

## Tiny Toadstools on Crop Plants in Illinois

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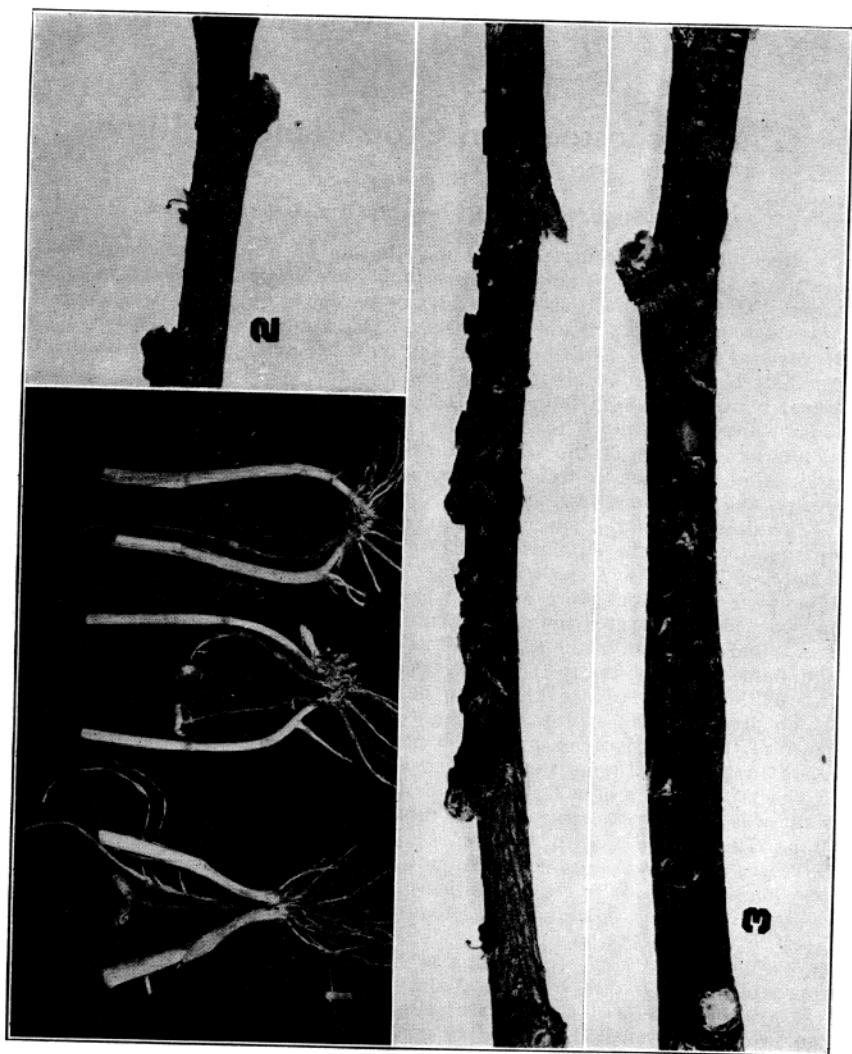
Records of the occurrence and distribution of tiny toadstools on small grains and fruits in Illinois are rare, and have been made only in recent years. The first collection of a toadstool parasitic on wheat was made 15 years ago in Madison County by Dr. P. A. Young who described it as *Marasmius tritici*.<sup>1</sup> It has been collected on other small grains in the northern half of the state, once on oats and rye and twice on barley. Affected wheat plants have been found in 8 other widely separated counties, ranging from Knox on the north to Alexander in the south and Edgar and Wabash along the east side of the state. *Marasmius tritici* is not limited to small grains but has been collected on two grass hosts, *Agropyron repens* (L.) Beauv. and an unidentified species.

The second kind, a species of *Naucoria* shown in figure 1, was collected by the author in the summer of 1935 on wheat, rye, and barley. The first collection was made from wheat May 16 in Massac County. Later in the same year, collections were made on barley in Randolph County and on rye in two widely separated counties, Vermilion and Carroll. In 1936, the fungus was found on wheat in the same field as in the previous year, but it was less abundant, probably due to the dry weather.

While fruit trees are known to be attacked by the wood-rotting fungi which produce large sporophores, there are only three records of the occurrence of tiny toadstools on apple and pear in the state. The first collection, made in 1930 in Adams County, was a *Marasmius* found growing on one of the larger limbs of a Grimes Golden apple tree. In all probability this plant was saprophytic, since it was growing on the outer dead bark of the limb. The second record is from Clay County, where *Marasmius pyrinus* Ellis was collected August 20, 1934, on one living pear leaf. The fungus was growing on a portion of the leaf killed by a leaf miner. The original description of this fungus was made from toadstools growing on old fallen leaves.

The third collection of tiny toadstools on fruit trees was made August 14, 1935, from old apple trees in an orchard in Marion County. There were approximately 150 trees of the Wealthy variety in the planting and every tree examined showed signs of infection. This fungus, shown in figure 2 and provisionally called *Marasmius pyrinus* Ellis, has sporophores as large as the smallest in Ellis' North American Fungi, No. 401. The stipe of the fungus on living apple twigs is filiform and about 3 mm. long, and the pilei are very small, membranous, and lighter in color on the under surface. The most noticeable characteristic of trees attacked by this fungus is the peculiar cankers produced by the splitting and rolling of the outer bark of the smaller twigs, which is shown in figure 3. The splitting of the bark is due to pressure exerted by the formation in the inner bark of a stromatic cushion from which the sporophore arises. Usually only one sporophore occurs on a stroma but occasionally two grow very close together.

<sup>1</sup>Young, P. A. 1925. A *Marasmius* parasitic on small grains in Illinois. *Phytopath.* 15(2):115-118. 5 figs., bibliog., Feb.



## EXPLANATION OF FIGURES

Fig. 1.—Sporophore of *Naucoria* species on dead tillers of barley (left) and wheat (2 plants at right). Note the shredded condition of remains of tiller in center plant. ( $\frac{1}{2}$  natural size.) Fig. 2.—Showing tiny sporophore of fungus on living apple twigs. Note raised portion in center of spot, stromatic cushion to which sporophore is attached. ( $\frac{4}{5}$  nat. size.) Fig. 3.—Apple twigs showing typical cankers with rolled edges of split bark, thus exposing stromatic pad. ( $\frac{4}{5}$  nat. size.)

(Photographs by Ray Hamm, University of Illinois Photographic Laboratory.)