

# Alaska Plant Profiles

## Fiddlehead Ferns

### Botanical Names:

(1) *Matteuccia struthiopteris* (L.) Todaro

### Ostrich Fern

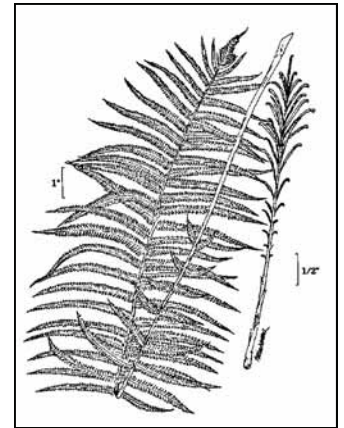
(2) *Athyrium filix-femina* ssp. *cyclosorum* (Rupr.) C. Christens.

### Northwestern Lady Fern

**Family:** Dryopteridaceae – Wood Fern family



Lady Fern USDA-NRCS PLANTS



Ostrich Fern USDA-NRCS PLANTS

**Common Names:** See above. The name “fiddlehead” or “fiddlehead fern” can apply to several species of edible ferns that have just emerged in the spring. The young tightly coiled frond (crozier) resembles the scroll at the top of a violin’s peghead.

**Indigenous Alaskan Names:** *elnen tselts’egha, uh ts’egha* [Dena’ina Athabaskan];

*tlaa edenaalkkede* [Koyukon Athabaskan]; *cetugar(aq), nengqaaq, ciilavik* [Yupik Eskimo]

**Taxonomic Synonyms:** (1) *Matteuccia struthiopteris* var. *pennsylvanica* (Willd.) C. V. Morton; *Matteuccia pennsylvanica* (Willd.) Raymond

(2) *Athyrium alpestre* (Hoppe) Clairville ex T. Moore var. *cyclosorum* (Ruprecht) T. Moore; *Athyrium filix-femina* var. *sitchense* Ruprecht

**Related species:** Two other ferns are sometimes harvested for food in Alaska: Shield Fern / Spreading Wood Fern (*Dryopteris expansa*); and in the Alaska panhandle, Bracken Fern (*Pteridium aquilinum*). See Cautions below.

**Descriptions:** (1) **Ostrich Fern:** Growing in a circular clump, the large green erect sterile fronds can reach 5+ feet in length before dying back in the autumn. Shaped like an ostrich’s plumes, they are widest above the middle and taper abruptly to the tip, while tapering gradually toward the base. The frond’s leaflets are twice divided (bipinnate), but may appear singly divided (pinnate) with the leaflets (pinnae) appearing deeply cleft (pinnatifid). The lobes are somewhat pointed and may curve slightly toward the tip resembling a dog’s claws.

A few weeks after the sterile green fronds appear, the brown spore-bearing fronds emerge from the center of the clump, and are about half the size of the sterile fronds. The spore bearing pinnae point upward and are clustered below the tip. These fertile fronds often persist into the winter. Ostrich Fern fiddleheads exhibit a deep U-shaped groove running down the inside of the stem.

(2) **Lady Fern:** Unlike Ostrich Fern, Lady Fern has only one kind of frond, green and spore-bearing, reaching

2-3 feet in length. [Note: Not all fronds may show sori (spore cases) on their undersides.] The frond is widest from near the base to the middle, tapering gradually toward the tip. The frond is bipinnate to tripinnate and has a more lacy appearance than Ostrich Fern. Lady Fern fiddleheads also show a U-shaped groove down the inside of the stem, and for the inexperienced gatherer are hard to distinguish from the fiddleheads of Ostrich Fern.

Upon emergence, both species of fiddleheads have brown papery scales which should be rubbed off before cooking. If the fiddleheads have fuzz instead of scales, it is not Ostrich Fern or Lady Fern.



Young Lady Fern fronds

Photo by D. Ross



Ostrich Fern fiddleheads

Courtesy of D. Barrington, Univ. of Vermont

**Ranges:** (1) Ostrich Fern's range in northern North America is widespread, from British Columbia to the northeastern provinces and states; however, its range within Alaska is limited: It is most common in the Susitna Valley and some locations in the Matanuska Valley, Municipality of Anchorage, and the Kenai Peninsula. It has also been noted around hot springs in interior Alaska.

(2) Northwestern Lady Fern is primarily a western fern ranging from California to Alaska with some separated (disjunct) populations in Ontario and Quebec. Within Alaska it is found from the SE panhandle through southcentral to the Bering Sea coast south of Norton Sound.

Shield Fern (*Dryopteris expansa*) is found throughout much of the southern half of Alaska, while Bracken Fern (*Pteridium aquilinum*) is restricted to SE Alaska.

**Habitat:** Ostrich Fern prefers moist shady bottomlands, woods, and streambanks. It is often a good indicator of fertile fine-grained soils deposited by moving water on river bottoms or flood plains. Lady Fern is found in similar habitats, but may also be common in open meadows to above timberline.

**Regeneration:** Like all ferns, fiddleheads produce spores which under favorable conditions produce new plants. But most regeneration in the wild occurs vegetatively through spreading rhizomes. Fronds emerge in the spring from the underground root structures (rhizomes) and produce nutrients for the root system before they die back in the fall. Repeated overharvesting of the fiddleheads will eventually exhaust root nutrient reserves to the point of plant death.

**Part of Plant Used:** Young croziers (fiddleheads) with attached stems up to 16" in length. For Shield Fern and Bracken Fern, the root has traditionally been harvested for food.

**Harvest Times:** Spring. Depending on location and elevation, this can vary from early May through June in Alaska. Harvesting should be suspended once the fiddleheads begin to uncurl and spread out.

**Harvest Methods:** Snapping off the fiddleheads with the fingers is the most common and efficient method. Be sure to collect as much of the young stem as possible, as their taste and edibility is as good as the coiled crozier, but never collect more than half of the fiddleheads arising from a single root. While collecting in the field, fiddleheads may be stored in buckets or plastic bags and should be kept cool.

**Processing & Storage:** Keep refrigerated until ready to process. The brown scales are most easily rubbed off when dry. To preserve fiddleheads, blanch for two minutes, then freeze in plastic bags. While some harvesters preserve fiddleheads in oil, this is not recommended. Unless acidified with vinegar or lemon juice first, toxic bacteria including the botulinum toxin can form. Consult your local Cooperative Extension Service office for correct canning and preservation procedures.

**Health & Safety Cautions for Harvesters:** Fiddleheads present several concerns for harvesters: Ostrich Fern is generally considered to be the safest fiddlehead for consumption. Even so, in the Lower 48 and Canada there have been reports of food poisoning from raw or undercooked fiddleheads assumed to be Ostrich Fern. There is speculation that these suspect fiddleheads may have actually been from Cinnamon Fern or Interrupted Fern (*Osmunda* species). Neither of these ferns occurs in Alaska.

Reliable information on Lady Fern toxicity is scanty. Some sources list Lady Fern as containing the enzyme thiaminase which can break down vitamin B<sub>1</sub> unless cooked.

Little information is available for Shield Fern, but it may also contain thiaminase.

**Caution: Bracken Fern is known to have carcinogenic compounds and is best avoided.**

**Caution: All fiddleheads should be cooked before eating and consumed in moderate amounts until you are sure how you will react to it.**

For those seeking more details, be aware that much fiddlehead information including photos on the web (and even in many books) is questionable, and in many cases, wrong.

**Land Access for Harvesting:** Always obtain permission from the landowner before harvesting, including Native Claims Settlement Act lands. On state general lands, an over-the-counter permit is necessary for harvesting fiddleheads for other than personal or subsistence use. This permit may be obtained from the Alaska Department of Natural Resources, Division of Mining, Land, and Water.

**Points of Concern:** In recent years, there has been increased collecting pressure on certain state lands. Collecting more than half of the fiddleheads from a single rhizome, year after year, will result in lower yields, and if the picking pressure continues, eventually kill the fern.

**Never collect more than half of the fiddleheads arising from an individual root.**

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Ostrich Fern photo by R. Bielech [www.callutheran.edu/cr/index.htm](http://www.callutheran.edu/cr/index.htm)



Lady Fern

J.S. Peterson @ USDA-NRCS PLANTS Database



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