

A Report of Progress of the Botanical Study at the Angel Mounds Site

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An unusual opportunity to make a botanical study in connection with an archaeological study arose last year when it was observed at the Angel Mound Site on the Ohio river east of Evansville that the old Indian village wall could be traced by variation in the species of plants growing on and along it, although the fields through which it extends have been under cultivation for many years.

It was decided to make a specific study of the wall and the plants growing there, and also a general taxonomic survey of the vascular plants of the region. Both studies were begun early in the spring of 1941. To date, about three hundred plants have been collected and identified, of which about two hundred are new records for Vanderburgh county. Many of them are common plants which one would expect to find almost anywhere, but a few are more rare. Included in this group are *Hottonia inflata* Ell., which has been collected previously only three times in Indiana; *Pyrrophappus carolinianus* (Walt.) DC., for which there is only one authentic report for Indiana; and *Orobanche ludoviciana* Nutt. var. *genuina* G. Beck, which has been reported from only three counties in the state.

Although the specific study of the wall is still in a very formative stage, several interesting observations have been made. Strips ten feet wide and of varying lengths of not less than one hundred feet were staked out across the wall. These strips were studied for plant species, pH of the soil, and elevation. When the results of these studies are compared, there is evidence of a definite correlation between certain "indicator" species of plants, such as *Plantago aristata* Michx. and *Plantago lanceolata* L., and the pH reading. There is also evidence for some correlation between the elevation and the pH of the soil. To summarize briefly this part of the work, the results to date seem to indicate that where the elevation is greatest, that is, where the wall originally stood, the pH is lowest. This does not, however, indicate that the elevation alone is responsible for the change in pH; there are undoubtedly other factors which have not yet been observed. The results also show a definite tendency for certain plants such as *Aster pilosus* Willd. and *Plantago lanceolata* L. to grow up to the point where the elevation rises and the pH drops, and then thin out abruptly to the point of becoming entirely absent, while other plants such as *Plantago aristata* Michx. grow only on the more acid part of the strip, and thin out altogether where the elevation drops and the pH rises.

A continuation of both the taxonomic survey and the specific study of the wall including complete soil analyses is planned, and undoubtedly many new factors and relationships will be found to play a part in the peculiar phenomenon of the wall.