

Cultivation Note

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Ferns

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#38

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Marginal Wood Fern (*Dryopteris marginalis*)



Christmas Fern (*Polystichum acrostichoides*)



Common Polypody (*Polypodium vulgare*)

Mention ferns and automatically we conjure a vision of soft summer greenery growing in the shade of a damp forest, or of precious little plants growing on the side of a cliff. The unfurling crosiers in spring are a welcome sign that winter has passed. However, three native ferns can add interest to a landscape all year long. They are the Marginal Wood Fern, Christmas Fern, and Common Polypody.

Marginal Wood Fern (also known as Leatherleaf Fern) occurs in the wild just about anywhere there is semi-shade and rich soil, either acid, alkaline, or neutral. It forms a graceful clump about 18 inches tall with tapered fronds of blue-green at the apex and lighter green on the bottom. It has slightly scaly stems, and is easily identified by the fruit dots on the margins of the leaflets, hence the specific name *marginalis*. These dots first appear gray, turning brown at maturity. The adaptability and persistent color of the Marginal Wood Fern make it an ideal garden plant. It is one of the so-called evergreen ferns, though by the end of winter the fronds are flattened, forming a green circle through which new growth emerges.

An oft-told story of how the Christmas Fern got its name is that the base of the leaflets have a projection that is reminiscent of the toe of a Christmas stocking. A useful memory aid perhaps, but the toe is way too small to hold a decent lump of coal. I tend to agree with Mrs. Parsons (*How to Know the Ferns*) that its name comes from its use in Christmas decorations. "They need only a mixture of red berries to become a close rival to holly at Christmas time." Although Cobb observes in Peterson's *Field Guide to Ferns* that this fern may grow to three feet, in my garden it only reaches twenty inches, and I don't recall seeing it much taller in the wild. Christmas Ferns grow in a variety of habitats but generally prefer rich limey soil and shade to semi-shade. The fronds are a lustrous dark green above and dull green below. The leaflets are opposite at the bottom of the stalks, becoming alternate higher up. Sterile fronds gradually taper toward the tip, while fertile fronds taper quickly, with fruit dots occurring only on the tapered leaflets. Christmas ferns can gradually spread, but in the wild they are mostly found in single clumps. This evergreen fern is also beaten to the ground by spring, but the contrast of dark green old fronds and the light green emerging crosiers is stunning.

Henry David Thoreau described mats of the Common, or Rock-polypody as "fresh and cheerful communities." This is probably the most plentiful of our native evergreen ferns though its choice of habitats is limited. It is usually found in somewhat shaded conditions, forming mats over rock ledges and boulders with, as Mrs. Parsons describes, "their rich foliage softening into beauty otherwise rugged outlines." The fronds grow up to a foot long, are somewhat oblong or triangular, and dark green on both sides. Prominent rusty-colored fruit dots appear in great numbers on the underside of middle and upper leaflets. The leaflets curl up in the coldest weather, displaying their persistent velvety fruit dots, and then unfurl again on warm days. Unlike other evergreen ferns, the previous year's fronds remain upright as the crosiers emerge in the spring, so the new growth is not as noticeable as it is for the other evergreen ferns. Their somewhat fussy habitat requirements make the Common Polypody more difficult to place in the garden, but if you can get them established they are worth the effort.



Propagation

By division: Established ferns are easily divided in the spring. Even "clumpers" such as Marginal Wood Fern tend to form multiple root crowns with time. Simply dig them up, tease the crowns apart, or make divisions of spreaders, and replant.

By spores: Ferns do not produce flowers or seeds. Instead, their spores grow into small, moss-like plants called *gametophytes*. These develop sexual parts that combine and give rise to *sporophytes*, the new fern generation. The process is complex, but the propagator needs only to provide the correct environment, which is not difficult.

The fruit dots are where the spores are produced. A change in color of these dots indicates ripening. When this occurs detach a frond and place it, dots side down, between sheets of paper. In two to three days a fine dust composed of the spores should appear on the bottom sheet. (If there is no dust it's probably too early.) Collect the spore dust into a marked envelope, or sow immediately.

The moist conditions needed for growing ferns are also ideal for mold and mildew, so everything needs to be sterilized. Plastic containers—pots or flats—work best. Wash previously used containers with soap and water, and, whether old or new rinse them in a solution of one part household bleach to ten parts water and let dry. Fill containers to about an inch from the top with a soil-less potting mix. New bags are more apt to be sterile than previously opened ones. To further insure sterility cover each container with a paper towel and gradually pour boiling water over all until it comes out of the drainage holes. Wait until the medium is cool before proceeding.

Sow the spores on top of the medium—where they will completely disappear. Work with one species at a time because the minute spores can be blown around and land on other containers. The reproductive process must occur in a moist environment. In nature it is a hit-or-miss business, but at home it is controlled by placing the container inside a sealed freezer bag. Label with species and date, then place it in a lighted area away from direct sunlight that would cook the plants. Temperature does not seem to be an important factor—normal room temperature will do.

In as little as two weeks, or as long as three months, the surface of the medium will turn green, then gradually thicken to resemble moss. Eventually a texture similar to a bed of liverworts will develop. These are the sexual gametophytes that will produce new ferns. By the following spring miniature fronds should appear. As these grow and touch the plastic bag, gradually expose the plants to air outside the bag. Once adapted, they can be transplanted to small pots or cell packs. Separate individual segments and lift out with the tip of a knife, and plant in four parts potting mix to one part perlite. As the weather warms put them outside in a shady area and keep moist, but not wet. (Beware of slugs that can wipe out months of work in little time!)

The next step is very important. These hardy plants cannot be tricked into spending a second winter indoors, but need cold and dormancy to survive. Before September they should be planted in a shaded spot with rich soil. Kept shaded, moist, and slug-free, they should survive. By the next spring, or maybe as long as the following year, they can be transplanted if necessary. Propagating ferns is actually fairly simple, but it is certainly not quick!



References:

1. Cobb, Boughton. 1956. *Peterson Field Guide to the Ferns*. Houghton Mifflin Co., Boston, MA.
2. Foster, F. Gordon. 1984. *Ferns to Know and Grow*. Timber Press.
3. Parsons, Frances T. 1899. *How to Know the Ferns*. Charles Scribner & Sons.



RIWPS Policy

Never dig plants in the wild or without the written permission of the landowner.
Please take seeds and cuttings sparingly.