A Fern to Grow Indoors

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Platycerium bifurcatum

Platycerium bifurcatum is also known as the common staghorn or elkhorn fern. It is an herbaceous perennial, epiphytic fern in the Polypodiaceae family. Its name comes from the Greek for "flattened horn," and the species name is Latin for "twice forked," which refers to the shape of its fertile fronds. Its fronds are said to resemble deer or elk antlers, elk referring to thinner fronds.

Epiphytic refers to non-parasitical plants that do not harm the host but simply use it for support. The fern lives off air, rain and debris accumulating around it, not growing in soil but attached to trees. Flattening against a tree protects the rhizome and tufted roots that collect the litter. This litter provides nutrients by forming a private compost pile for the fern.

Staghorn ferns are native to eastern Australia but can also be found from the tropical forests of Java and New Guinea to 3,000 foot high Mount Boss in New South Wales. While the plants on Mount Boss can tolerate temperatures as low as 10 degrees (-12 ºC), the plants available commercially probably came from more tropical areas and are not as cold tolerant.

photo: Bernard Dupont - Wikimedia Commons

Platycerium coronarium

There are 17 species of epiphytic ferns in the genus Platycerium, native to Africa, Australia and Southeast Asia. P. bifurcatum is the most widely cultivated because of its tolerance for a wide variety of growing conditions. It does best with temperatures above 40 F (Zones 9a and south) but can also be moved indoors in winter or grown as a houseplant. It has naturalized in Florida and Hawaii (where it is an invasive species). *P. bifurcatum* received the Royal Horticulture Society's Award of Garden Merit in 1993.

Plants are dull green, becoming papery tan to cinnamon-brown with age. All staghorn species produce both basal and foliar fronds although the length, width and amount of division of the fertile fronds varies greatly between species. Basal (shield) fronds are sterile, heart-shaped and overlapping, sometimes called the back plates. Do not remove these as they provide shelter for the anchoring roots underneath. They will fall off naturally. Hidden by the shield fronds, there are also rhizomes which anchor the plant and are spreading and often branched, producing new fronds. Plantlets ("pups") will develop from these rhizomes, forming a colony of ferns.

Fertile fronds are photosynthetic, erect/arching/pendant and grow outward from the crown. They branch into several antler-like lobes and are covered with down. These tiny greyish furry scales are the covering that helps slow

transpiration. These fronds branch into two or three segments several times along their length. Spores grow from the fertile fronds' tips in dark brown masses called sori. Withered fertile fronds may be pruned. When mature, these fronds can reach 3 feet to 4 feet (1 to 1.5 m) across, and the entire staghorn plant can weigh up to 300 lbs (125 kg).

These are tropical plants, so they need good air circulation, bright indirect light, warm temperatures, moderate humidity and consistent moisture. When growing indoors, they do best with temperatures above 55 F (12 ° C) and can be moved outdoors as temperatures warm above 40 F (4° C). They will need to be acclimated to higher outdoor light levels. Staghorn ferns should be fertilized monthly during warmer months with balanced, diluted liquid fertilizer or slow-release fertilizer pellets placed in the growing medium. They may require frequent misting to provide adequate humidity (your bathroom might be ideal). They should be kept moist, but not wet. They can be watered from the bottom, but they absorb water through their fronds as well as their roots. Make sure to water the crown regularly while allowing the roots to dry slightly; never let them go completely dry. Use rainwater or distilled water for the healthiest plants. Once established, staghorn ferns are fairly drought tolerant and go for fairly long periods without water, depending on the prevailing temperature. They can tolerate more light when humidity and temperatures are high, but will also require more water.

photo: Wikipedia Commons

Platycerium andinum

Staghorn ferns have few pests. Check for scale insects or mealybugs periodically. Blackspot may occur if humidity is too high. The best news is that deer do not like them.

While staghorn ferns can be propagated from spores, it is such a slow process they are generally propagated by division. Using a sharp knife, cut off small pups, making sure each piece has some fertile and sterile fronds and roots. Keep them warm and moist until they are established, which may take quite some time. If you have a large specimen, it can be divided by carefully cutting into sections, each with fertile and sterile fronds and rhizomes, then remounted on appropriate medium (usually sphagnum or peat moss). Tie with pantyhose around the crown and shield fronds over the growing medium and back until well-established. New basal fronds will grow over and hide the pantyhose. You can use wooden boards, bark slabs or wire baskets, anything that will provide perfect drainage.

If you like a challenge, contact specialty growers to try your hand with these more demanding cultivars:

- P. andinum - only staghorn native to the New World, from the Andes in Peru, with fertile fronds hanging like straps to 5 feet (1.5 m) or more
- P. coronarium - narrow, pendulous forked fertile fronds up to 15 feet (4.5 m) long
- P. grande - solitary (propagated by spores only), upright sterile fronds forming a nest up to 4 feet (1.5 m) across and fertile fronds up to 6 feet (2 m) long
- P. hillii- bright green fertile fronds only 2 feet to 3 feet (60 to 90 cm) long, both sterile and fertile fronds much broader than wide; propagated by spore only

- P. superbum- broad hanging fertile fronds dangling 2 feet to 3 feet (60 to 90 cm) below the body
- P. veitchii - smaller and slower-growing than P. bifurcatum, more sun tolerant, fuzzy, with blue-green fronds

References

- Staghorn Fern, Susan Mahr, University of Wisconsin_ Madison Extension
- Platycerium bifurcatum, North Carolina Extension Gardener Plant Toolbox
- Staghorn Fern Mounting Tutorial, University of Florida/IFAS Extension
- Staghorn Fern, New York Botanical Garden