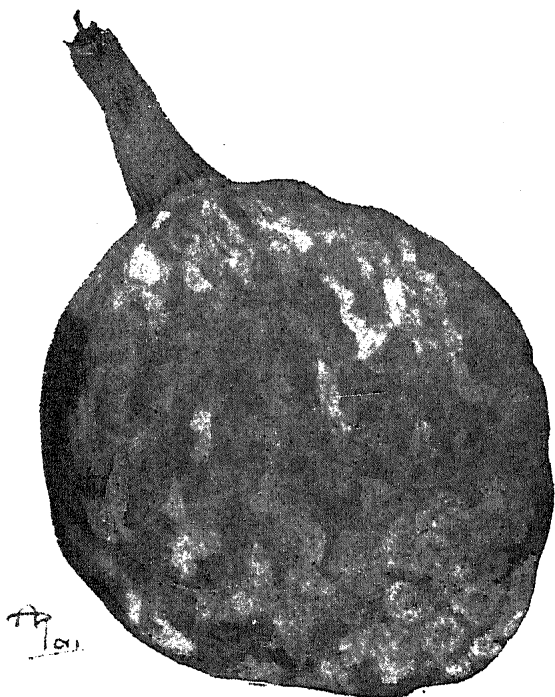


A GLOMERELLA ROT OF NUNA

A rot of fruits of *nuna* (*Anona reticulata*, Linn.) was observed for the first time in an orchard at Rainagar, Sylhet, in December 1944. The disease was quite severe: nearly 15 to 20 per cent. of the fruits were affected. A survey made throughout the district of Sylhet revealed that the rot occurs wherever *nuna* is grown. The disease has also been prevalent in subsequent years causing appreciable loss wherever found.

The rot usually appears during the middle or later part of December. It starts usually but not always from the blossom-end of the fruit; it may start also from any other point. A dirty blackish-brown spot first appears which gradually but very slowly spreads in all directions. The rot is a dry one, and the tissues of the fruit remain quite hard and in tact. The rot advances usually from the bottom upwards until the entire fruit is affected after which it is gradually transformed into a dry shrivelled mass which either remains hanging or falls to the ground. On cutting open a diseased fruit it is found that the substance of the fruit inside has become a black shrivelled mass of tissue, hard to feel and very light in weight. Fig. 1 shows the early symptoms of the disease.



The fungus causing the rot appears on the diseased surface of the fruit as a scanty whitish growth immediately after the onset of the rot. But soon conspicuous pinkish incrustations appear, and the whitish growth becomes almost non-existent. This pinkish growth shows under the microscope innumerable unicellular, hyaline spores. They are straight, often taper slightly at both ends, and measure $10-20 \times 3-6 \mu$ (average $16.2 \times 4.1 \mu$). After sometime, by the side of the pinkish growth blackish masses of fungal growth are noticed. These show clusters of perithecia containing asci and ascospores. The perithecia are pear-shaped, membranous, dark brown but lighter towards the tip. They

are formed on or partly immersed in a loose stroma of light brown, interwoven hyphae. They measure $220-300 \times 90-210 \mu$ and contain numerous asci without paraphyses. The asci are clavate, sessile, $40-70 \times 7-11 \mu$, and each contains eight spores. The ascospores are somewhat like the conidia, but are often slightly curved and measure $13-22 \times 4-6 \mu$ (average $19.2 \times 4.8 \mu$).

A large number of isolations were made. Single spore cultures were taken both from conidia and ascospores. The growth characteristics of the fungus grown on oat agar were studied. The mycelial growth was poor but the fungus produced large ochraceous salmon-coloured spores, and later produced perithecia with asci and ascospores. Cultures from conidia and ascospores manifested identical characteristics, and both formed the imperfect and the perfect spore forms. The morphological characters of the different spore forms agreed with those found in nature and the measurements were the same.

From a study of the morphological characters of the fungus it was found that the measurements of the different spore forms agree with those of *Glomerella cingulata* (Ston.) Spauld. and v. Schrenk, given by Shear and Wood.¹ Hence the fungus under study is identified as *G. cingulata*.

Infection experiments with pure cultures of the fungus on sound fruits in the laboratory and in the field established the pathogenicity in the usual manner.

As the rot is a serious one and causes considerable damage, experiments for its control were carried out during the years 1945 and 1946. It was found that spraying the fruits with 2:2:50 Bordeaux mixture as soon as the rot makes its appearance or just before the time of its usual occurrence completely controls the disease and saves all the unaffected fruits.

So far no fruit rot of *A. reticulata* due to *G. cingulata* has been reported.

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1. Shear, C. L., and Anna K. Wood, *U.S.D.A. Pl. Indus. Bul.*, 1913, 252, 1.

A PRELIMINARY NOTE ON THE KARYOTYPE IN *CAPSICUM* *FASTIGIATUM* Bl.

Most of the varieties of chillies fall under the two well-known species *Capsicum annum* Linn., and *C. frutescens* Linn. A third species, *Capsicum fastigiatum* Bl., with small apogeotropic fruits have been reported from the malnad areas of the Mysore State and in and around Bangalore.¹

Root tips were raised in pots and fixed in Lewitsky's fixing mixture and stained with Crystal Violet. The somatic count of 24 chro-