



Foothills

Nature Notes

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Ferns

A devoted student of ferns once said, “The greatest charm the ferns possess is that of their surroundings.” While the habitats of ferns are often cool, lush, unfrequented corners of the woods, ferns themselves are among the most delicately beautiful creations of nature. Late winter and spring are excellent times to observe them in the foothills.

What is a fern? It is a flowerless plant growing from an underground stem (rhizome), and it possesses leaves (fronds) which are rolled up (“fiddle-necks”) in the early stages and which bear spores on their undersides. Ferns are relatively primitive plants which have not evolved the complete reproductive structures of the flowering plants. The ferns and their relatives, the clubmosses and horsetails, were among the earth’s dominant plants during the Carboniferous Period or Coal Age more than 200 million years ago. Their carbonized remains have gone into the making of today’s coal deposits.

The life cycle of a fern consists of two distinctly different stages. The fern plant produces thousands of microscopic spores in spore cases on the undersides of the fronds. Spores are shed when the air is dry but germinate only in a damp situation. A spore produces a tiny, 1/4 inch plant called a prothallus. The inconspicuous prothallus, unknown to most people, is the sexual phase and bears male and female organs on its underside. Fertilization occurs, and a new spore-bearing plant begins to grow from the prothallus. When mature, it again sheds spores, repeating this alternation of generation. (Ferns also reproduce vegetatively by sending new shoots from rhizomes.)

So far, ten species of ferns have been found in the foothills. The **Coastal Wood Fern** (*Dryopteris arguta*) with its whorls of broad fronds is by far the most abundant, often forming dense stands beneath oaks and bays.

The **California Polypody** (*Polypodium californicum*) is common, and its small, simple fronds mingling with mosses to cover streamside logs and boulders.

The unmistakable **Goldenback Fern** (*Pityrogramma triangularis*) is unique in possessing a bright, gold, waxy surface on the undersides of its fronds.

The **California Maidenhair** (*Adiantum jordani*) is common along shaded gulches until it dies back in summer.

A few **Western Sword Ferns** (*Polystichum munitum*) may also be found in shaded canyons. And within the rugged headwaters of Los Trancos Creek, the hardy hiker will find the **Giant Chain Fern** (*Woodwardia fimbriata*), largest of the local ferns. Sharing this secluded area is the rarest and perhaps the most beautiful of foothills ferns, the **Five Finger Maidenhair** (*Adiantum pedatum*) which adorns streamside cliffs with fragile, lace-like fronds. Other ferns include **Bracken** (*Pteridium aquilinum*), **Coffee Fern** (*Pellea andromedaefolia*) and **Shield Fern** (*Polystichum californicum*).

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