Cryphonectria nataeciae: A new species in the Cryphonectria–Endothia complex and diagnostic molecular markers based on microsatellite-primed PCR

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ARTICLE INFO

Article history:
Received 28 May 2010
Received in revised form 16 June 2011
Accepted 21 June 2011
Available online 8 July 2011
Corresponding Editor: Andrew N. Miller

Keywords:
Chestnut tree
Cork oak tree
Cryphonectria parasitica
Cryphonectria radialis (GACA)4
Endothia parasitica
MSP-PCR
RFLP-PCR

ABSTRACT

In a recent study intended to assess the distribution of Cryphonectria parasitica in Portugal, 22 morphologically atypical orange isolates were collected in the Midwestern regions. Eleven isolates were recovered from Castanea sativa, in areas severely affected by chestnut blight and eleven isolates from Quercus suber in areas with cork oak decline. These isolates were compared with known C. parasitica and Cryphonectria radialis isolates using an integrated approach comprising morphological and molecular methods. Morphologically the atypical isolates were more similar to C. radialis than to C. parasitica. Phylogenetic analyses based on internal transcribed spacer (ITS) and β-tubulin sequence data grouped the isolates in a well-supported clade separate from C. radialis. Combining morphological, cultural, and molecular data Cryphonectria nataeciae is newly described in the Cryphonectria–Endothia complex. Microsatellite-primed PCR fingerprinting with (GACA)4 primer discriminated between C. nataeciae, C. radialis, and C. parasitica.

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10.1016/j.funbio.2011.06.014