

MINOR PLANT NOTES, NO. 3.

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SORGHUM SMUT IN ADAMS COUNTY.—A small field of Sorghum near Mineral Springs Station, Adams County, Ohio, was observed last November to be badly infected with the grain smut of Sorghum, known to botanists as *ustilago sorghi*, or perhaps more correctly designated (according to G. P. Clinton) as *Cintractia sorghi-vulgaris*. A careful inspection of the harvested stalks, still piled in the field, showed that fully twenty per cent. of the panicles or heads were infected. When there is infection by this smut, usually every grain in the panicle is smutted according to repeated observations in various localities. The field in question was very thickly planted to sorghum, the crop evidently being intended for stock feed. The only other locality reported in Ohio for this smut, so far as at present recalled, is Columbus, where however it has occurred only upon artificial infection. Broom corn also was here successfully infected. Sorghum is often cultivated, but not in large quantities in Ohio; a large acreage of broom corn is however annually planted. Request is hereby made for reports in case this smut is noticed in other localities in our State. The Head-smut of Sorghum, *Ustilago reiliana*, should also be reported if observed.

NOTES ON SOME RUSTS.—M. A. Carleton, of the United States Department of Agriculture, has published some observations and experiments on a few rusts that are of special interest, and may well

be noted here. He has shown that the common and abundant Spurge Rust, occurring on very many species of *Euphorbia* (twelve of which are listed in the Ohio Flora) is able to propagate itself constantly through the germinating seed of its host, and therefore becomes in that way practically a perennial species. He remarks that "It is the only demonstrated example of this manner of propagation in the whole order of Uredineae. Actual cluster-cups may be seen in the hulled seeds of *Euphorbia dentata*. Seedlings kept under bell jars become rusted three months from the date of planting, showing all stages of the rust, while seeds disinfected with mercuric chloride produce no rusted plants."

OHIO HYBRID OAKS.—The Ohio Oaks have received as yet no critical study, though notes as to their variation have occasionally and indirectly got into print. It is often suggested that there may be numerous hybrid forms, though mere guesses are scarcely of any significance. Lea's Oak, which is now known to occur in Ohio at four stations, namely, Cincinnati (the original locality reported), Brownsville in Licking County (tree since cut down), Columbus (one specimen), and Cedar Point in Erie County, has been known for years. It has been generally referred to *Quercus imbricaria* and *Quercus velutina* for its parentage, though Mr. Fischer was of opinion that the Columbus specimen was a cross between *Quercus rubra* and *Quercus imbricaria*. It was a matter of much interest when Mr. A. D. Selby reported, at the December Meeting of the Ohio Academy of Science, that he observed a hybrid Oak, a single tree, growing at Lakeville, Holmes County. The parentage he refers to *Quercus alba* and questionably *Quercus imbricaria*. He reports it with pronounced aspect of *Q. alba* "save in the elongated, short-lobed leaves which obviously approach those of *Q. imbricaria*." While certain resemblances to *Q. acuminata* may suggest themselves (were his words) this species has not been observed in the immediate region. No mature fruit was seen. We may perhaps venture to suggest that the evidence for its hybridity between the two species named—one an annual-fruited and the other a biennial-fruited species—is suspiciously slender, and it is hoped that mature fruit and further inspection may put the case beyond doubt.

ASPARAGUS RUST ABUNDANT ON YOUNG PLANTS.—An inspection of the two patches of *Asparagus* on the University farm unexpectedly showed a more general infection of the plants which were but one year old. The older plants grow in the narrow flood plain of a little stream that flows through the farm to the Olentangy; throughout this patch which is perhaps a dozen years old, the infection is quite general, though very few of the plants show a large amount of the Rust, and no perceptible damage to the crop has hitherto been reported. A year ago seed was sown on higher ground

about twenty rods from the old patch. The soil is mainly clay with some loam, and has been cultivated and fairly well manured for many years. The ground slopes to the west and is well drained, though the lower portion is perhaps somewhat inclined to be moist. The plants made an excellent growth. The infection throughout was general, quite a large percentage of the stalks at this season being very black from base to tip with the almost contiguous sori or blotches of Rust. Why these thrifty young plants should be so thoroughly infected, as compared with the older ones but a short distance away which have for several years harbored the Rust, though rather sparingly, is not clear to the observer.