T. elephantina have an elaborate rhizome system with a horizontal sympodially branched system lying at a depth of 1 to 2 meters and a vertical rhizome which bears number of lateral buds near the apex, and terminates into a shoot. These lateral buds remain inactive in the presence of terminal shoots. Annual cutting allows the growth of new shoots from lateral buds which remain dormant in the undisturbed stands. Thus, the density in the undisturbed stand decreases by the death of old shoots which have flowered already. The synchronous flowering in the twice cut stand as against the scattered flowering in other stands, can be explained on the basis of sensitivity of leaves of different age to photoperiodic induction.

Various studies have shown that the photoperiodic sensitivity of leaves increases with their ontogenetic rank, and that the first formed leaves may be entirely insensitive to photoperiodic induction. Therefore, the plants become more sensitive to photoperiodic induction as they age[3–6].

The cutting of shoots for a second time just before flowering results in the growth of several new leaves simultaneously in all the plants These leaves being more sensitive to photoperiodic induction, and being of the same age, become sensitized at the same time and result in the synchronous flowering within a month. In the other stands, the presence of old leaves appears to be a detriment to the photoperiodic induction of flowering.

The abnormalities in the inflorescence structure and size in the twice cut stand can be explained by the fact that most of the reserved food material stored in the rhizomes is used in the development of photosynthetic organs i.e. leaves. The small amounts of photosynthetes produced in the short period before flowering and the little reserves left in the rhizomes are insufficient for proper development of reproductive organs. Since the development of the male spike precedes the development of female spike, it is least affected. The development of female spike also appears to require an assured supply of more food material to ensure seed setting, and its shortage results in the small female spikes or their replacement by male spike or even their complete absence.

Since repeated cutting reduces the vigor of plant, its density and the seed production, the study suggests that a weed like *T. elephantina* can be controlled by repeated cutting of the stand at short intervals.

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OCCURRENCE OF *COLLETOTRICHUM GLOEOSPORIOIDES* ON CAPSULARIS JUTE PLANTS

DURING 1976–1977, a *Colleto.richum* species having straight spores was found to occur on leaves and stems of a considerable number of capsularis jute plants (*Corchorus capsularis* L. cultivar. D–154), grown in some experimental plots of our Botanical Garden.

Affected leaves showed brownish necrotic lesions which were mostly marginal. Initially the lesions were small but these gradually increased in size with age. At the late stage of the disease, conspicuous dark acervuli developed in the affected parts of the leaves (Fig. 1). Parts of the stem with infection also showed dark brown lesions which were dotted with dark acervuli during later stages of the disease (Fig. 2).

The fungus associated with such necrotic lesions was isolated on potato dextrose agar (PDA) following the tissue planting method[1], and it was identified as *Colletotrichum gloeosporioides*. Penz.[2]. Although *C. gloeosporioides* is known to infect a large number of hosts, including olitorius jute plants (*C. olitorius* L.)[3], it has not been recorded earlier on capsularis jute plants. In the following paragraphs the fungus has been described with a note on its parasitic effects on artificially inoculated capsularis jute plants.

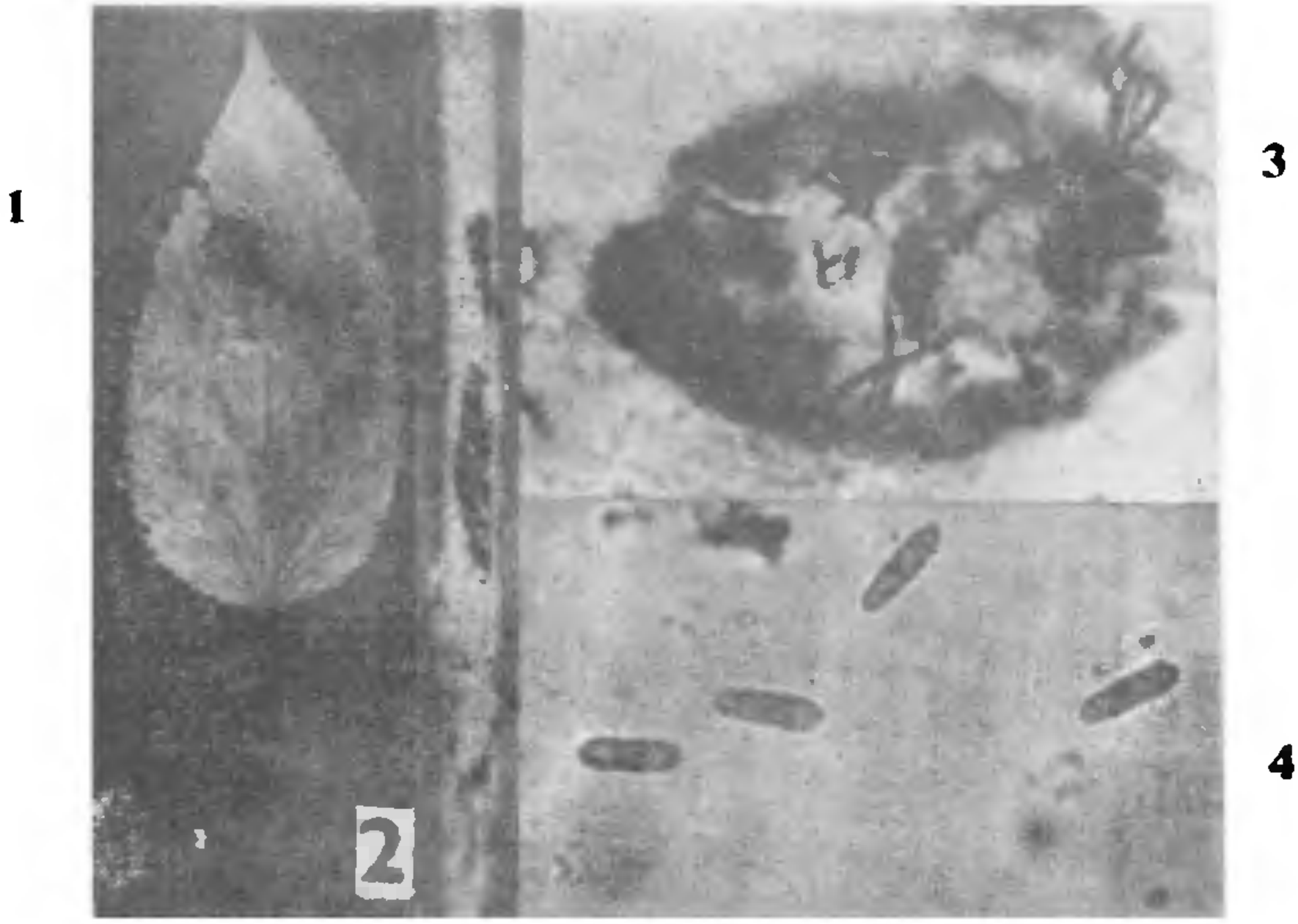
Microscopic details of the fungus were recorded from freshly collected material as well as cultures. The specimens cited are preserved in the Mycological Herbarium, Department of Botany, University of Dacca, Bangladesh. A culture of *C. gloeosporioides* (IMI 215081) has also been deposited at C.M.I., Kew, England, U.K.

Colletotrichum gloeosporioides Penz. in *Fungi Agrum.* 2, 6 (1882) (Figs. 3–4).

Acervuli (on host tissue) scattered, raised, circular or oval, dark coloured; setae lacking or very few when present, arising from the margin of the acervuli, thick walled, dark brown, 50·4–75·6 μ long, 4·2–5·6 μ wide at the middle, slightly bulbous at the base, up to

7 μ wide, tapering to a rounded or pointed often sub-hyaline end, mostly 2–septate; conidiophores fasciculate, cylindrical, simple, short, hyaline; conidia oblong, 1–celled, rounded at both ends, straigrt, often slightly constricted at the middle, hyaline, conspicuously granulose (when mounted in lactophenol with cotton blue), 10·8–17·48 × 3·84–4·8 μ.

Inoculated plants showed drooping within 30 days of inoculation. This was followed by yellowing and drying up of the leaves which ultimately withered away leaving green stems. Later these stems dried up and numerous acervuli, covered with yellowish pink spore masses were produced around the inoculated parts of the stem.



FIGS. 1–4. *Colletotrichum gloeosporioides* on *Corchorus capsularis*. Fig. 1. Lesion on leaf (× ½). Fig. 2. Lesions on stem (× 1). Fig. 3. Acervulus (× 200). Fig. 4. Conidiospores (× 700).

The fungus was isolated on PDA and grew well at room temperatures (27–32° C) producing circular colonies with profuse, greyish white aerial mycelium often studded with numerous dark, asetose or setose acervuli. The acervuli were buried in yellowish pink masses of spores. The fungus mostly sporulated within 7 to 10 days of subculturing on PDA in petri plates at room temperatures. In culture, conidia measured 13·44–17·76 × 4·32–4·8 μ.

On *Corchorus capsularis* L. (Tiliaceae), Dacca (Botanical Garden of University of Dacca), Bangladesh, 9 March, 1976, Huq–5; 9 March, 1976, Huq–6; 2 September, 1977, Khan–52.

Pathogenicity test: Pathogenicity of the fungus was tested on 6–week–old capsularis jute plants which were grown in earthenware pots (7·5 in diam) containing steam-sterilized soil. Freshly needle-pricked stems were inoculated with sporulating mycelial blocks of 1 mm diam, following Choudhury and Ahmed[4].

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