



## 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, their silvery green fronds resemble the antlers of elk or deer, which is why they have earned the common name of Staghorn or Elkhorn Fern. They can easily be grown outdoors in subtropical gardens, but here in St. Louis we imitate their native environment by mounting them on wooden plaques that can be brought indoors once the temperatures begin to cool. Instructions are 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 tan. The upright foliage is green with a powdery silver sheen. These are the fertile fronds; on mature plants spores will form 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

- Whether indoors or out, hang your plaque in an area with plenty of bright, filtered light; not in direct sun.
- They require temperatures above 40° and should be brought indoors before the end of September.
- 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 by gently spraying with a 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 lightly 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 because they are easily bruised.
- 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 10-4-3* when you soak your plaques.

## 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. A 10" x 12" plaque works for a 6" pot and an 8" x 10" plaque for a 4" 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>. Make sure that your fern's sterile fronds (if it has any) will comfortably fill the center pentagon of the star.
3. Center your pattern on the plaque, mark and drill each point, using a 1/8" - 1/4" bit.
4. 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.
5. Prop up your plaque on top of several flower pots so you can work both above and underneath it. Place the wet moss in the center of the plaque in a mound about 2" high. Make a hollow towards the top of the pile, mounding up the moss toward the bottom of the plaque – it will be more like a pocket than a volcano.
6. Look at your fern from above to choose "top." Take it out of the pot and knock most of the soil off the root ball.
7. Gently place the fern into its pocket of moss with its chosen "top" by the top point of your star. Tuck its root mass into the pocket and firm the moss around it to give it good support when the plaque is eventually turned vertical.
8. 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.
9. 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.
10. As you are lacing, keep the line tight enough to squeeze the moss against the root ball and the plaque. Cross the fishing line under any sterile fronds, not over. Be careful not to catch any fertile fronds under the line either.
11. After "drawing" the first star, you'll be back where you started. Tie off your line to the washer.
12. It's best to "draw" the star twice – just tie another length of fishing line to the washer and repeat. Eventually the fern will grow over the fishing line and cover it up. Meanwhile a neat and careful lacing will provide support.
13. When you've laced the star twice, snug up the line and tie it off on the washer. Carefully tip the plaque up to make sure everything is secure. Firm up the mound of moss by tucking in any stray bits under the fishing line.
14. Set the plaque flat in a bright spot out of direct sunlight. Gradually tip it to slope upwards as the plant establishes.
15. The moss will shrink somewhat as it dries and the fishing line may become slack. Moisten some sphagnum moss and slide it under the line to make it taut again. Wait at least two weeks before hanging your plaque up.

## Other Plants to Mount and Display

**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 may be set on a shelf or bracket on the plaque. They may also be stuck directly on the plaque. Use *Loctite Clear Silicone* instead of glue: it is waterproof and stays flexible, allowing growth.

**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.