



شبكة المعلومات الجامعية
التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم



MONA MAGHRABY



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شبكة المعلومات الجامعية التوثيق الإلكتروني والميكروفيلم



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التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس التوثيق الإلكتروني والميكروفيلم

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MONA MAGHRABY



Identification of *Malassezia* Species Isolated from Pityriasis Versicolor by CHROMagar-Medium

Thesis

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in Dermatology, Venereology and Andrology*

By

Sara Hossam Abd El-Aleem Ibrahim Shaheen

M.B.B.Ch

Faculty of Medicine – Ain Shams University

Under Supervision of

Prof. Dr. Mohamed Abd El-Naeem Sallam

Professor of Dermatology, Venereology and Andrology

Faculty of Medicine – Ain Shams University

Prof. Dr. Mohamed Taha Mahmoud El-Sayed

Professor of Microbiology

Faculty of Veterinary Medicine - Zagazig University

Dr. Rania Mahmoud El-husseiny

Lecturer of Dermatology, Venereology and Andrology

Faculty of Medicine – Ain Shams University

*Faculty of Medicine
Ain Shams University*

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

قَالَ

لَسْبِحَانَكَ لَا مَعْلَمَ لَنَا
إِلَّا مَا مَعْلَمْتَنَا إِنَّكَ أَنْتَ
الْعَلِيمُ الْعَظِيمُ

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List of Abbreviations

Abb.	Full term
<i>AD</i>	<i>Atopic dermatitis</i>
<i>AhR</i>	<i>Aryl-hydrocarbon receptor</i>
<i>C</i>	<i>Celsius</i>
<i>CMA</i>	<i>CHROMagar medium</i>
<i>CRP</i>	<i>Confluent reticulate papillomatosis</i>
<i>CSH</i>	<i>Cell surface hydrophobicity</i>
<i>DNA</i>	<i>Deoxyribonucleic acid</i>
<i>DOPA</i>	<i>Dihydroxyphenylalanine</i>
<i>Esp</i>	<i>Serine protease</i>
<i>F</i>	<i>Folliculitis</i>
<i>gm</i>	<i>Gram</i>
<i>IgE</i>	<i>Immunoglobulin E</i>
<i>IgG</i>	<i>Immunoglobulin G</i>
<i>IgM</i>	<i>Immunoglobulin M</i>
<i>ITS 1</i>	<i>Internal transcribed spacer 1</i>
<i>ITS 2</i>	<i>Internal transcribed spacer 2</i>
<i>KOH</i>	<i>Potassium hydroxide</i>
<i>L</i>	<i>Liter</i>
<i>M.furfur</i>	<i>Malassezia furfur</i>
<i>M.globosa</i>	<i>Malassezia globosa</i>
<i>M.symphodialis</i>	<i>Malassezia symphodialis</i>
<i>MALDI-TOF MS</i>	<i>Matrix-assisted laser desorption ionization time-of-flight mass spectrometry</i>
<i>PBMC</i>	<i>Perepheral blood mononuclear cells</i>
<i>PCR</i>	<i>Polymerase chain reaction</i>
<i>PCR-RFLP</i>	<i>Polymerase chain reaction restriction fragment length polymorphism,</i>
<i>PV</i>	<i>Pityriasis versicolor</i>

List of Abbreviations cont...

Abb.	Full term
<i>rDNA</i>	<i>Recombinant DNA</i>
<i>RNA</i>	<i>Ribonucleic acid</i>
<i>rRNA</i>	<i>Ribosomal RNA</i>
<i>rRNA</i>	<i>Ribosomal RNA</i>
<i>RT-PCR</i>	<i>Reverse transcriptase-polymerase chain reaction</i>
<i>S aureus</i>	<i>Staphylococcal aureus</i>
<i>SD</i>	<i>Seborrheic dermatitis</i>
<i>SDA</i>	<i>Sabouraud dextrose agar</i>
<i>SI</i>	<i>Systemic infection</i>
<i>Spp.</i>	<i>Species</i>
<i>Th1</i>	<i>T helper 1</i>
<i>Th2</i>	<i>T helper 2</i>
<i>UV</i>	<i>Ultraviolet</i>

INTRODUCTION

Pityriasis versicolor (PV) is a chronic, superficial fungal infection, first described by Wilan in 1901 (*De Morais et al., 2010*).

It is one of the three common superficial fungal infections that affects the human beings, the other two are dermatophytosis and candidiasis. This infection is more common in the tropical and sub tropical regions due to the prevalence of hot and humid climate. The incidence of Pityriasis versicolor in Egypt was found to be approximately 5.6% among other skin diseases, while the prevalence in colder countries is less than 1% (*Jena et al., 2005*).

It is a chronic infection of the stratum corneum, caused by lipophilic yeasts of *Malassezia* genus which are commensal members of the normal skin flora (*Reiss et al., 2012*). As a commensal, *Malassezia* exists in the yeast form in the areas of the body rich in sebaceous glands and gets converted into the mold form which is the cause for the infection. This transformation occurs in the presence of certain predisposing factors which may be endogenous or exogenous. Factors such as hyperhidrosis, malnutrition, Cushing syndrome, use of systemic corticosteroids and immunosuppression predispose an individual to develop pityriasis versicolor (*Gupta et al., 2002*).

The genus *Malassezia* includes 15 lipophilic species namely *M.globosa*, *M. sympodialis*, *M. furfur*, *M. restricta*, *M.slooffiae*, *M. obtusa*, *M. pachydermatis*, *M. dermatis*, *M.nana*, *M. yamotensis*, *M. caprae*, *M. equina*, *M. cuniculi*, *M.japonica* with the recent addition of the new species *Malassezia arunalokei*” (*Honnavar et al., 2016*). Of these, *M. globosa*, *M sympodialis* and *M. furfur* are known to be the predominant etiological agents causing pityriasis versicolor (*Hay et al., 2016*).

This infection is clinically characterised by the presence of well- defined hypopigmented or pigmented macules and patches with fine bran like scales. Residual hypopigmentation and recurrent episodes are the two main issues faced by the patients with pityriasis versicolor (*Camargo-Sánchez et al., 2019*).

AIM OF THE WORK

The aim of this work is to isolate and identify *Malassezia* species from pityriasis versicolor using chromagar-medium.