



**HAL**  
open science

# SPORADIC OCCURRENCE OF THE GRAPEVINE TRUNK DISEASE PATHOGEN DIPLODIA MUTILA IN THE TOKAJ WINE REGION, HUNGARY

Csilla Kovács, Péter Balling, Zoltán Bihari, Florence Fontaine, Erzsébet Sándor

► **To cite this version:**

Csilla Kovács, Péter Balling, Zoltán Bihari, Florence Fontaine, Erzsébet Sándor. SPORADIC OCCURRENCE OF THE GRAPEVINE TRUNK DISEASE PATHOGEN DIPLODIA MUTILA IN THE TOKAJ WINE REGION, HUNGARY. GTD, 2017, REIMS, France. hal-03124295

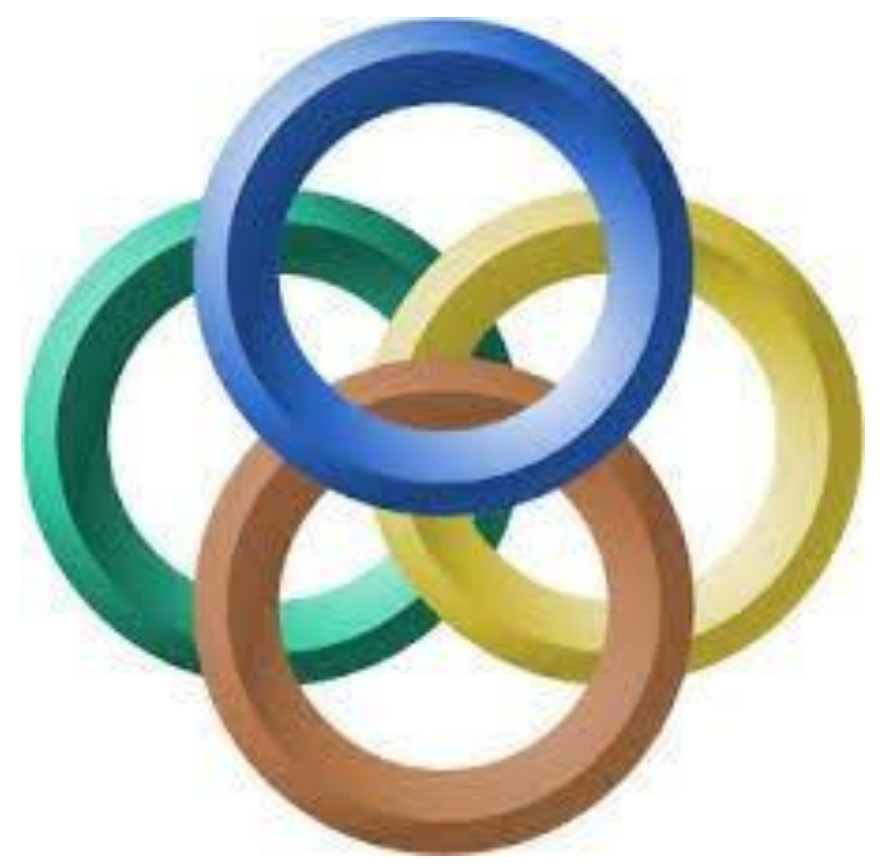
**HAL Id: hal-03124295**

**<https://hal.univ-reims.fr/hal-03124295v1>**

Submitted on 28 Jan 2021

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



## INTRODUCTION

Black dead arm (currently known as *Botryosphaeria dieback*, BD) was first described by Lehoczky (1974) in mature Hungarian vineyards. The disease was characterised with sporadic occurrence in several grapevine-growing districts, including the Tokaj Wine Region.



## MATERIALS AND METHODS

- Fungi were isolated from woody parts of the seven sampled Furmint grapevines expressing BD symptoms in the Tokaj Wine Region, Hungary.
- BD was detected only one year (2013) in the Tokaj Wine Region with less than 1% occurrence in the monitored vineyards.
- Dead parts of the plants with BD symptoms were removed and used for laboratory analysis to identify the pathogens.
- Taxonomical identification: based on their ITS1 and ITS2 marker sequences.
- The sequences of the amplified rDNA region were deposited in GenBank.

## RESULTS

### Taxonomical identification of *Diplodia mutila*

- Seven isolates were identified as *Diplodia mutila* species based on ITS1,2 sequences (Fig. 2.).
- The Accession numbers of the deponated isolates were KU377231, -32, 377242, 377245, 377250, 377263, KU377212)

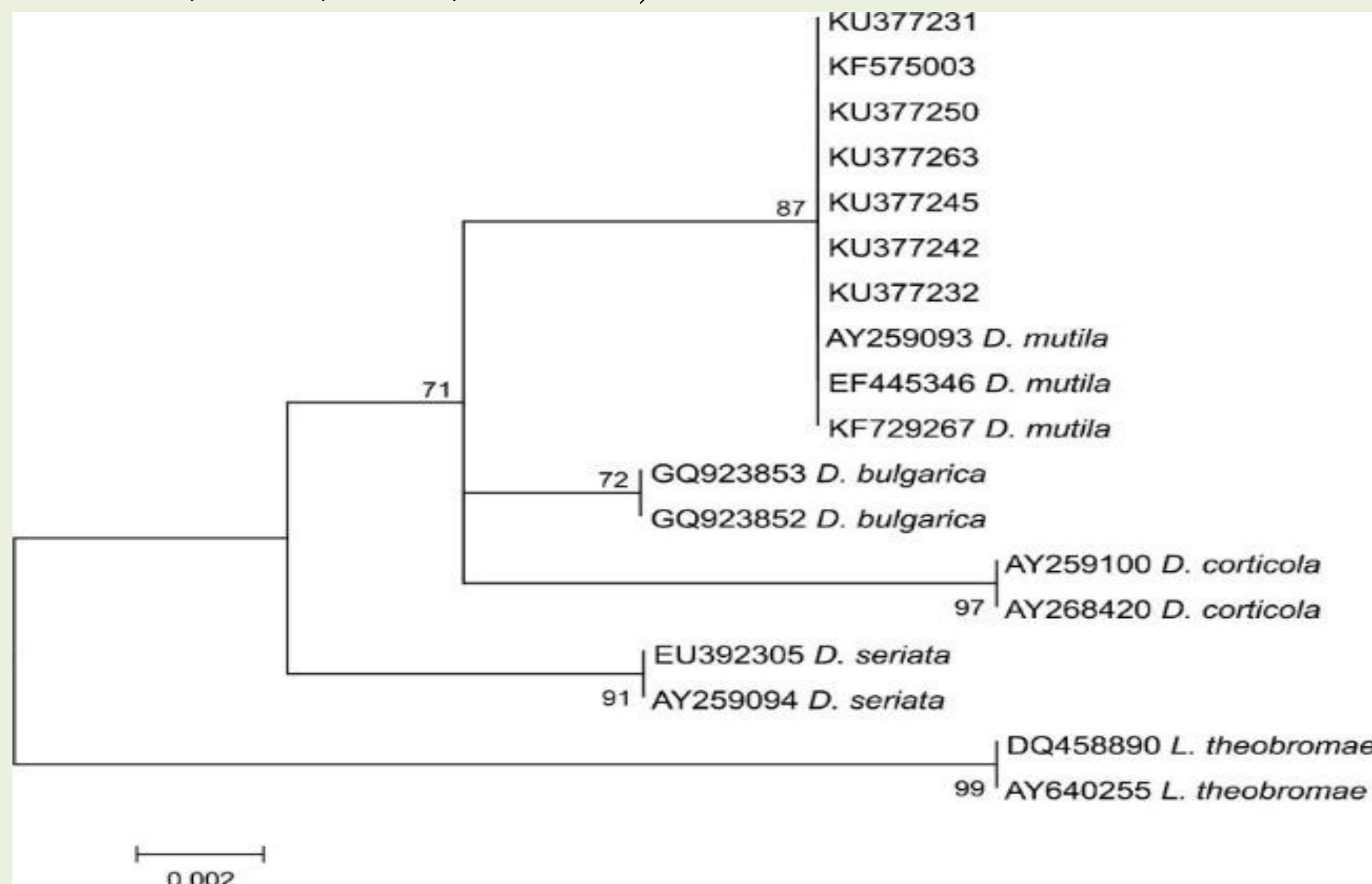


Fig. 2.: Phylogenetic tree ITS sequence of *Diplodia mutila*

### Morphological identification of *Diplodia mutila*

- The morphological characters of *D. mutila* was identified from all grapevines in 2013.
- Pure fungal cultures were grown on PDA agar medium.
- The colony formation, the pigment production and the shape of spore were studied during for morphological identification.

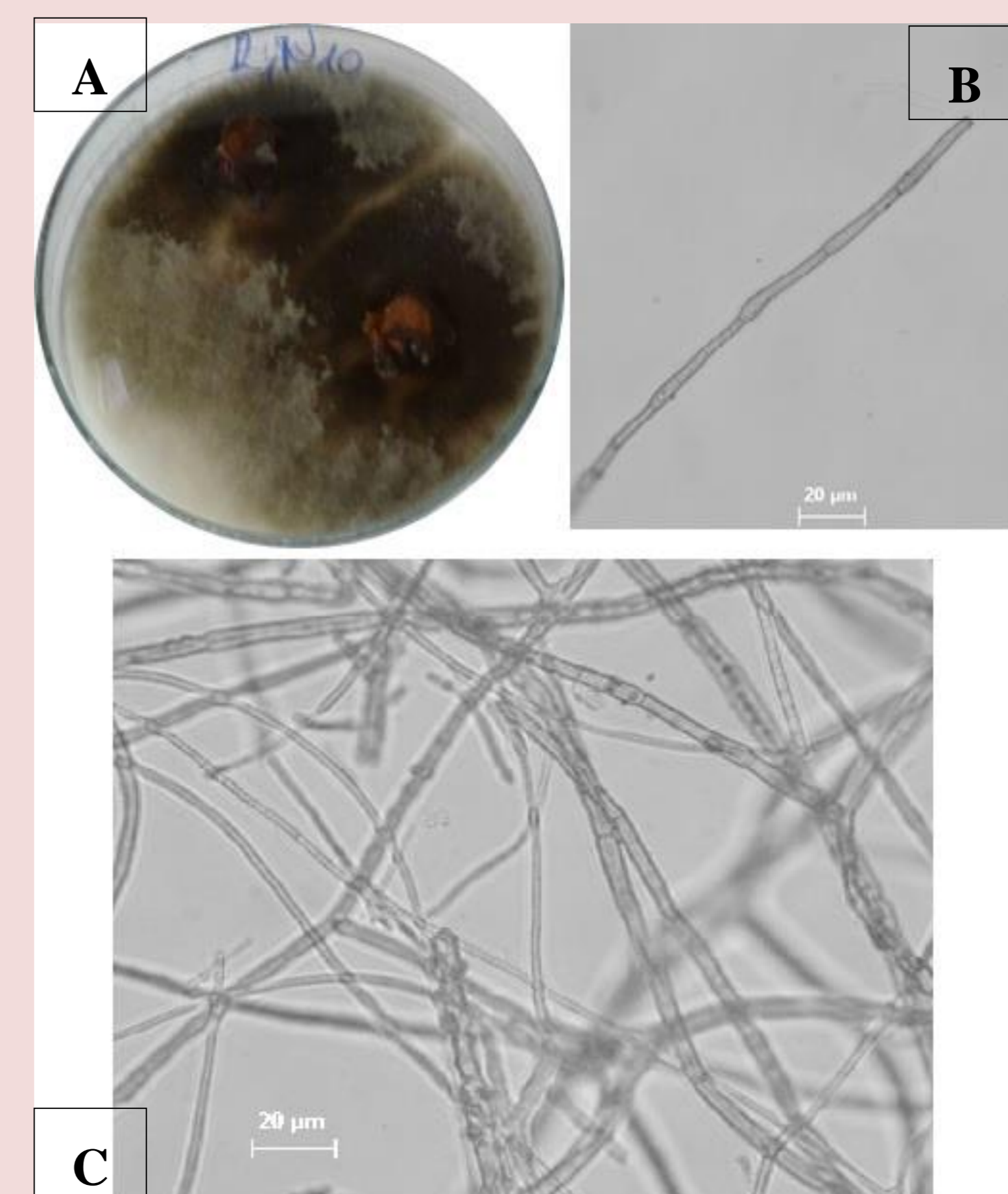


Fig. 1.: Morphological characters of *D. mutila* (A): colony on PDA; (B, C): septate hyphae

## SUMMARY

Interestingly, the expression of BD was not detected visually following the removal of the dead plant parts and *D. mutila* was not isolated from the cordon of the seven plants with BD symptoms in 2013.

## ACKNOWLEDGEMENT

This work was supported by the TÁMOP 4.2.4.A/2-11-1-2012-0001 project (NKPH) and co-financed by the European Union and the European Social Fund. The research was supported by through the New National Excellence Program of the Ministry of Human Capacities, Hungary. The research was supported by the Hungarian Scientific Research Foundation (OTKA, K13255).