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***Botryodiplodia* SP. CANKER ON *Ficus benjamina* IN EGYPT**

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Received: November 28, 2013; Accepted: December 18, 2013

Abstract- *Botryodiplodia* sp. AUMC 9468 was isolated in pure culture from canker on *Ficus benjamina*, on side of Ibraheemia bank stream at Assiut governorate, Egypt. The analysis of growth condition suggested the trees were stressed induced by light, nutrient and medium factors. This report is the first for *Botryodiplodia* canker on *F. benjamina* in Egypt. The pathogenicity test were resulted on that the fungus was introduced with the trees, penetrated through bark wounds, and incubated under conditions stressful to the well-being of the tree.

Keywords- Canker, *Ficus benjamina*, *Botryodiplodia*

Introduction

Ficus benjamina L. displays an epiphytic habit [1] in its native environment (Malaysia). Now, the weeping fig is becoming somewhat worldwide as a specimen tree in offices all the places outdoor and indoor [2]. Several studies were done for its acclimatization and culture in an artificial environment [3-5]. Light, water, nutrients and constancy of temperature play important role in its acclimatization and culture in the novel land [2].

Materials and Methods

Isolation and Identification of the Pathogen from the Diseased Trees

The specimens of weeping fig were discovered and reported in Assiut governorate Ibraheemia bank streams in the beginning of summer 2013 at Assiut governorate in Egypt. Stem and bark tissue pieces were surface-sterilized (5% Sodium hypochlorite, 3-5 min.) and plated out on PDA. Dark colonies were grown and one fungus was identified as *Botryodiplodia* sp. The fungus was isolated on CZ and PDA medium in a pure culture. The fungus isolate was identified morphologically according to Moubasher [6].

The Pathogenicity Test

Six specimens were purchase from orchard (Assiut, Egypt), the stem of three of them were sterilized by fungicide, afterward the stems were wounded and direct inoculated with the pure culture of *Botryodiplodia* sp. (were prepared on PDA and adjusted to 10⁷ CFU/ml). Then, covered with sterilized pieces of cotton, the cotton pieces were wetted each 2 days with sterilized water to give the high humid condition for the inoculated part of the stem (20-30 cm upward of the soil level in each pot). The inoculation was done in July 2013 under normal condition of the weather in the green house. The other three were used as control plants.

Results

The disease documents were shown below [Fig-1C] [Fig-1D] and

[Fig-1E]. The blacked canker and the wilting parameters were shown in [Fig-1E]. The results of pathogenicity test gave rise to 100% success, long branch or complete plant exhibited wilt [Fig-2], then the foliage was dead. The bark of the diseased area peeled out by the action of the fungus growth underneath it on the small cortex and phloem of the stem. Darken canker and extensive discoloration was appeared in all the infected areas of the stems [Fig-1E] and [Fig-2B]. The pathogen conidia and pycnidia were documented morphologically [Fig-4D].



Fig. 1- Canker disease of *F. benjamina* caused by *Botryodiplodia* sp. The healthy tree (A); the fungus grow underneath the cork the whole tree die (B); (C, D, and E) throw the cortex and the phloem and cause the tree death by the time

Discussion

Although the genus contain parasitic members, and the main cause of *F. benjamina* L. canker in this case and that is different from the others like [7] they reported that occurs by two genera *Phomopsis cinerescens* and *Botryodiplodia* and the former is the primary cause of fig canker. The association of the two genera was reported by others [8] on rose as a disease complex. It is suggested that the

fungus was entered through wounds, and developed under a stress syndrome.

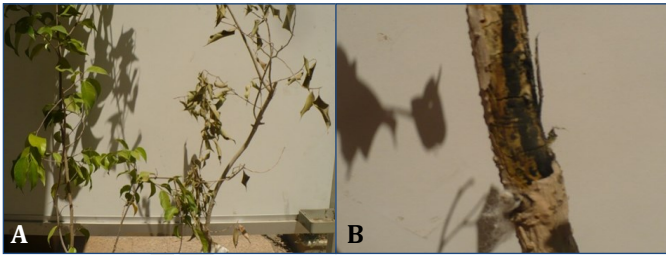


Fig. 2- Pathogenicity test of *F. benjamina* caused by *Botryodiplodia* sp.

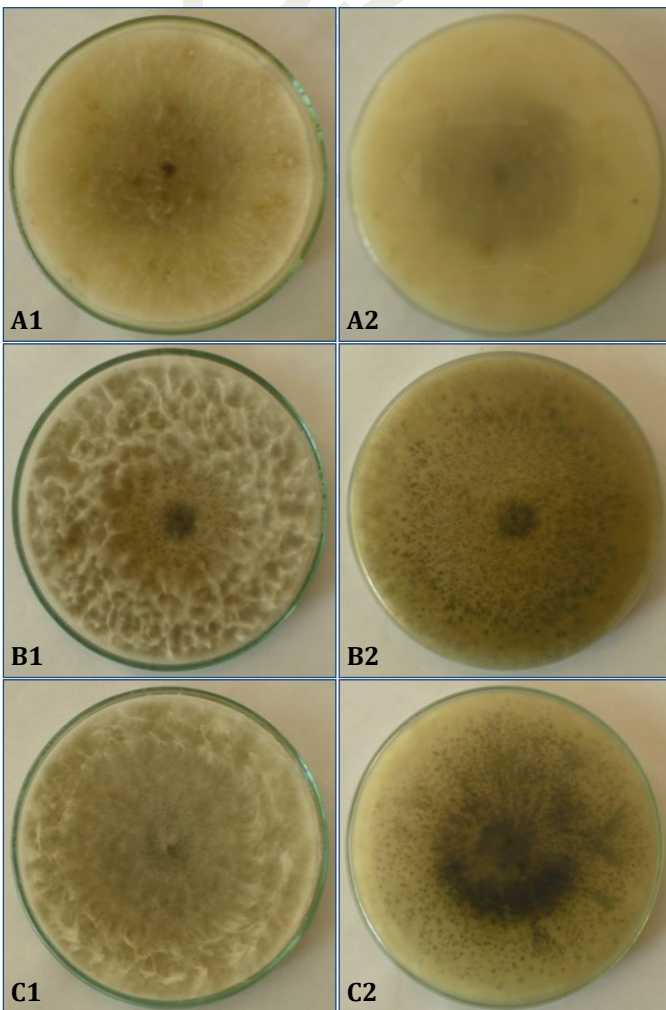


Fig. 3- 4-day old colony of *Botryodiplodia* sp. on: A, Oat Agar (OA); B, Potato Dextrose Agar (PDA); C, Czapek Dox Agar (Cz); 1, surface view and 2, reverse view.

The purpose of this paper is to describe an outbreak of *Botryodiplodia* sp. canker on *F. benjamina* L. and to draw attention to this first report of the causal agent in Assiut governorate in south of Egypt.

Acknowledgements

The authors wish to acknowledge the assistance of Dr. Moubasher, Professor of Mycology in Botany and Microbiology Department, Faculty of Science, Assiut University, and the AUMC Director and all the staff members of the AUMC (Assiut University Mycological Centre) for their kind help.

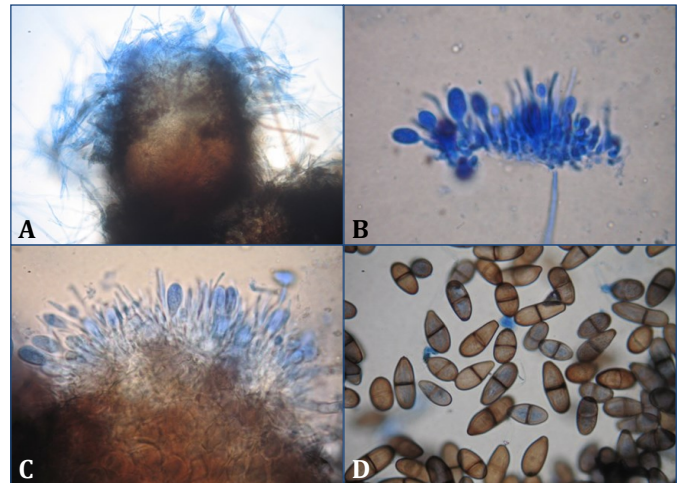


Fig. 4- Microscopic examination of *Botryodiplodia* sp., A, B, and C: the pycnidium structure; D the conidial structure.

Conflicts of Interest: none declared.

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