UC Berkeley McCown Archaeobotany Laboratory Report #83
Middle and Late Horizon wood from Chiqna Jota (LU5), Chicha Valley, Perú
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Background

In 2016 Dr. Frank Meddens contacted Christine Hastorf regarding three charred wood samples he had recovered from the site of Chiqna Jota (LU5) that he has collected from excavations. This autumn Kristyn Hara, who is completing a wood analysis dissertation on Cambodia in the McCown Archaeobotany laboratory, agreed to take a series of photos of the wood specimens and to identify them. Using these images, comparative analyses of previous Andean wood specimens, and the InsideWood online database, we identified these three wood specimens.

All three wood specimens are local, important woods of the Andean highlands: *Buddleja longifolia* and *Polylepis*. They tend to grow in copses between elevations of 2500 and 3500 masl, but have been planted by the inhabitants well over that range up to 4000 m. Often called *quishwara*, the most common species of *Buddleja* are *B. coriacea* and *B. longifolia*. The *Polylepis* species is often called *quenua*. These woods could be used for construction, tools and fuel.

Identifications

LU5, Sample 80-50, Context 813 from a Late Horizon area is Buddleja sp. (Figures 1, 2, and 3).
Microscopic characteristics:
Growth ring boundaries indistinct or absent. Wood diffuse-porous. Vessels in diagonal and/or radial pattern, solitary. Intervessel pits alternate, small (4-7 μm). Vessel-ray pits with much reduced borders. Average tangential diameter of vessel lumina <50 μm. Non-septate fibers, thin-walled. Axial parenchyma absent or extremely rare. Rays 1-3-seriate, all ray cells procumbent.

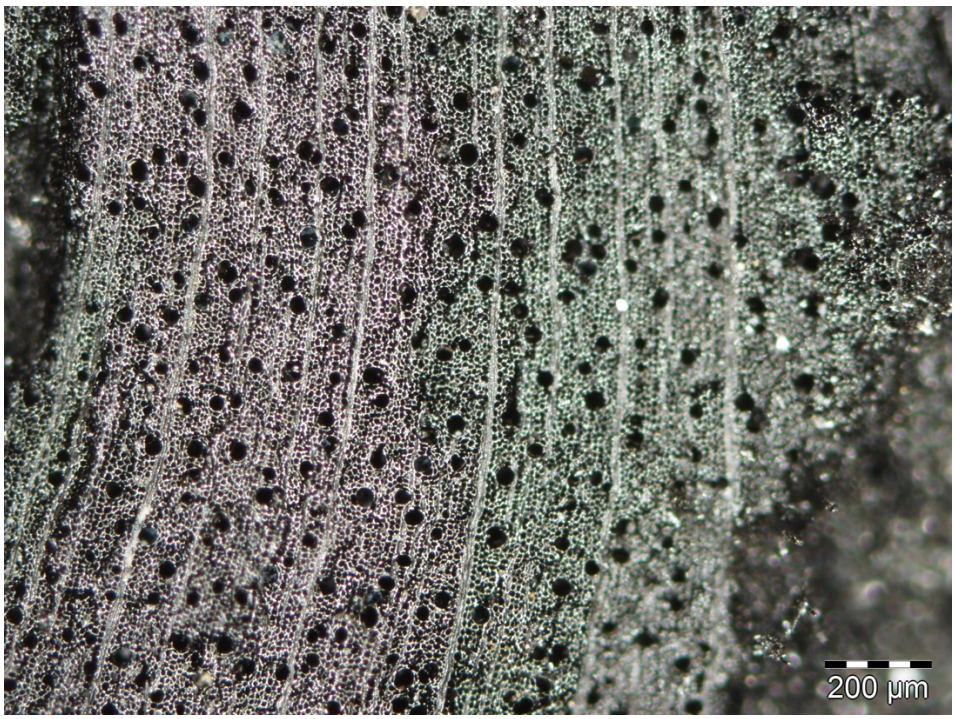

Figure 1. LU5, Sample 80-50, cross section, 50X

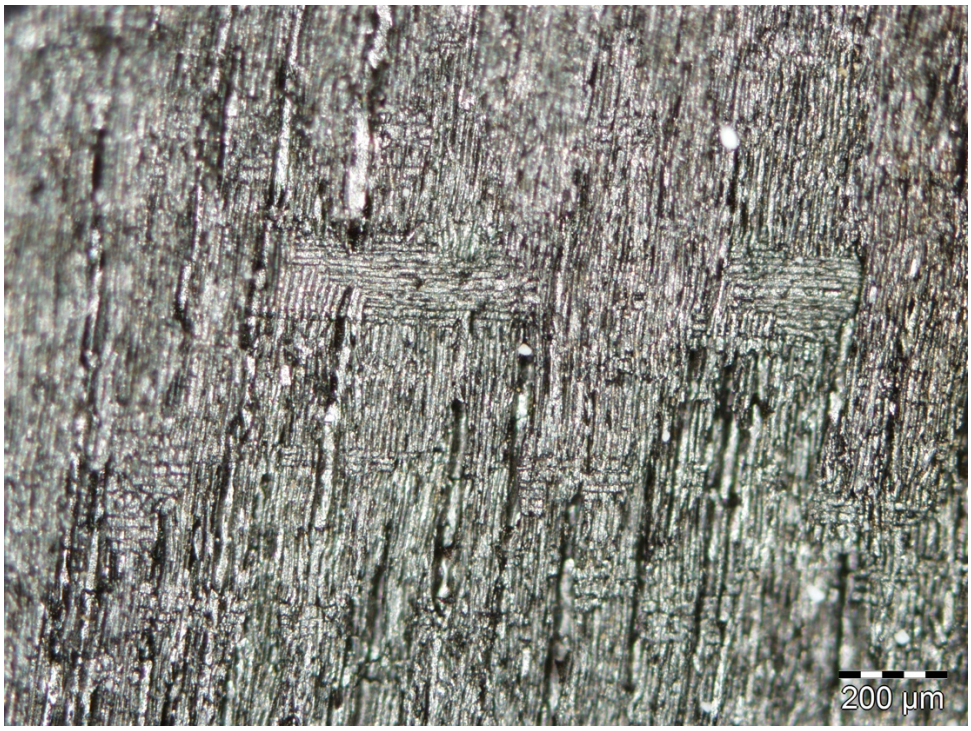

Figure 2. LU5 Sample 80-50, Radial section, 50X

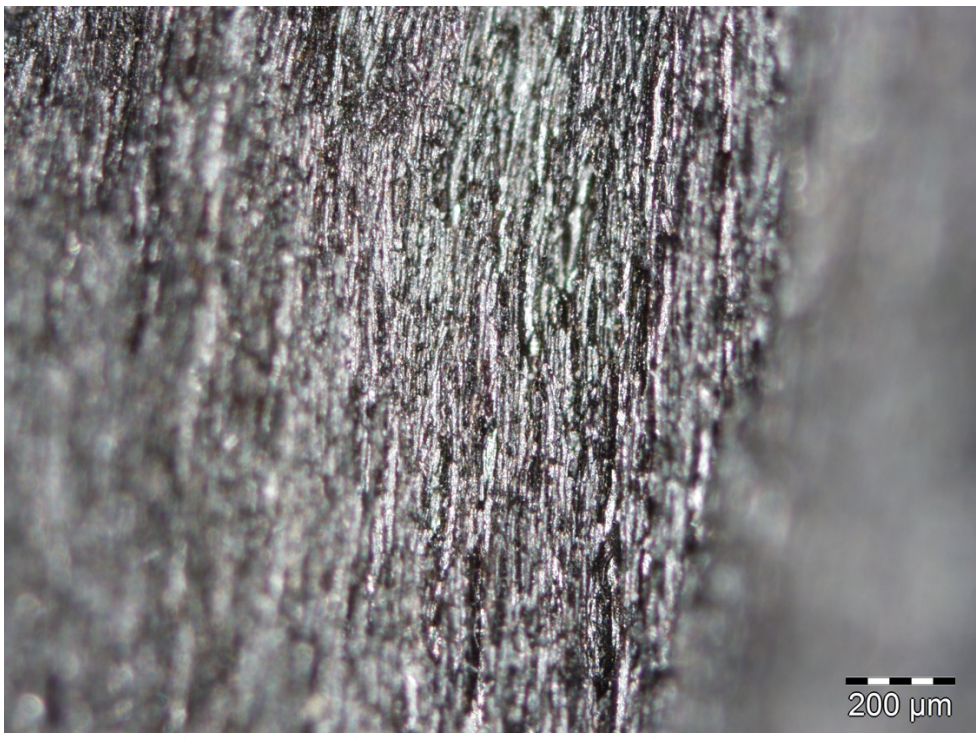

Figure 3. LU5 Sample 80-50, Tangential section, 50X

LU5, Sample 105, Context 836, phased to the Late Horizon is Polylepis sp. (Figures 4, 5, and 6).
Microscopic characteristics:
Growth ring boundaries indistinct or absent. Wood diffuse-porous. Vessels in a dendritic pattern, clusters common, average tangential diameter < 50 μm, solitary vessel outline angular. Scalariform perforation plates. Intervessel pits alternate, small (4-7 μm). Vessel-ray pits with much reduced borders. Helical thickenings in vessel elements present. Fibers non-septate, thin- to thick-walled. Parenchyma diffuse, diffuse-in-aggregates. Rays 1-3-seriate, all ray cells procumbent.

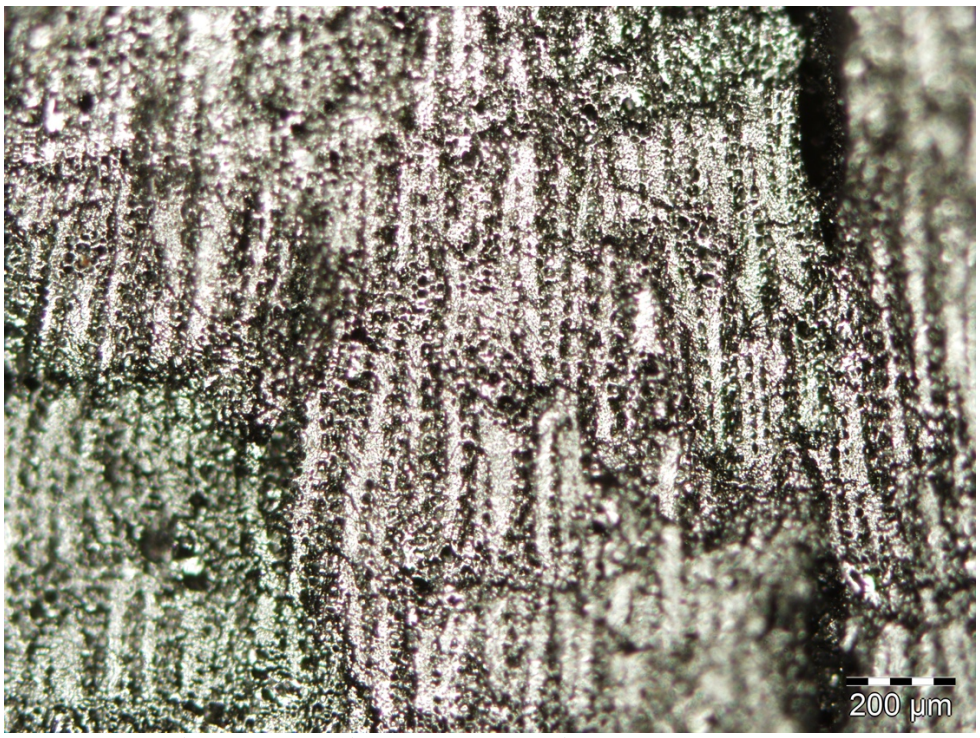

Figure 4. LU5, Sample 105, cross section, 50X

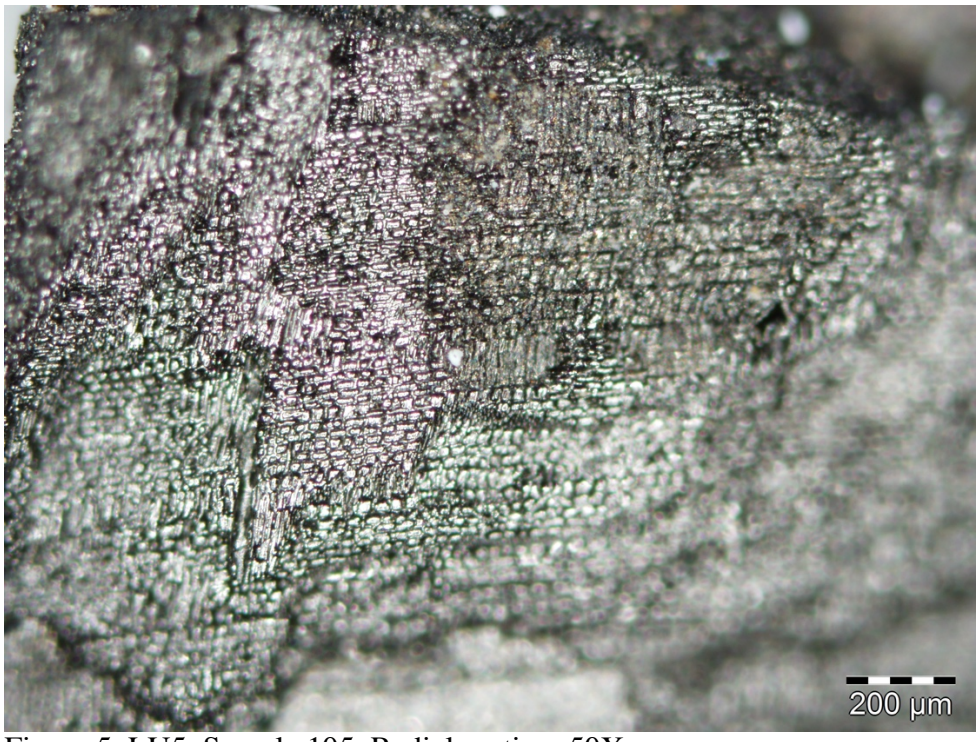

Figure 5. LU5, Sample 105, Radial section, 50X

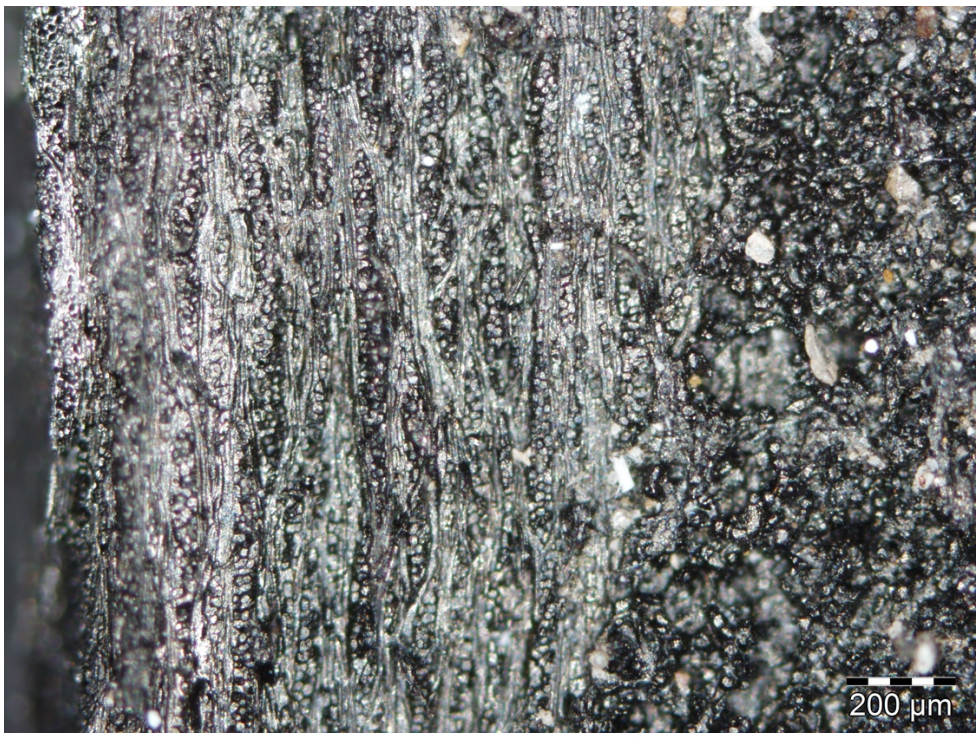

Figure 6. LU5, Sample 105, Tangential section, 50X

LU5, Sample 126, Context 739, dated to the Middle Horizon, is also Polylepis. (Figures 7, 8, and 9).
Microscopic characteristics:
Growth ring boundaries indistinct or absent. Wood diffuse-porous. Vessels in a dendritic pattern, clusters common, average tangential diameter < 50 μm, solitary vessel outline angular. Scalariform perforation plates. Intervessel pits alternate, small (4-7 μm). Vessel-ray pits with much reduced borders. Helical thickenings in vessel elements present. Fibers non-septate, thin- to thick-walled. Parenchyma diffuse, diffuse-in-aggregates. Rays 1-3-seriate, all ray cells procumbent.

Figure 7. LU5, Sample 126, cross section, 50X

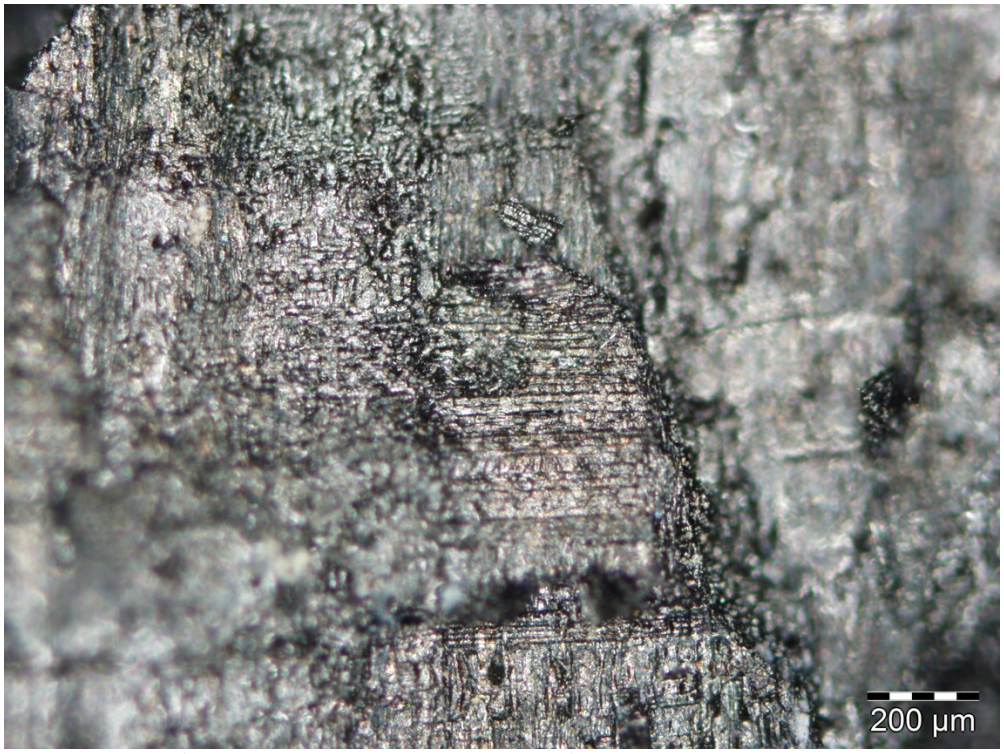

Figure 8. LU5, Sample 126, radial section, 50X

Figure 9. LU5, Sample 126, tangential section, 50X