

(rhizomes). into the air like trees, and formed great tracts of forest-like growth. Today only the tropics and sub-tropical zones can boast of representatives that approach anything like the growth of the ancient tree-ferns. The stems of our native ferns are prostrate on the ground, and more or less

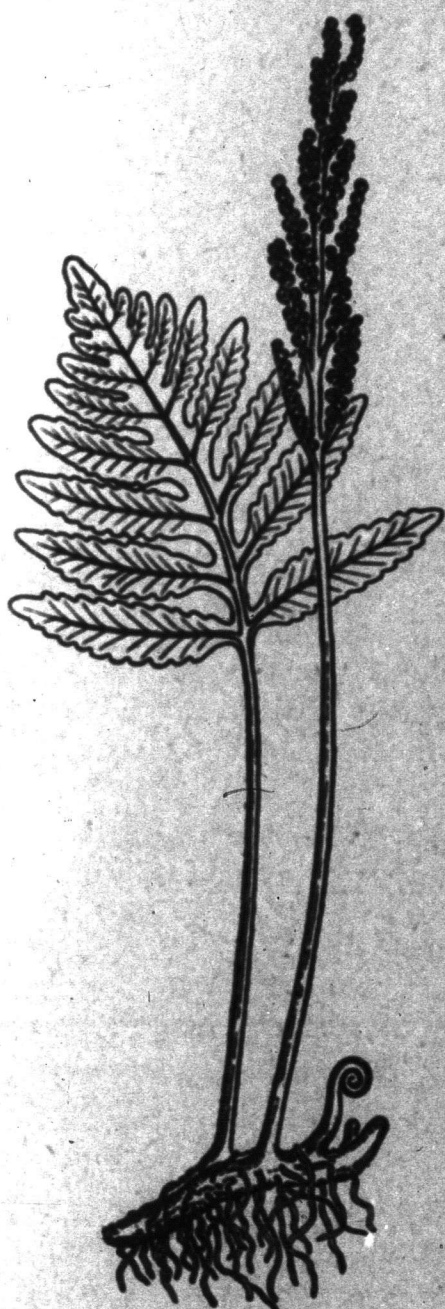


Fig. 1. The Sensitive Fern (*Onoclea sensibilis*) showing vegetative frond, and spore frond rising from creeping rootstock (rhizome).

covered with leaves and moss, and in some instances are beneath the surface of the ground and remind one strongly of the roots of other plants.

In many species we find a division of labor among the fronds and their pinnae in the matter of spore production and food formation — photo synthesis. In most ferns the upper pinnae form the chief fruiting part of the frond, the lower being given up. In the genus *Osmunda* we find certain fronds and pinnae especially set apart for spore production. In the Royal fern, *Osmunda regalis*, they are at the very tip of the frond; in the Interrupted fern, *O. Clatonia*, some 2-5 pairs of middle pinnae are fertile; while in the Cinnamon fern, *O. Cinnamomae*, a whole frond is fertile. The Sensitive fern, *Onoclea sensibilis*, and the

Ostrich fern, *Onoclea Struthopteris*, also have specialized fronds entirely given up to spore production. The fertile fronds of last summer of the Sensitive fern may yet be found standing erect, and clothed with berry-like closely rolled pinnae.

See Figure 2.

Special branches, spikes or panicles, of the frond are fertile in genera *Ophioglossum* (Adder's Tongue) and *Botrychium* (Moonwort).

For the interest of fern students and as a help to further work on this group of plants I add a list of ferns found in New Brunswick and Nova Scotia.

The naming is in accord with Gray's Botany, 7th edition. A few common names are given, and an occasional note.

- Polypodium vulgare* L.
- Phyopteris polypodioides* Fee., Beech Fern.
- P. Dryopteris* Fee., Oak Fern.
- P. Robertiana* A. Br.
- Adiantum pedatum* L., Maidenhair Fern. Local.
- Pteris aquilina* L., Common Brake or Bracken.
- Cryptogramma Stellari* Pranth. Rare.
- Woodwardia virginica* Sm. Rare.
- Asplenium viride* Huds. Rare.
- A. Trichomanes* L. Rare.
- A. Acrostichoides* Sw.
- A. Filix-ferma* Beruh., Lady Fern.
- Polystichum acrostichoides* Schott., Christmas Fern.
- P. Brannii* Fee.
- Aspidium Thelypteris* Sw.
- A. Noveboracense* Sw.
- A. fragrans* Sw.
- A. marginale* Sw.
- A. Filix-mas* Sw.
- A. Goldianum* Hook. Rare.
- A. cristatum* Sw.
- A. spinulosum* Sw.
- A. s. var. intermedium* D. C. Eaton.
- A. s. var. dilatatum*, forma *adadenium* Robinson
- Cystopteris bulbifera* Bernh.
- C. fragilis* Bernh.
- Woodsia ilvensis* R. Br.
- W. Alpina* S. F. Gray.
- W. glabella* R. Br.
- Dicksonia punctilobula* Gray., Hay-scented Fern.
- Onoclea sensibilis* L., Sensitive Fern.
- O. Struthiopteris* Hoffm., Ostrich Fern.
- Schizaea pusilla* Push. Rare.
- Osmunda regalis* L., Royal or Flowering Fern.
- O. Claytoniana* L., Interrupted Fern.
- O. cinnamomea* L., Cinnamon Fern.
- Ophioglossum vulgatum* L., Adder's Tongue Fern. Local.
- Botrychium simplex*, E. Hitchcock.
- B. lanceolatum* Angstraein, var. *Angustisegmentum* Pease & Moore.
- B. ramosum* Aschers.
- B. obliquum* Muhl.
- B. tenatum* Sw., var. *Intermedium*, D. C. Eaton.
- B. virginianum* Sw., Rattlesnake Fern.

HORSETAILS — GENUS, *EQUISETUM*.

Some species of the Horsetail are among the earliest of our spring plants. The "Common Horsetail," *Equisetum arvense*, grows in abundance on all sheltered sandy banks, especially along roads