



Staghorn Fern - *Platycerium bifurcatum*

Platycerium bifurcatum is an amazing fern that is native to eastern Australia. It is one of eighteen species in the *Platycerium* genus, all of whom share a very dramatic, sculptural style. At first glance, most observers would not recognize these plants as ferns at all, since they are anything but ferny! Instead, the fronds of these beautiful, silvery green stunners resemble the antlers of elk or deer, which is why they have earned the common name of Staghorn or Elkhorn Fern. The resemblance is only heightened by the fact that they are epiphytes and grow outwards as if a large buck had left his rack hanging there. *Platycerium bifurcatum* can easily be grown outdoors in subtropical gardens, but here in St. Louis we can imitate their native environment by mounting them on wooden plaques that can be brought indoors once the temperatures begin to cool. These plaques make striking decorations for a porch or patio. Learn how to craft your own on the next page.

a few words on the anatomy of a staghorn

- Staghorn ferns are epiphytes, clinging and growing vertically on tall trees or rock surfaces. They derive moisture and nutrients from the air and rain, supplemented by the plant debris that accumulates around their anchoring structures.
- While the anchors for most epiphytes (such as orchids and bromeliads) are aerial roots or rhizomes, staghorn ferns add a covering layer of thick, spongy fronds that make a basket or inverted plate-like structure over the short, creeping rhizomes, providing a rooting media for the arching foliage fronds.
- The rounded, layered, base fronds are green at first, and then turn brown. The upright foliage is green with a powdery silver sheen. These are the fertile fronds; on mature plants the spores will be found underneath these antler-like leaves.
- Although these spores are the reproductive parts of the fern, propagation is more commonly and easily accomplished by cutting off the new plants, or 'pups,' that form from the root buds.

how to care for your staghorn fern plaque

- Remember that *Platycerium bifurcatum* grows in the canopy of the rainforest where it receives bright, diffused light, intermittent bursts of water and fertile detritus falling from its host substrate and neighboring flora and fauna.
- Although it is one of the easiest and hardiest of all the species, *Platycerium bifurcatum* prefers temperatures above 40° and will need to be indoors before the first frost.
- Whether indoors or out, hang your plaque in an area with plenty of filtered light; not in direct sun.
- Staghorns need less water than other ferns. Small plants may be soaked in water for ten to fifteen minutes; larger plants can be watered in place outdoors with the hose, watering thoroughly rather than frequently. With experience, you'll be able to gauge your fern's need for water just by hefting its weight.
- These ferns are susceptible to overwatering, because the outer surfaces of the base fronds may feel dry even when the inner layers are very wet. Test the moisture level by pressing the brown (not green) base fronds. If water oozes out, they are too wet! If they feel moist without oozing, they are fine and shouldn't be watered. Don't press on the green base fronds as you could damage them.
- If staghorns don't get enough water their growth will be slowed. Fronds will become limp and take on a grayish cast and the inner layers of the base fronds will be dry.
- Staghorns like to be fertilized about every three weeks, less in the cooler months. Granular fertilizers may burn the plant tissue, so add an organic liquid fertilizer such as Nature's Source when you soak your plaques.

create living taxidermy or a gallery of green

Score a green trophy for your wall by mounting your *Platycerium bifurcatum* on a cedar plaque which can be soaked along with the plant for its weekly watering. Since every staghorn fern will have its own unique profile, why not start a collection? Try the same technique with the other plants suggested below and your display will rival the walls of a big-game hunter!

making a staghorn fern plaque

1. Start with a cedar plaque that will be large enough to give your staghorn fern room to grow, yet still on a scale that will be ready to display right away. For example, a 10 x 12" plaque for ferns in a 4" pot and an 8 X 10" plaque for a 3" pot.
2. Next you will drill holes so you can "lace" your fern in place – a 5-pointed star is best. First make a paper pattern - draw it free hand or follow the instructions at <http://www.ushistory.org/betsy/flagstar.html> . Set your fern (still in its pot) on top of the pattern and check that the rays from each star-point will barely skim the edges of the pot – you may have to make your star smaller for the 3" pots. Center your pattern on the plaque, mark and drill each point, using a 1/8" - 1/4" bit.
3. Soak several handfuls of sphagnum moss in water for a couple of hours. You will need enough to surround and support the base of the fern. When the moss is wet, it should be a hunk about the size of a large grapefruit.
4. Prop up your plaque on top of a few flower pots so you can work both above and underneath it. Place the wet sphagnum moss in the center of the plaque about 1" thick in a circular shape. Make a hollow bowl in the mound of moss towards the top of the plaque, mounding up the moss toward the bottom of the plaque – it will be more like a pocket than a volcano.
5. Look at your fern and find its bud – the place where it "pupped" from the mother plant. This will be placed near the top of the plaque to help your fern grow upward. Take your fern out of its pot and knock most of the soil off the root ball.
6. Gently place the fern into its pocket of moss and tuck the moss up and around the root mass. Your fern will be oriented almost parallel to the plaque, but not quite!
7. Cut 7 feet of fishing line and thread it onto a large needle – a plastic child's needle works well. Smaller plaques will need about 5 feet. Tie the other end to a small washer which will anchor the fishing line.
8. Pushing the needle up from the back of the plaque, start at the bottom of the star, pulling the washer flush with the back of the plaque. Lace your fern in its moss bed to the plaque, following the lines of the star on the front, and lacing counter clockwise on the back to draw a pentagon. As you are lacing, keep the line tight enough to squeeze the moss against the root ball and the plaque, but be careful not to damage the plant.
9. After "drawing" the first star, you'll be at your starting point in the back where you can tie off your line on the washer.
10. It's best to "draw" the star twice – just tie off another length of fishing line to the washer and repeat. Eventually the fern will grow over the fishing line and cover it up, but you might as well have it look nice while your fern is growing.
11. When you've laced the star twice, check that the line is snug and tie off on the washer. If the fishing line becomes slack later, you can always shove a shim under the line in the back to tighten it up like a violin string!
12. Carefully tip the plaque up to make sure everything is secure. Tuck in any stray bits of moss. Set it flat in a bright spot out of direct sunlight. Wait 2 weeks before hanging it up.

other plants for mounting

Orchids: The sweetly scented *Brassavola nodosa*, also known as Lady of the Night Orchid, is a good first choice – it may even be happier mounted than sprawling out of its pot. *Cattleya* and *Encyclia* are in the same group as *Brassavola* and are also possibilities. *Oncidium*, *Dendrobium*, and *Phalanopsis* are also recommended. Remember that orchids will dry out more quickly on the wall (especially *Phalanopsis*!) and adjust your watering accordingly.

Tillandsias: Also known as Air Plants, these are often just glued onto a mount. Try using silicone sealer rather than glue since it is waterproof and stays flexible, allowing growth. *Tillandsia* may also be set on shelves or brackets fastened to the plaques.

Other Bromeliads: *Neoregalia* are readily available and would work well in a vertical gallery if started small. Sculptural *Cryptanthus spp.* are generally flatter and would have a lower profile. *Vriesea scalaris* and *Vriesea simplex* have graceful hanging flower spikes.