



THIS PAGE IS SECURE

Home / Persoonia - Molecular Phylogeny and Evolution of Fungi, Volume 35, December 2015



Phylogeography and evolutionary patterns in *Sporothrix* spanning more than 14 000 human and animal case reports

Download Article:



Download
(PDF 2,614.5 kb)

Authors: Zhang, Y.; Hagen, F.; Stielow, B.; Rodrigues, A.M.; Samerpitak, K.; Zhou, X.; Feng, P.; Yang, L.; Chen, M.; Deng, S.; Li, S.; Liao, W.; Li, R.; Li, F.; Meis, J.F.; Guarro, J.; Teixeira, M.; Al-Zahrani, H.S.; de Camargo, Z. Pires; Zhang, L.; de Hoog, G.S.

Source: Persoonia - Molecular Phylogeny and Evolution of Fungi, Volume 35, December 2015, pp. 1-20(20)

Publisher: Naturalis Biodiversity Center

DOI: <https://doi.org/10.3767/003158515X687416>



[view table of contents](#)

[next article](#)



[ADD TO FAVOURITES](#)

Abstract

[References](#)

[Citations](#)

[Supplementary Data](#)

[Article Media](#)

[Metrics](#)

[Suggestions](#)

Pathology to vertebrate hosts has emerged repeatedly in the order *Ophiostomatales*. Occasional infections have been observed in *Sporothrix mexicana* at a low level of virulence, while the main pathogenic species cluster in a derived clade around *S. schenckii* s.str. In this paper, phylogeny and epidemiology of the members of this clade were investigated for 99 clinical and 36 environmental strains using four genetic loci, viz. rDNA ITS and partial *CAL*, *TEF1*, and *TEF3*; data are compared with amplified fragment length polymorphism (AFLP) genotyping. The four main species of the pathogenic clade were recognised. The species proved to show high degrees of endemism, which enabled interpretation of literature data where live material or genetic information is lacking. The clade of four species comprised nine subclusters, which often had limited geographic distribution and were separate from each other in all partitions, suggesting low degrees of interbreeding between populations. In contrast, *S. globosa* exhibited consistent global distribution of identical AFLP types, suggesting another type of dispersal. *Sporothrix brasiliensis* is known to be involved in an expanding zoonosis and transmitted by cats, whereas *S. globosa* infections originated from putrid plant material, causing a sapronosis. *Sporothrix schenckii* s.str., the most variable species within the clade, also had a plant origin, with ecological similarities to that of *S. globosa*. A hypothesis was put forward that highly specific conditions in the plant material are required to promote the growth of *Sporothrix*. Fermented, self-heated plant debris may stimulate the thermodependent yeast-like invasive form of the fungus, which facilitates repeated infection of mammals.

Keywords: EPIDEMIOLOGY; HISTORICAL BIOGEOGRAPHY; PHYLOGENY; SAPRONOSIS; SPOROTHRIX; SPOROTRICHOSIS; TRANSMISSION ROUTES; YEAST CONVERSION; ZOONOSIS

Document Type: Research Article

Publication date: 2015年12月23日

[More about this publication?](#)

We recommend

The expansion of Phytophthora clade 8b: three new species associated with winter grown vegetable crops

L. Bertier et al., Persoonia - Molecular Phylogeny and Evolution of Fungi


Stripe smuts of grasses: one lineage or high levels of polyphyly?


K.G. Savchenko et al., Persoonia - Molecular Phylogeny and Evolution of Fungi


High species diversity in Colletotrichum associated with citrus diseases in Europe
Guamaccia et al., Persoonia - Molecular Phylogeny and Evolution of Fungi

Juglanconis gen. nov. on Juglandaceae, and the new family Juglanconidaceae (Diaporthales)
H. Voglmayr et al., Persoonia - Molecular Phylogeny and Evolution of Fungi

Global diversity and molecular systematics of Wrightoporia s.l. (Russulales, Basidiomycota)
J.J. Chen et al., Persoonia - Molecular Phylogeny and Evolution of Fungi

Sequential treatment with afatinib and osimertinib in patients with EGFR mutation-positive non-small-cell lung cancer: an observational study 
Maximilian J Hochmair, Future Oncology

A Statistical and Comparative Analysis of Genetic Detected by Different Molecular Markers 
ZHANG De-Quan¹ et al., Plant Diversity

Malassezia Species in Healthy Skin and in Dermatological Conditions 
PracticeUpdate

Rose thorn injury 
Katarina Kieselova et al., BMJ Case Rep

Relationships of Five Pinellia Species (Araceae) Inferred from AFLP Data 
CHENG Yu; CHEN Cheng-Bin; XUE Mei; CHEN Li, Plant Diversity









Powered by **TREND MD**



Share Content



Access Key

-  Free content
-  Partial Free content
-  New content
-  Open access content
-  Partial Open access content
-  Subscribed content
-  Partial Subscribed content
-  Free trial content

<i>Browse by</i> Publication
<i>Browse by</i> Subject
<i>Browse by</i> Publisher
Advanced Search
About us
Researchers
Librarians
Publishers
New featured titles
Help

Contact us



ingenta



COUNTER
CONSISTENT CREDIBLE COMPARABLE

Website © 2018 Ingenta. Article copyright remains with the publisher, society or author(s) as specified within the article.

[Terms and Conditions](#)

[Privacy](#)

[Information for Advertisers](#)

[Cookie Policy](#)