



The Katharine Ordway
Natural History Study Area

Box 216
Inver Grove Heights, Minn. 55075
(612) 455-6204

ORDWAY BULLETIN
No. 70

MACALESTER
COLLEGE

located at 9550 Inver Grove Trail (Dakota County Road 77), Inver Grove Heights, Minn.

An ENIGMA at ORDWAY.

At the edge of the oak forest is a gate which formerly admitted a wagon road that led down to the level of the River. The road has long since grown over and now a footpath serves Ordway walkers. Here one feels the dramatic contrast with the hot grassland and experiences the cooler embrace of the forest shade. Here also, just before passing through the gate, one sees ferns on the south side of the path. A magnificent stand of them completely covers the steep slope to its very crest about 100 meters distant and the green carpet is at least 60 centimeters in depth, giving the texture of a rich Persian rug and reaching up to knee-height.

It was not this way a short while ago in early April. Then there was simply a steep hillside covered with the brown detritus from last year's vegetation. Something happened as a result of the blandishments of the changing season. Soon the hillside was covered with small loops of pale green, the hairy up-shootings of newly-aroused ferns. Early rain plus some of the fleeting moments of Minnesota's spring sunshine combined to coax these shoots upward two or three inches. (The biological term itself - circinate vernation - is to the ear what the young ferns are to the eye.) The few following days brought an interesting unfolding of the new plants, the development of leaflets and fronds from the tiny original shoot until the complete plant developed in about three weeks and tossed its cover of lush green across the shoulders of the hillside.

By the end of May the canopy of oak trees shaded the hillside, completing the natural conditions which are so conducive to the growth of ferns. The entire stand of plants covers about 2/10 of a hectare (about 1/2 acre) and consists of but a single species, the Interrupted Fern (*Osmunda claytoniana*). This in itself is a little unusual as most of the fern-sites on the property are apt to have mixed species. But the most unusual thing about the stand of ferns is the fact that it is limited.

As one passes through the gate it becomes obvious that there are no ferns growing beyond the fenceline, i.e. east of the fence. Likewise the footpath bounds the limit of their growth to the north. The fact that there are ferns south of the footpath and west of the fenceline is an enigma which captivates all observers except for a few of the simplistic-minded who are inclined to dismiss such a phenomenon with an "obvious" explanation. It becomes a focus for the attention of students and observers and is a provoker of ecological thinking.

R J CHRISTMAN,
Naturalist,
Katharine Ordway Natural
History Study Area.

2 October 1978
gmf