

Plants for Your Home and Office

Epiphytic Ferns

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Ferns are admirable plants for interior decoration. In most cases, ferns will tolerate filtered to low light conditions and continue to grow. Terrestrial ferns are often limited by insufficient humidity in the interior environment. However, epiphytic ferns are adapted to a drier habitat than most terrestrial types, are more suited to the centrally heated, and air conditioned environment of a Kentucky home.

Cultural techniques are different for epiphytic ferns than for many other houseplants. Epiphytic ferns naturally occur on the branches of trees in subtropical and tropical forests. This habitat is much different from most terrestrial habitats and these ferns have adaptations appropriate to this unusual location. Thus, epiphytic ferns must be grown under conditions that mimic their natural habitat, or poor growth and plant death will occur.

Epiphytic ferns grow naturally in a totally soilless condition. These ferns grow without using the typical water and nutrient storage of soil. The plants obtain water and nutrients (leached from tree leaves) only during rain. Between periods of rain, the tree bark of the branch is dry. For these reasons, epiphytic ferns should be grown in very well-drained media composed mainly of fir or redwood bark, osmunda fiber, Styrofoam beads, tree fern fiber, shredded pine bark, or sphagnum moss. Soak your epiphytic fern each time you water and allow it to remain dry 2-4 days before you water again. Low concentrations of soluble fertilizer, organic or inorganic, can be added in every second or third irrigation.

If you can imagine the best location in a tropical forest for filtered light, you would find that this is where epiphytic ferns grow. The ferns are located beneath the canopy formed by the leaves of the trees. The tree leaves reduce, but do not block totally, the strong tropical sunlight. Thus, epiphytic ferns tolerate short periods (15-30 minutes) of full sun but prefer strong filtered or reflected sunlight throughout the day.

Unfortunately, epiphytic ferns are not resistant to household pests. Mealy-bugs and scale insects will infest these ferns and cause problems. Mealy-bugs will often hide beneath the roots, stems, and dried leaves of these plants. Pesticide applications must be thorough to eliminate these



Staghorn Fern – *Platycerium grande* with upright sterile leaves and pendulous fertile leaves with broad regions of sporangia.

pests. Spider mites could be a problem but only if the ferns are kept too dry and if nearby plants are also infested.

The grandest and most prestigious of all epiphytic ferns are the staghorn ferns, species in the genus *Platycerium*. A colleague mentioned that he saw staghorn fern plants “as large as Cadillacs” in the tops of trees in a Peruvian forest. Certainly, those were optimal conditions but the description demonstrates the size and age these plants may obtain. The common staghorn fern, *P. bifurcatum*, and its numerous cultivars, are best suited for a hobby greenhouse or an atrium in the home.

The container for a staghorn should mimic a tree branch. A short piece of 1 x 8 inch stock of cedar, fir, cypress, or redwood is satisfactory. The wood should not be treated with chemical preservatives. Lay the board flat and place a nest (4-6 inches wide for a small plant) of moistened long fiber sphagnum moss on it. Place the staghorn into the nest and tie it tightly to the board with nylon fish line. Be sure that the stem apex (growing point where the smallest leaves are located) of the staghorn is oriented up.

Staghorn ferns also do well in hanging baskets, especially for long-term growth. Make a rectangular basket of 1 inch wire mesh approximately 4" x 12" x 12" in size or use a standard wire hanging basket (8 inch diameter). Line the basket with 1 to 1 ½ inches of moistened long fiber sphagnum moss. Fill the central part of the basket with a mixture of 1-part wood chips (½ to 1 inch diameter), 1-part sphagnum moss, and 1-part light organic potting soil (packaged soil). Place the staghorn in the basket at a point about one-third of the basket height from the bottom. You may find it is easier to place the staghorn in the sphagnum wall as you fill the basket initially.

As a young staghorn becomes established and begins to grow, it is easy to see the unusual orientation of the leaves on the plant. There are two types of leaves. One type is fork shaped (6-30 inches long) extends horizontally (may be pendulous) and will have large brown areas (spores for reproduction) on the lower surface. The other type is shield or kidney-shaped (8-24 inches long) and is tightly appressed to the container and soil medium. As the plant ages, both types of leaves will gradually yellow and then become dry and brown. The fork-shaped leaves will fall from the plant but the shield-shaped leaves will remain on the plant. The shield-shaped leaves form mulch at the base of the plant, do not remove them.

The most common epiphytic fern is the rabbit's foot or hare's foot fern, *Polypodium aureum*. It has a thick creeping stem covered with long cinnamon-colored hairs that appear similar to a rabbit's foot. This plant has been grown in hobby greenhouses for many years, but usually as a pot plant. It may be familiar to you; because of the way, its hairy stem grows around the rim of the pot and sits on older rhizomes in the pot. The rabbit's-foot fern does quite well in a pot if a very well drained soil mixture is used. This plant is also satisfactory in a hanging basket. Two cultivars of the rabbit's-foot fern are also available. One cultivar, ‘Mandaianum’ has a heavy bluish-silver cast to the foliage and the leaves of ‘Cristatum’ possess finely divided and wrinkled leaf margins.

The strap fern, *Polypodium phyllitis*, can be cultivated in the same way as *P. aureum*. This fern has narrow, strap-like leaves (8-20 inches long) that arise from a prostrate, creeping stem. The use of this fern in a wire hanging basket will produce a unique effect because the



Leaves and the creeping stem of the Rabbit's Foot Fern.

stems will creep over the whole container and produce leaves in all directions.

The birds nest fern, *Asplenium nidus*, makes a fine specimen plant and will produce leaves 1-3 feet long (50-100 cm). The leaves are not fern-like in appearance but rather large, broad and a bright green color. These ferns require high humidity conditions.

Epiphytic ferns from the genus *Davallia* are ideal for hanging baskets. The squirrel's foot fern, *Davallia trichomanoides*, is common on the floriculture market in small wire hanging baskets. This species has narrow creeping stems covered with whitish hairs that are thickest at the growing point. The leaves of the squirrel's foot fern are approximately 10 inches long and approximately one-half the size of leaves from the rabbit's foot fern, *Davallia fejeensis*. This rabbit's foot fern requires larger containers because of its size and its vigorous creeping stem. This fern may be a problem because it will often outgrow its container.

Ferns from the genus *Aglaomorpha* are also good in hanging baskets. These epiphytic ferns appear similar to *P. aureum* with once pinnate leaves and thick stems covered by cinnamon-colored hairs. Species of *Aglaomorpha* tolerate low humidity and dry conditions as well as or better than other cultivated epiphytic ferns. If you have epiphytic ferns or you plan to cultivate them, they require adequate light and correct watering. Be sure they get strong filtered or reflected sunlight for 4-5 hours a day. Epiphytic ferns are very easy to damage by over watering, allow the plants to remain dry for 2-4 days after you think they need water, then soak them thoroughly.



Strap Fern



The large broad leaves of the Bird's Nest Fern direct water to the base of the stem where adventitious roots act as a sponge or mulch to hold water.



Squirrel's Foot Fern