

INTERMEDIATES BETWEEN FERTILE AND STERILE  
SHOOTS IN *EQUISETUM ARVENSE*<sup>1</sup>

John K. Edwards  
Sioux Falls College

During July of 1939 several aberrant shoots of *Equisetum arvense* were collected in the vicinity of the Rocky Mountain Biological Laboratory, which is located at Gothic in Gunnison County, Colorado. These abnormal shoots were characterized by the presence of small terminal cones and by fewer whorls of green branches. Otherwise they were quite similar to the typical vegetative shoots among which they were growing.

A search of the available literature indicated that such unusual fruiting forms were recognized taxonomically by Watson and Coulter<sup>2</sup> as *E. arvense*, var. *campestre*, and by Rydberg<sup>3</sup> as the variety *serotinum*. Marie-Victorin<sup>4</sup> in *Les Equisetines du Quebec* divides the various types of abnormally fruiting shoots of *E. arvense* into three forms; these forms are *f. irriguum*, *f. Duffortianum*, and *f. serotinum*. Wherry<sup>5</sup> lists a tall aquatic type of *E. arvense* from Meridian Lake, Gunnison County, Colorado, which bears terminal cones and scattered branches, but gives it no name. Coulter and Nelson<sup>6</sup> and Robinson and Fernald<sup>7</sup> do not mention any aberrant forms of the typical vegetative shoots. In the above mentioned collections from Colorado were several specimens of each of the three forms described by Marie-Victorin. When

arranged in a series and compared with normal sterile and fertile shoots they seem to indicate a possible origin of the fertile shoot from the sterile.

Since these definite aberrant forms of *E. arvense* are produced in different localities and since a similar genetic set-up must be operating in each case, there should be some provision for their recognition as they recur from time to time. Specific or varietal names would probably not be valid, for to the taxonomist a species or variety usually represents like individuals which do or may interbreed and give rise to offspring resembling themselves. However, form names such as those used by Marie-Victorin should prove useful in indicating which particular type has been collected or observed, and might well find a place in the technical literature on the subject.

<sup>1</sup>A Contribution from the Rocky Mountain Biological Laboratory, Crested Butte, Colorado.

<sup>2</sup>Watson, Sereno and John M. Coulter, *Manual of the Botany of the Northern United States* (Gray's Manual, 6th Ed.) American Book Co. 1889.

<sup>3</sup>Rydberg, Per Axel. *Flora of the Prairies and Plains of Central North America*. The Science Press. 1932.

<sup>4</sup>Marie-Victorin, *Les Equisetines du Quebec*, Contributions du Laboratoire de Botanique de l'Universite de Montreal. No. 9 1927.

<sup>5</sup>Wherry, E. T. *Colorado Ferns*, American Fern Journal. 28: 4, 125-140. 1938.

<sup>6</sup>Coulter, John M. and Aven Nelson. *New Manual of Botany of the Central Rocky Mountains*. American Book Co. 1909.

<sup>7</sup>Robinson, B. L. and M. L. Fernald. *A Handbook on the Flowering Plants and Ferns of the Central and N. E. United States and adjacent Canada* (Gray's Manual, 7th Ed.) American Book Co. 1908.