

8/25/2009 Staghorn Ferns - TROPICAL DOME

The “*staghorn*” or “*elkhorn*” ferns are named for their antler-like fronds (leaves). They belong to the genus *Platycerium*, which includes about 20 different species. Staghorn ferns are native to tropical areas of Africa, Australia, New Guinea, South America, and Southeast Asia.

These ferns are epiphytes which means that they grow on other plants rather than on the ground. In tropical environments, organic materials such as old leaves accumulate and rot in the crotches of branches to produce a moist soil. This is the natural habitat of staghorn ferns and other epiphytes including many orchids. Epiphytes contribute to the amazing biological diversity of tropical forests by living at many layers between the soil and the tree tops. Epiphytes produce all of their own food by photosynthesis and absorb water and minerals through their roots. They are not parasites and do not harm the plants they live on.

Staghorn ferns actually have two kinds of fronds. The plain leaves are green and round. They eventually turn brown and form a base for the plant under which are found the roots. The spore-bearing leaves are longer and branch. The spores are produced in irregular brown patches (see image) on the underside of these antler-like leaves.

As with other ferns, the spores do not grow directly into new staghorn plants. A fern produces two completely separate plants to complete its life cycle: the sporophyte and the gametophyte. The sporophyte plant produces the spores. These spores germinate to form small, green gametophyte plants. The gametophyte produces sperm which fertilize the eggs by swimming through a layer of water. This water requirement is why most ferns grow in moist environments. The fertilized eggs develop into the larger sporophyte. Therefore, ferns actually produce two very different plants, the gametophyte that grows from a spore, followed by the sporophyte which grows out of the fertilized egg in the gametophyte. Most people notice only the larger spore-producing sporophyte.

You can see staghorn ferns scattered throughout the Tropical Dome. They are growing as epiphytes on the larger trees and on some artificial frames. How many can you find?

Image credits:

Staghorn fern: Courtesy of S. Sheridan

Sporulation on lower surface of antler frond: Courtesy of Tropical Fern and Exotic Plant Society

