**FAMILLE > Genius**

*Taxa name* taxon\_authors

*Reference number: Id sample*

> Distribution:

**CONTINENT**

Region

Area

> Wood images:

Link to BDD Anatom-IA

> Wood anatomy description:

**GROWTH RINGS**

1 - Growth ring boundaries distinct **V, ?**

2 - Growth ring boundaries indistinct or absent

**VESSEL**

*Porosity*

3 - Wood ring-porous

4 - Wood semi-ring-porous

5 - Wood diffuse-porous

*Arrangement*

6 - Vessels in tangential bands

7 - Vessels in diagonal and / or radial pattern

8 - Vessels in dendritic pattern

*Groupings*

9 - Vessels exclusively solitary (90% or more)

10 - Vessels in radial multiples of 4 or more common

11 - Vessel clusters common

*Outline*

12 - Solitary vessel outline angular

*Perforation plates*

13 - Simple perforation plates

14 - Scalariform perforation plates

15 - Scalariform perforation plates with ≤ 10 bars

16 - Scalariform perforation plates with 10 - 20 bars

17 - Scalariform perforation plates with 20 - 40 bars

18 - Scalariform perforation plates with ≥ 40 bars

19 - Reticulate, foraminate, and / or other types of multiple perforation plates

*Intervessel pits arrangement*

20 - Intervessel pits scalariform

21 - Intervessel pits opposite

22 - Intervessel pits alternate

23 - Shape of alternate pits polygonal

*Intervessel pits size (µm)*

24 - Minute ≤ 4 µm

25 - Small 4 - 7 µm

26 - Medium 7 - 10 µm

27 - Large ≥ 10 µm

*Vestured pits*

29 - Vestured pits

*Vessel-ray pitting*

30 - Vessel-ray pits with distinct borders; similar to intervessel pits in size and shape throughout the ray cell

31 - Vessel-ray pits with much reduced borders to apparently simple: pits rounded or angular

32 - Vessel-ray pits with much reduced borders to apparently simple: pits horizontal (scalariform, gash-like) to vertical (palisade)

33 - Vessel-ray pits of two distinct sizes or types in the same ray cell

34 - Vessel-ray pits unilaterally compound and coarse (over 10 µm)

35 - Vessel-ray pits restricted to marginal rows

*Helical thickenings*

36 - Helical thickenings in vessel elements present

37 - Helical thickenings throughout body of vessel element

38 - Helical thickenings only in vessel element tails

39 - Helical thickenings only in narrower vessel elements

*Tangential diameter (µm)*

40 - ≤ 50 µm

41 - 50 - 100 µm

42 - 100 - 200 µm

43 - ≥ 200 µm

45 - Vessels of two distinct diameter classes, wood not ring-porous

*Vessel density (V/mm²)*

46 - ≤ 5 vessels per square millimetre

47 - 5 - 20 vessels per square millimetre

48 - 20 - 40 vessels per square millimetre

49 - 40 - 100 vessels per square millimetre

50 - ≥ 100 vessels per square millimetre

*Tyloses and deposits in vessels*

56 - Tyloses common

57 - Tyloses sclerotic

58 - Gums and other deposits in heartwood vessels

*Wood vesselless*

59 - Wood vesselless

**TRACHEIDS AND FIBRES**

*Tracheids*

60 - Vascular / vasicentric tracheids present

*Ground tissu fibres*

61 - Fibres with simple to minutely bordered pits

62 - Fibres with distinctly bordered pits

63 - Fibre pits common in both radial and tangential walls

64 - Helical thickenings in ground tissue fibres

*Septate fibres*

65 - Septate fibres present

66 - Non-septate fibres present

*Parenchyma-like*

67 - Parenchyma-like fibre bands alternating with ordinary fibres

*Fibre wall thickness*

68 - Fibres very thin-walled

69 - Fibres thin- to thick-walled

70 - Fibres very thick-walled

**AXIAL PARENCHYMA**

*Absent/rare*

75 - Axial parenchyma absent or extremely rare

*Apotracheal*

76 - Axial parenchyma diffuse

77 - Axial parenchyma diffuse-in-aggregates

*Paratracheal*

78 - Axial parenchyma scanty paratracheal

79 - Axial parenchyma vasicentric

80 - Axial parenchyma aliform

81 - Axial parenchyma lozenge-aliform

82 - Axial parenchyma winged-aliform

83 - Axial parenchyma confluent

84 - Axial parenchyma unilateral paratracheal

*Banded wide*

85 - Axial parenchyma bands more than three cells wide

86 - Axial parenchyma in narrow bands or lines up to three cells wide

*Banded pattern*

87 - Axial parenchyma reticulate

88 - Axial parenchyma scalariform

89 - Axial parenchyma in marginal or in seemingly marginal bands

*Cell type / strand length*

90 - Fusiform parenchyma cells

91 - Two cells per parenchyma strand

92 - Four (3-4) cells per parenchyma strand

93 - Eight (5-8) cells per parenchyma strand

94 - Over eight cells per parenchyma strand

*Unlignified*

95 - Unlignified parenchyma

**RAY**

*Ray seriation*

96 - Rays exclusively uniseriate

97 - Ray width 1 to 3 cells

98 - Larger rays commonly 4 - to 10 seriate

99 - Larger rays commonly > 10-seriate

*Ray width & height*

100 - Rays with multiseriate portion(s) as wide as uniseriate portions

101 - Aggregate rays

102 - Ray height > 1 mm

103 - Rays of two distinct sizes

*Cellular compostition*

104 - All ray cells procumbent

105 - All ray cells upright and / or square

106 - Body ray cells procumbent with one row of upright and / or square marginal cells

107 - Body ray cells procumbent with mostly 2-4 rows of upright and / or square marginal cells

108 - Body ray cells procumbent with over 4 rows of upright and / or square marginal cells

109 - Rays with procumbent, square and upright cells mixed throughout the ray

*Other*

110 - Sheath cells

111 - Tile cells

112 - Perforated ray cells

113 - Disjunctive ray parenchyma cell walls

*Ray per mm*

114 - ≤ 4 / mm

115 - 4-12 / mm

116 - ≥ 12 /mm

*Rayless*

117 - Wood rayless

**STORIED STRUCTURE**

*Ray*

118 - All rays storied

119 - Low rays storied, high rays non-storied.

*Par - Vessel*

120 - Axial parenchyma and / or vessel elements storied

*Fibres*

121 - Fibres storied

*Irregular*

122 - Rays and / or axial elements irregularly storied

**SECRETORY ELEMENTS AND CAMBIAL VARIANTS**

*Oil and mucilage cells*

124 - Oil and / or mucilage cells associated with ray parenchyma

125 - Oil and / or mucilage cells associated with axial parenchyma

126 - Oil and / or mucilage cells present among fibres

*Intercellular canals*

127 - Axial canals in long tangential lines

128 - Axial canals in short tangential lines

129 - Axial canals diffuse

130 - Radial canals

131 - Intercellular canals of traumatic origin

*Tubes / tubules*

132 - Laticifers or tanniniferous tubes

*Cambial variants*

133 - Included phloem, concentric

134 - Included phloem, diffuse

135 - Other cambial variants

**MINERAL INCLUSIONS**

*Prismatic crystals*

136 - Prismatic crystals present

137 - Prismatic crystals in upright and / or square ray cells

138 - Prismatic crystals in procumbent ray cells

139 - Prismatic crystals in radial alignment in procumbent ray cells

140 - Prismatic crystals in chambered upright and / or square ray cells

141 - Prismatic crystals in non-chambered axial parenchyma cells

142 - Prismatic crystals in chambered axial parenchyma cells

143 - Prismatic crystals in fibres

*Druses*

144 - Druses present

145 - Druses in ray parenchyma cells

146 - Druses in axial parenchyma cells

147 - Druses in fibres

148 - Druses in chambered cells

*Other crystals*

149 - Raphides

150 - Acicular crystals

151 - Styloids and / or elongate crystals

152 - Crystals of other shapes (mostly small)

153 - Crystal sand

*Other diagnostic crystals*

154 - More than one crystal of about the same size per cell or chamber

155 - Two distinct sizes of crystals per cell or chamber

156 - Crystals in enlarged cells

157 - Crystals in tyloses

158 - Cystoliths

*Silica*

159 - Silica bodies present

160 - Silica bodies in ray cells

161 - Silica bodies in axial parenchyma cells

162 - Silica bodies in fibres

**KIRKIACEAE > Kirkia**

*Kirkia wilmsii* Engl.

*Reference collection id number :*

*InsideWood. 2004-onwards. Published on the Internet. http://insidewood.lib.ncsu.edu/search [date of accession].   
Wheeler, E.A. 2011. InsideWood - a web resource for hardwood anatomy. IAWA Journal 32 (2): 199-211.*

> Distribution:

**AFRICA**

*Southern Africa*

Northern Provinces

Swaziland

> Wood images:

> Wood anatomy description:

**GROWTH RINGS**

2 - Growth ring boundaries indistinct or absent

**VESSEL**

*Porosity*

5 - Wood diffuse-porous

*Arrangement*

*Groupings*

*Outline*

*Perforation plates*

13 - Simple perforation plates

*Intervessel pits arrangement*

22 - Intervessel pits alternate

23 - Shape of alternate pits polygonal

*Intervessel pits size (µm)*

25 - Small 4 - 7 µm **?**

26 - Medium 7 - 10 µm **?**

27 – Large ≥ 10 µm **?**

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31 - Vessel-ray pits with much reduced borders to apparently simple: pits rounded or angular

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*Tangential diameter (µm)*

41 - 50 - 100 µm

42 - 100 - 200 µm

*Vessel density (V/mm²)*

48 - 20 - 40 vessels per square millimetre

*Tyloses and deposits in vessels*

*Wood vesselless*

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*Tracheids*

*Ground tissue fibres*

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*Other*

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115 - 4-12 / mm

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**STORIED STRUCTURE**

*Ray*

*Par - Vessel*

*Irregular*

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*Oil and mucilage cells*

*Intercellular canals*

*Tubes / tubules*

*Cambial variants*

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*Prismatic crystals*

*Druses*

*Other crystals*

*Other diagnostic crystals*

*Silica*

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*Kirkia wilmsii* Engl.

*Reference collection id number : BRS18-1-16*

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<https://mediasrv.cepam.cnrs.fr/prod/>

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*Other crystals*

*Other diagnostic crystals*

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