

# Dedication

To my parents

Family

Friends

Colleagues

And to

country

To those who gave us the trust and lead  
us to the right  
Way of success, and we will never forget  
their generosity.

# Acknowledgement

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## Abstract

This study was conducted in Sudan University of Science and Technology, Khartoum, Sudan, in collaboration with Centraalbureau voor Schimmelcultures (CBS), Fungal Biodiversity Center, Utrecht, The Netherlands, during the period from June to August 2005. The study aimed of isolating *Pseudallescheria boydii* from soil and polluted water specimens collected from Sudan. Twenty two dry soil and fourteen polluted water specimens were collected from Khartoum State, Khartoum, Sudan. Diluted specimens suspensions were inoculated directly onto SeScel medium with and without Benomyl, and incubated at 36°C for one week. Colonies resembling *P. boydii* were purified on Malt extract agar and identified. No teleomorph or anamorph were isolated from soil specimen (n=22), while 5 *Scedosporium apiospermum* and *Graphium eumorphum* isolates were isolated from polluted water (n=14).

The identification of the isolates was confirmed by PCR and DNA sequencing. This study documented the occurrence of *P. boydii* in the Sudanese environment, which should increase the awareness of clinicians and microbiologists to negative impact of this relatively resistant fungus.

## ملخص الدراسة

اجريت هذه الدراسة العلمية فى جامعة السودان للعلوم والتكنولوجيا بالسودان بالتعاون مع معهد الفطريات الطبية بهولندا فى الفترة ما بين يونيو الى اغسطس 2005. هدفت الدراسة الى عزل فطر السودوالوشيريا بوديبيي من عينات التربة والماء الملوث والتعرف عليه باستخدام الطرق المجهرية المباشرة و تقنيات الاحياء الجزيئية المستخدمة لعزل ومعرفة الحامض النووى. تم جمع اربعة وعشرون عينة تربة, واربعة عشر عينة ماء ملوث من ولاية الخرطوم , السودان. خففت العينات ثم زرعت فى وسط السوسل Sescel medium محتوية و غير محتوية على مادة البنوميل. تم فحص المستعمرات النامية مجهريا" , ثم اعيد تزييعها فالوسط الصلب لمستخلص الشعير مضافا اليها مادتي البنسلين والاستربتومايسين. لوحظ ان كل عينات التربة (العدد= 22) لم يتم عزل الفطر منها, بينما اعطت 38% من عينات الماء الملوث(العدد=14) نموا" واضحا" للفطر. تم عزل الحامض النووى DNA من كل المستعمرات ومن ثم اجريت عليه إختبار بواسطة تقنية ال PCR ومن ثم تم تحديد تسلسل الحمض النووي للجينات المسئولة من تصنيع الحمض الريبى الذي يدخل فى تركيب الريبوسومات. وقورنت النتيجة بالنتائج المحفوظة فى بنك الجينات وتم التأكد من أن الفطريات المعزولة هي الأطوار المتكاثرية لاجنسيا للفطر تحت الدراسة الإسكيدوسبوريم أبوسبيريم و قرافيم اموريفيم. هذه الدراسة أثبتت وجود فطر السودوالوشيريا بوديبيي فى البيئة السودانية مما يشكل إنذارا للأطباء و علماء الاحياء الدقيقة بالمخاطر التي يمكن أن يتسبب فيها هذا الفطر نسبة لمقاومته النسبية للمضادات الفطرية.

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