ANTHRACNOSE OF BETULA NIGRA

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Gleosporium betularum Ell. and Mart., defoliating *Betula nigra* L., was first collected in 1920 on young trees shipped from Tennessee. The fungus appeared at this time to do but little harm, spotting leaves only. However, in 1932, it was noticeably defoliating two large trees of *Betula nigra* much before the regular season of leaf falling. The effect on and the appearance of the leaves was very similar to that of *Marsonia* on Carolina poplar.

The disease appeared on these same trees in June, 1933. Each fallen leaf showed usually a single spot, showing that a strong toxin was present. It failed to show up after June, the trees preserving their foliage as in former years. Just before the regular time for leaf fall in October, 1933, some leaves showed spotting and a few yellowed and fell to the ground. The spots were identical with those of the previous year.

In the autumn of 1934, this *Gleosporium* was quite severe again, causing much defoliation, although we have never observed it on the cut leaf birch or the ordinary white birch which grew adjacent in the same yard. However, it was found on trees of *B. nigra* in Daviess County where it seemed to defoliate very old and large trees.

The following is a redescription of the species as we find it:

Spots, few, definite, evenly distributed, occasionally coalescing, amphigenous; above, brown becoming pale in center, surrounded by a yellow zone; below, paler, nearly circular, 2-3 mm. in diameter. Acervuli (fig. 1) amphigenous, brown, 200-650 microns in diameter, falling out and leaving a cup shaped scar, usually a single acervulus in each spot, occasionally two or more which may coalesce. Spores hyaline obovate, occasionally ovate, 8-15 by 6-8 microns, granular and irregulary guttulate. The abundance of spores having the lower end tapering to a point is the most striking thing about this species.

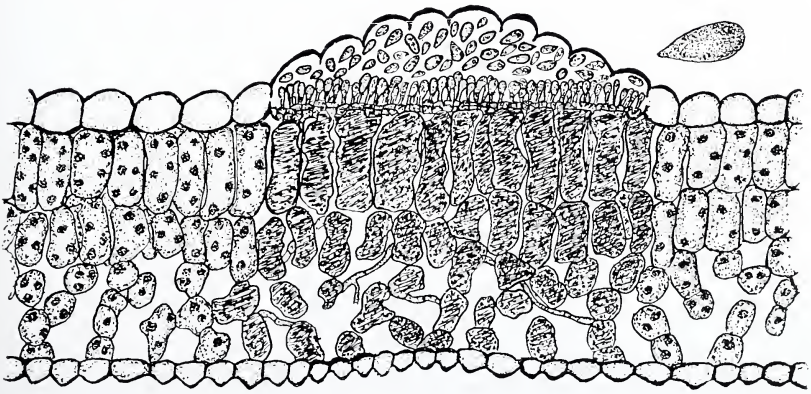

Fig. 1. Cross section through diseased leaf of *Betula nigra* showing an acervulus with its thickened and darkened cuticle, and abnormal cells induced by the fungus. Above: Spore greatly enlarged.

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