

Technical Report



Wetland Flora

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Cinnamon Fern

Osmunda cinnamomea L.

Growth Habit and Diagnostic Characteristics

Cinnamon fern is a robust fern with fronds from 0.6 to 1.5 meters (2-5 feet) high. The compound leaves (fronds) originate from shallow, underground rhizomes. First to appear in the spring is a roset of sterile (non-reproductive) 'fiddle heads' that uncoil as they grow to maturity. This growth characteristic is called *circinate vernation*, a feature common to most terrestrial ferns. The young, tender fiddle heads are considered a culinary delicacy when properly prepared.

In late April to early May, in coastal Virginia, bright cinnamon-colored fertile fronds emerge in the center of the green sterile fronds, resembling cinnamon sticks, hence the common name, cinnamon fern. The prominent 'cinnamon stick' aspect of the reproductive fronds is the major identification feature or diagnostic characteristic of this fern. The striking rusty brown color comes from the multitude of spores contained in minuscule pear-shaped *sporangia* that are densely compacted on the leaflets (pinnae) of the frond. As the spores mature, they are released from the thousands of sporangia and by mid-June, the reproductive pinnae dehisce, leaving only the naked stipe, which by early fall also withers and decomposes. The vegetative fronds remain throughout the summer and do not decompose until late fall or early winter.

Osmunda cinnamomea can be recognized in early spring by the densely tomentose (hairy) fiddle heads, and later, after the cinnamon sticks waste away, by minute tufts of brown hair at the base of each pinna and the stipe.

Two other ferns belonging to this genus may also be found in Virginia's wetlands. Royal fern, *Osmunda regalis*, also a robust fern, has spore-producing pinnae at the apex of an otherwise vegetative frond. *Osmunda claytonia*, interrupted fern, has cinnamon colored, fertile pinnae occurring approximately mid-way on an otherwise vegetative (non-reproductive) frond, hence

the common name interrupted fern. Cinnamon fern and royal fern are found in wetlands and mesic areas throughout the state. Interrupted fern is rare in coastal Virginia, but is common in the Piedmont and Mountain provinces of the Commonwealth.

Distribution

Cinnamon fern ranges mainly in the eastern two-thirds of North America, from Canada to Florida and west to New Mexico and north to Minnesota.

Habitat

Osmunda cinnamomea is often found in shaded wetlands, on the margins of swamps, wooded seepage areas and along streams and ditches. This species is frequently associated with other ferns such as netted chain fern, *Woodwardia areolata*, and sensitive fern, *Onoclea sensibilis*. Cinnamon fern is less likely to be found in tidal freshwater marshes or swamps.

Ecological Values/Benefits

Specifically, *O. cinnamomea* has less value to wildlife than other wetland plant species. It's young, tender fiddle heads are likely eaten by herbivores, but that value is largely insignificant. Holistically however, the fern is valued as an indicator of wet conditions, signaling to the observer to be aware of other biota that are characteristic to wetlands. Cinnamon fern and other wetland species often occupy, small, isolated wetlands only several hundred square feet in area.

Hydrophytic Factor/Wetland Indicator Status

According to the *National List of Plant Species that Occur in Wetlands: Virginia* (1988), *Osmunda cinnamomea* is classified as a **facultative wetland plant (FACW)**. FACW plants "usually occur in wetlands (estimated probability 67%-99%)."

Osmunda cinnamomea L.



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