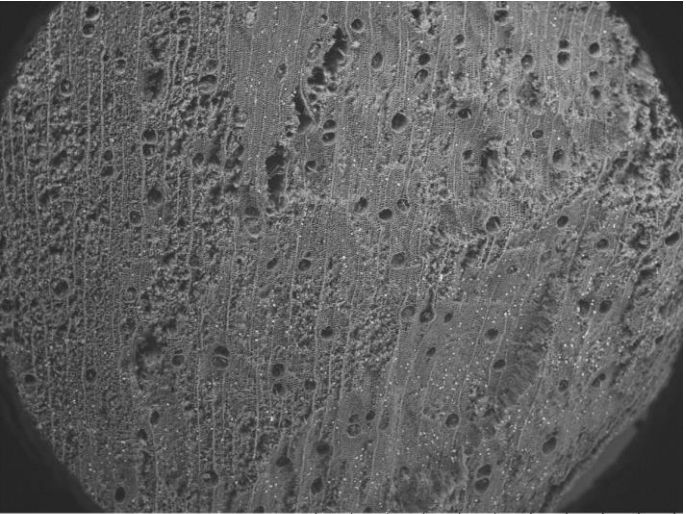
EWC 1647 Unknown Identification

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: Vascentric
(unilateral), Diffuse, scanty
Porosity: diffuse

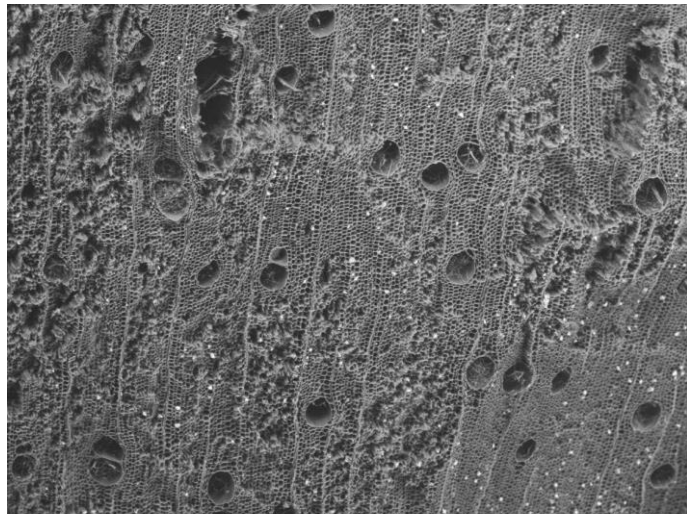
Common Name: "muchina"
Elevation:
Description:
Location: Ecuador
Locality:

Transverse 50x



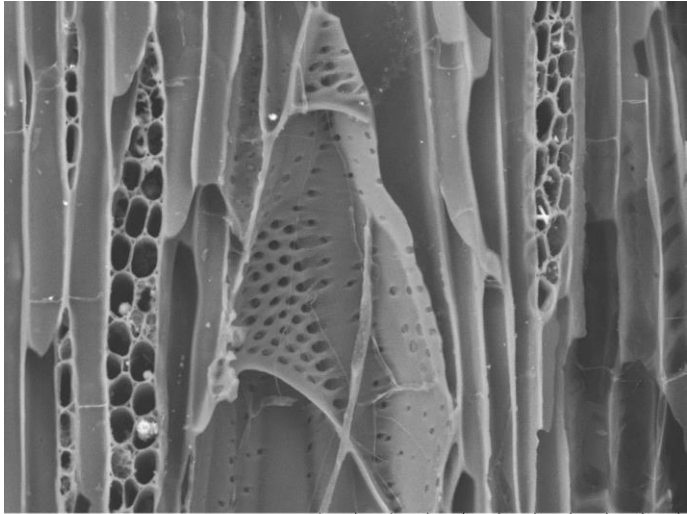
EWC 1647 2022/10/07 14:33 D2.5 x50 2 mm

Transverse 100x



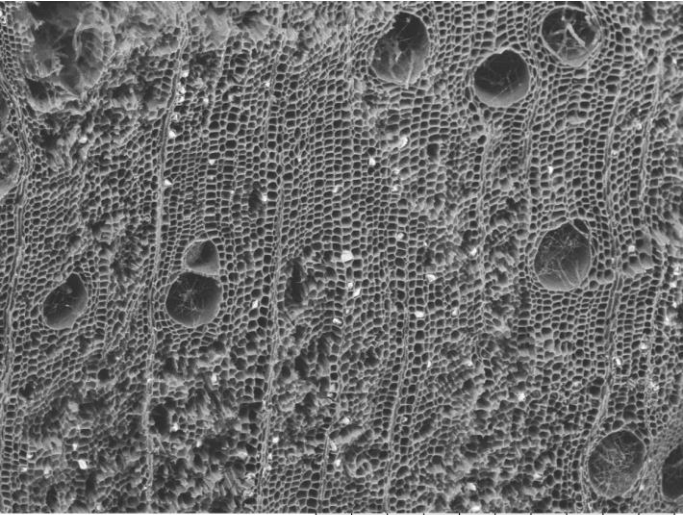
EWC 1647 2022/10/07 14:34 D2.5 x100 1 mm

Vessel Wall



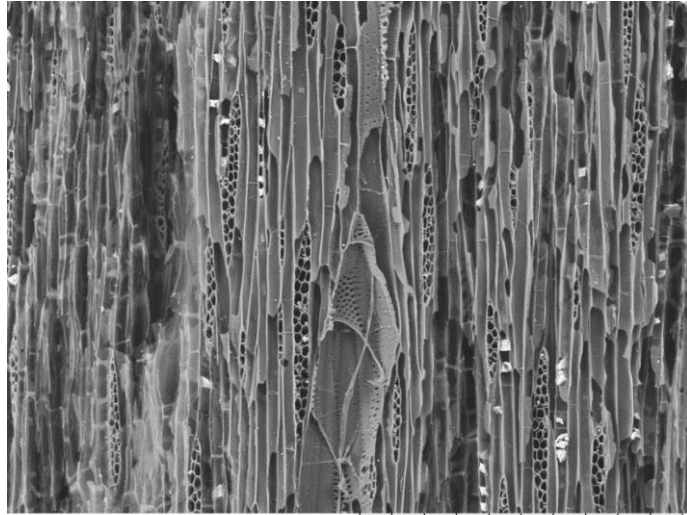
EWC 1647 2022/10/07 14:41 D3.6 x1.0k 100 um

Transverse 200x



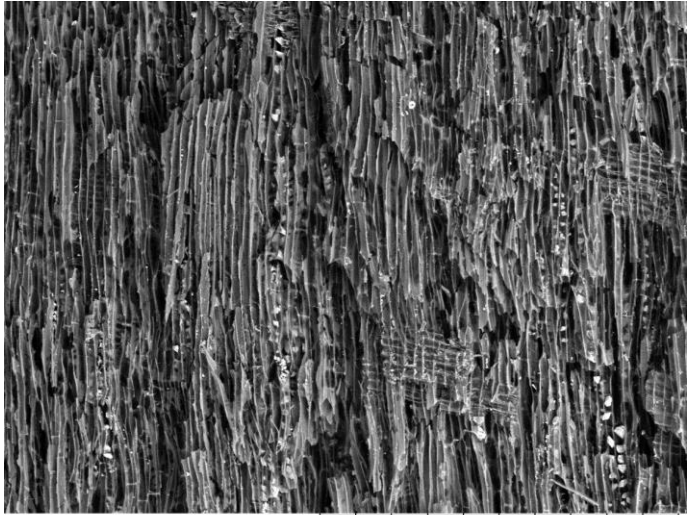
EWC 1647 2022/10/07 14:35 D2.5 x200 500 um

Tangential



EWC 1647 2022/10/07 14:40 D3.6 x300 300 um

Radial



EWC 1647 2022/10/13 17:33 D3.8 x200 500 um