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## DISTINGUISHING CHARACTERISTICS OF MAHOGANY AND WOODS COMMONLY CALLED MAHOGANY

The woods commonly sold in the United States as mahogany, with or without a qualifying term indicating their origin, may be classed in three commercial groups: (1) Woods from tropical America consisting of several species of the botanical genus *Swietenia* to which the Forest Service confines the name "mahogany"; (2) a number of species of the African genus *Khaya*, termed "khaya" by the Forest Service and frequently called "African mahogany" in the trade; and (3) various Philippine hardwoods, principally tanguile and red lauaan, both of which belong to the botanical genus *Shorea*, often called "Philippine mahogany" in the trade.

The color of all these woods comprises various shades of reddish brown. Tanguile, however, which constitutes the bulk of "Philippine mahogany," and some species of khaya, often have a purplish tinge. In mahogany, and to a less extent in khaya, the color darkens with prolonged exposure to light, whereas unstained tanguile becomes lighter colored. To observe the original color, therefore, fresh surfaces should be exposed.

All the woods in these three groups usually have interlocked grain and are lustrous, which gives quarter-sawed lumber and radially-cut veneer a pronounced ribbon figure, that is, alternating dark and light stripes, an inch, more or less, in width. In all of them the pores can be seen without a magnifying glass as minute holes on smoothly cut end surfaces and as grooves of varying lengths on planed longitudinal surfaces. The pores are fairly uniform in size and fairly evenly distributed on all surfaces.

Mahogany and khaya have a distinctive characteristic in common, namely, the occurrence of dark amber-colored gum in many of the pores. This gum can be seen on planed or split longitudinal surfaces without a magnifying glass, but better with a glass, and it distinguishes mahogany and khaya from tanguile and red lauaan, in which such gum does not occur.

Mahogany and khaya can be distinguished from each other by the presence in the former and absence in the latter of fine, continuous light-colored more or less parallel lines  $1/32$  to  $1/2$  inch apart on smoothly cut end-grain and quarter-sawed surfaces, and slightly to considerably farther apart on plain-sawed surfaces. The heavier grades of mahogany frequently contain a white deposit in the pores which is absent in the lighter grades and in khaya.

In tanguile and red lauaan the pores are partly filled with iridescent, froth-like growths known as "tyloses." On smoothly cut end surfaces tanguile and red lauaan show more or less broken parallel lines one-eighth inch to several inches apart, readily visible to the naked eye, and appearing under a lens as rows of minute openings, smaller than the pores, filled with a white substance.

The distinguishing characteristics of these three groups of wood are more difficult to recognize on finished surfaces to which fillers, oils, waxes, stains, and the like have been applied. The fine continuous light-colored lines already mentioned which distinguish mahogany from khaya are not always distinct on finished surfaces. Also the dark amber-colored gum in many of the pores of mahogany and khaya as well as the tyloses which characterize tanguile and red lauaan are usually not readily seen on finished pieces unless a smooth fresh cut can be made which will show the natural wood.

*(This note supersedes revision of August, 1935)*