Chapter 5
Wood Anatomy

There are general descriptions of the wood of Humiriaceae in Metcalf and Chalk (1950), Elias de Paula and Alves (1977), Araujo and Mattos-Filho (1985), Bhikhi et al. (2016), and in many other places. The wood was also described in detail by Herrera et al. (2014) in order to aid the study of the fossil woods of Humiriaceae. The wood of Humiriaceae as a family is easily distinguished from other angiosperms, but it is very similar among the different genera, which means that it is of little taxonomic use below the family level.

Growth rings are absent or indistinct. Vessels are diffuse porous, exclusively solitary (rarely arranged in a radial diagonal pattern), 80–150 (–250)μm diameter, 6–14 per sq mm; perforation plates are scalariform, usually with 8–15 bars in mature samples and with up to 40 in immature wood, often with gums and other deposits in heartwood vessels; intervessel pits are alternate or rarely opposite (*Humiria* and *Humiriastrum*), usually 4–10 μm in size; vessel-ray pitting has reduced borders and distinct vessel-ray pits; fibers are very thick-walled, at least 1500 μm long, nonseptate, with distinctly bordered pits on both radial and tangential walls; apotracheal parenchyma absent/diffuse to diffuse-in-aggregates, paratracheal parenchyma ranges from scanty to short-winged: rays are 1 or 2 (rarely 3) seriate, heterogeneous (Kribs Type II) with procumbent cells in the body of the ray with two or usually more than four rows of upright/square marginal cells and abundant prismatic crystals in chambered axial parenchyma in both upright and procumbent ray cells. The sieve tube plastids contain protein and starch, and the nodes are 5-lacunar.

Wood anatomy clearly supports the relationship of Humiriaceae to the Linaceae. Heimsch (1942) and Metcalfe and Chalk (1950) both placed Humiriaceae next to Linaceae and Erythroxylaceae based on wood anatomy. They stated that "Humiriaceae forms a homogenous group, distinct from the Linaceae, but more nearly related to it than to any other family; the greatest resemblance is to *Ctenolophon* which has closer affinities with the Humiriaceae than with the Linaceae."

G. T. Prance, *Humiriaceae*, Flora Neotropica 123,
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