

# GONÇALO ALVES

## Enduring South American beauty

By Ken Burton

Unless you're deep into the PGA, if you bring up the name tigerwood, you're probably talking about gonçalo alves, a tropical hardwood known for its durability and striped appearance. Also known as jobillo (or hobillo), this exotic comes from one of two tree species: *Astronium fraxinifolium* or *A. graveolens*. The trees are closely related and are part of the same family that includes mango, cashew, and pistachio trees.

The reddish-brown wood is heavy and dense and often has irregular dark brown and black stripes. Its sapwood is a grayish-white. It is classified as a diffuse-porous hardwood and has indistinct growth rings. The figure can vary greatly—from straight-grained to wavy—though even plain-looking pieces have a nice luster due to the wood's high density.

The trees grow in the high forests of Central and South America. Much of the wood that makes it to the U.S. is exported from Brazil. Both species grow

quite large—from 100' to 130' tall, and 3' to 5' in diameter. Despite the size of the trees, the lumber available here tends to be on the small to medium size: 3" to 12" wide and 6' to 12' long. Though some 8/4 stock can be found, 4/4 material is commonly available. In areas where it grows, the wood is often used for construction rather than fine woodworking due to its strength and natural durability.

As of this writing, gonçalo alves is not listed on the CITES (Convention on International Trade in Endangered Species) Appendices or on the IUCN (International Union for Conservation of Nature) Red List of Threatened Species.

### History in woodworking

Unlike rot-resistant species such as walnut or mahogany, gonçalo alves doesn't have a long pedigree in the annals of furniture making. We can surmise that it has been called on over the years to take advantage of its decay-resistant qualities, but history doesn't show its use in furniture. Because the wood is so hard, and difficult to dry

without excessive warping and checking, gonçalo alves isn't a first choice for most furnituremakers. Commercially, the wood is typically used these days for flooring and accent wood in the manufacture of specialty products like billiard cues and high-end archery bows. On a smaller scale, turners appreciate that gonçalo alves easily polishes to a high sheen.

### Selecting the best stock

Unless you're lucky enough to live near a yard that stocks exotics, your best bet for finding gonçalo alves may be an online lumber dealer. Some have photos on their websites of their inventory to help you choose. But it may be worth a phone call so you can describe exactly what you're looking for. Several merchants cater to turners, so if you're after smaller pieces, you may be able to find blanks already cut to the size you need. As for the price, \$9 to \$10 per board foot is the current average, though highly figured stock can easily cost twice as much.

### Gonçalo Alves Quick Take

DENSITY	57 lbs./cu. ft.
HARDNESS	Very hard
STABILITY	Good
ROT/INSECT RESISTANCE	Excellent
TEXTURE	Medium to fine
TOXICITY	Moderate, although the wood can be a sensitizer
USES	Flooring, veneer, furniture and cabinetry, turning, specialty wood products including pool cues and archery bows



**The many faces of gonçalo alves.** Dark brown stripes are good identifiers, but the figure varies from wavy to straight-grained.

## Working gonçalo alves

As with making things using any hard, dense wood, working gonçalo alves presents certain challenges. While you can work the wood with hand tools, all but the hardiest of us will turn to tools that plug into the wall. In general, use very sharp cutters and blades, make light passes, and use slow to moderate feed rates. When ripping at the table saw, you'll get better results from a true rip blade with 28 or fewer teeth—toothier blades may cause burning. Because of the wood's density, brad point bits are a must when drilling holes in gonçalo alves. When boring deep holes, "peck" at them, withdrawing the bit frequently to clear the chips. Drill pilot holes for screws, and lubricate the screws with wax before driving them.

Sanding gonçalo alves is a challenge in its own right. The oily sawdust tends to clog abrasives quickly, so stock up on sandpaper. Don't try to save time by skip-

ping grits, or you'll leave scratches. The dense grain structure requires sanding with finer grits (400 or higher) to reach a nice sheen.

Gluing gonçalo alves calls for special consideration. Wipe the glue surfaces with denatured alcohol just before applying the adhesive to clear the natural resins the wood exudes. This is especially important if your freshly cut surfaces sit for a few days before you get to your glue-up. And choose a glue with a long open time. Because the wood is so dense, it will resist absorbing the added liquid; a longer open time gives the glue a better chance to penetrate mating surfaces.

## Finishing

If you do a good job sanding and polishing your surfaces, you'll find gonçalo alves takes on a high, plastic-like sheen even without a finish. It will look so nice, you may even question the need for a finish at all. But it is worth applying a

clear finish if only to protect that natural luster from dust and dirt. The wood accepts oils and waxes readily, but some oil-based finishes such as polyurethane may not completely dry because the wood's chemistry prevents the finish from polymerizing the way the manufacturers intend. The solution is to use an evaporative finish such as lacquer or shellac. These adhere to the surface and dry through evaporation rather than polymerization. If you need more protection than either of these provide, apply a coat or two of shellac as an intermediate finish before applying polyurethane or another more durable varnish.

As with other species, test your chosen finish on a scrap piece to make sure you like the way it looks. Polish the scrap to the same degree you plan to polish your project, so you get a good idea of how the finish will really look. ■



## Gonçalo Alves: First Hand

When the samples arrived for this article, the boards had a pleasing heft to them. Their coloring certainly lived up to the tigerwood nickname, and they had a slightly waxy feel that I have come to associate with tropical wood.

As I had never worked with gonçalo alves, I was anxious to see firsthand what it was like to use. I chose to make a couple of spoons as that would grant me the chance to perform several woodworking operations. I made sure to wear a mask to avoid breathing the dust—gonçalo alves is related to poison ivy. The wood was easily cut on the band saw and turned beautifully. I made sure my chisels were good and sharp. Carving the inside of the bowl was not nearly as difficult as I had anticipated. I used a bent gouge

(sharp, of course) and was able to scoop out the bowls with no more than moderate hand pressure. The carved surfaces were gratifyingly smooth and burnished. Sanding went well but took some time as I had to sand to 400-grit before I was pleased with the surface. I used mineral oil as a finish—no need to worry about it drying as it simply soaks in. Now I'm wondering what to make with the rest of the sample material.