

Fungal Genetics Reports

Volume 56

Article 2

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Recommended Citation

Riyaz-Ul-Hassan, S., S. Rehman, A.S. Shawl, G.N. Qazi, and J. Taylor (2009) "Fungal endophyte misidentified as *Neurospora crassa*." *Fungal Genetics Reports*: Vol. 56, Article 2. <https://doi.org/10.4148/1941-4765.1075>

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Fungal endophyte misidentified as *Neurospora crassa*.

Abstract

The endophytic fungus isolate, ZP5SE, recently described in Rehman et al. 2008 was misidentified as *Neurospora crassa*. The 28S ribosomal gene sequence of the isolate shows 100% sequence similarity with GenBank accession *Neurospora crassa* M38154.

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Fungal endophyte misidentified as *Neurospora crassa*.

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The endophytic fungus isolate, ZP5SE, recently described in Rehman et al. 2008 was misidentified as *Neurospora crassa*. The 28S ribosomal gene sequence of the isolate shows 100% sequence similarity with GenBank accession *Neurospora crassa* M38154. However, there are three additional 28S ribosomal gene sequences deposited in GenBank as *N. crassa* U40124 (culture NRRL 13141), *N. crassa* AF286411 (culture MUCL 19026), and *N. crassa* AY681158.1 (culture ICMP 6360). Phylogenetic analyses shows that these three additional sequences are closest relatives (100% similarity) and that this group is more distantly related to the ZP5SE and *N. crassa* M38154 sequences (88%-91% similarity). In phylogenetic analysis, the ZP5SE sequence and M38154 form a sister group to many Sordariaceae, including species of *Neurospora*, *Gelasinospora* and *Sordaria* (Figure 1). As a result, ZP5SE cannot yet be assigned to a particular genus or species on the basis of the 28S ribosomal gene sequence. In addition, we infer that the GenBank sequence M38154 must be incorrectly attributed to *N. crassa*.

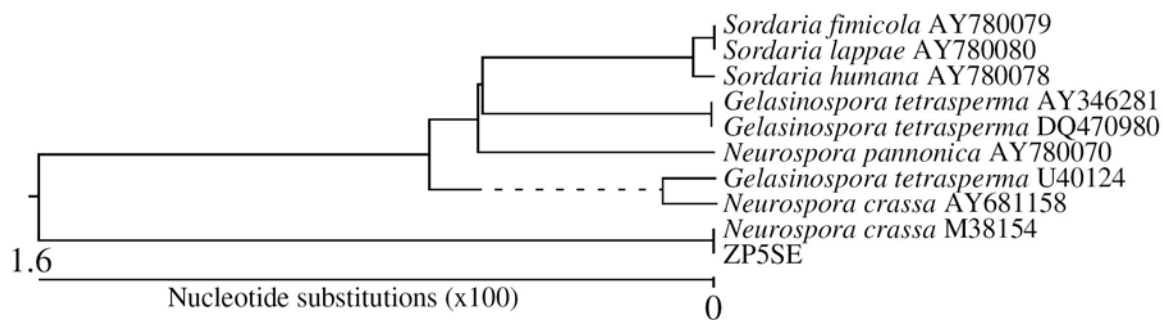


Figure 1. Phylogenetic analysis comparing the fungal endophyte (ZP5SE) with related fungi using partial SSU and LSU rDNA sequences from Figure 4 of Rehman et al. 2008. *N. crassa* AY681158 represents three GenBank sequences of *N. crassa* (AY681158, U40124 and AF286411), and is nestled with *Gelasinospora* species, as expected. *N. crassa* M38154 is quite distant from the three other *N. crassa* sequences and likely is misattributed to *N. crassa*.

References:

Rehman, S., Shawl, A.S., Verma, V., Kour, A., Athar, M., Andrabi, R., Sultan, P., and G.N. Qazi. 2008. An endophytic *Neurospora* sp. from *Nothapodytes foetida* producing camptothecin. *Applied Biochemistry and Microbiology* 44:203–209. (*Prikladnaya Biokhimiya i Mikrobiologiya* 44:225–231.)