

EXCEPTIONAL GROWTH OF A WILD ROSE. BY STANLEY COULTER.

While botanizing at Eagle Lake, Indiana, the past summer, my attention was attracted by the peculiar growth of a wild rose. The bush arose from near the center of an oak stump, which was some two or three feet in diameter. The wood of the stump was extremely hard, and showed no signs of decay so far as could be determined by a large knife. No cracks of any character, large or small, were observable upon the summit of the stump or along its sides. The three stems of the bush seemed at first glance to emerge, each from a specially prepared hole, which it fitted with extreme accuracy, so closely indeed as to prevent movement in any direction. My first impression was that it was a skillfully executed trick. Further examination, however, showed that at the point of emergence from the stump each stem showed a well marked intumescence, evidently the result of arrested growth currents. These swellings resembling exactly those found at the bases of branches in girdled trees. The bush itself was some two feet high, and when first visited was in full bloom, bearing fourteen flowers. It continued flowering throughout the season, and later set seed well. The foliage leaves, while perhaps not so large as in bushes of corresponding size growing in the earth, were in all other particulars perfectly normal. Evidently the plant was several years old, and that it had had a vigorous growth was sufficiently evidenced by the intumescences upon the stem, by its prolific flowering and abundant seed setting. A careful examination of the stump at its base showed no crevices in which seeds could find lodgment. It was very plain that in some way, on the surface of this apparently solid oak stump, the bush had succeeded in finding the requisites for a successful growth.

In May, 1897, I again visited the stump and found the bush making a vigorous growth. At this time, however, I observed some wood peckers at work on the stumps of some newly sawed oaks. Examining the stumps I found many in which holes had been drilled by this bird. I mention this as a possible explanation of the way in which the seeds obtained lodgment. It does not, however, account for such a vigorous growth under such apparently adverse circumstances. The stump, so far as could be determined, was perfectly solid, with not even a marginal rim of decay, although in one or two places the bark had fallen away. How did the bush on the summit of a solid oak stump, four feet from the ground, obtain sufficient moisture? Its stems were so securely fixed in the surrounding wood that the most vigorous efforts failed to produce movement in any direction. In the absence of decayed material, what was the source of food supply? I examined the plant many times, and have not been able to answer these questions

to my own satisfaction. It has been suggested that the growth was from a crack which had gathered soil. A mere glance negatives the suggestion. Again it has been said that the stump, though apparently sound, is really decayed. This, of course, is possible, but in no part of the stump to a depth of three inches was there the slightest trace of decay that could be detected.

To my mind it stands as the title indicates, as an exceptional growth of a wild rose.

A REVISION OF THE SPECIES OF THE GENUS *PLANTAGO* OCCURRING WITHIN
THE UNITED STATES. BY ALIDA MABEL CUNNINGHAM.¹

The genus *Plantago* of Tournefort under rule 2 of the Madison code is now to be referred to Linnaeus, Sp. Pl. 112 (1753). The description of the genus found in the 6th edition of Gray's Manual is so complete that it is here quoted without change.

The purpose of the following study was a revision of the various species of this genus, based upon seed characters because of the belief that such characters were most likely to be constant and of diagnostic value. The results obtained by this study have led to a confirmation of these views, and it is believed that an extension of studies of this character would be of high value.

The material examined was that contained in the herbaria of the United States Department of Agriculture, the University of Minnesota, Purdue University and the private herbarium of Dr. John M. Coulter. I extend my thanks to the gentleman owning or in charge of these collections for their kindness in permitting me to retain the material for the time needed, and to Mr. E. B. Uline for some original descriptions. I am also deeply indebted to Dr. Stanley Coulter for his trouble in procuring the material examined, and for his many valuable suggestions in the study of the subject.

The results show that the genus may be broken up into three sections, clearly separated by seed characters, as follows:

- I. Seeds oval in cross section.
 - P. cordata*, *major*, *Rugelii*, *eriopoda*, *decipiens*, *maritima*, *Tweedyi*.
- II. Seeds more or less anther shape in cross section.
 - P. lanceolata*, *Patagonica*, *hirtella*, *Virginica*, *rubra* and *minima*.
- III. Seeds irregularly lobed in cross section.
 - P. elongata*, *heterophylla* and *Bigelovii*.

¹Plates 1-20, photographs of the various species, which were intended to accompany this article, are omitted because of lack of funds.