

LIVERWORTS OF SPRING MILL PARK

F. M. ANDREWS, Indiana University

The liverworts mentioned at the end of this paper have been observed, at what is now known as "Spring Mill Park," by the writer at different times over a period of many years. Not all of them have been found at any one time, but sometimes several of them have been seen in one season. Of these may be mentioned *Porella*, *Marchantia* and *Conocephalus* (*Fugatella*). *Porella* and *Conocephalus* (the latter until recent years) were found whenever the "Spring Mill Park" was visited and in larger quantities than any of the other forms. In the earlier years of the writer's visits to the Park the *Conocephalus* was present in the largest amounts and on account of its color, compact, vigorous and extensive growth, it was for a long time by far the most conspicuous of any of the forms observed by the writer. In comparatively recent years, however, the old sluice which had fallen, in large measure into decay, has now entirely disappeared. For many years this old sluice, which was partly filled with sand and mud, carried some water part of the distance to the old mill and the water, as it passed through the sluice, leaked out in many places. This continual supply of moisture together with good light and aeration afforded an ideal location for the dense growth of *Conocephalus*, at places on the top, but especially on the sides of the shaded and moist old sluice. With the gradual destruction of the sluice, has come about the slow disappearance of the very dense growth of *Conocephalus*. At present there remains only a few specimens of *Conocephalus* on the moist rocks below the dam and at a point which was formerly the upper end of the old sluice. *Conocephalus* is one of the most common forms of thallose liverworts of this "range." Having no gemmae, its other well developed vegetative reproduction and its spores form ways of rapid multiplication. The spores may even begin germination in the sporogonium, as some pollen grains may do in the anther cell, or some spores in the ascus of certain Lichens.

Porella has generally been present at the "Spring Mill Park" in fair abundance, but now less than formerly. The same is true of other localities and in many of these *Porella* has almost disappeared. Such plants, as well as some representatives of the lichens, do not fare well with the increase of population. *Marchantia*, and other thallose forms, lend themselves rather easily to cultivation and grow well if protected, but are incapable of withstanding much competition.

The other forms mentioned in this paper were only sparingly present in any of the years in which observations by the writer were made. During some years certain of the forms were seen that were not observed in other years. This directs attention to the occurrence of other plants, the possibility of whose presence should be observed over a series of years, rather than during any one season or year, in order to be certain whether or not they may grow in a given locality.

The following forms have been observed: *Frullania virginica*, *Radula Compianata*, *Porella platyphylla*, *Trichocolea tomentella*, *Lepidozia setacea*, *Plagiochila porelloides*, *Jungermannia barbata*, *Anthoceros laevis*, *Marchantia polymorpha*, *Conocephalus conicus*, *Asterella hemisphaerica*, *Lunularia vulgaris*, *Riccia fluitans*.