



Phytophthora: Identifying Species by Morphology and DNA Fingerprints

Mannon E. Gallegly

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The genus *Phytophthora*, known as the plant destroyer, is one of the most important group of disease causing organisms. This genus contains the potato blight pathogen, *Phytophthora infestans*, and the sudden oak death pathogen, *Phytophthora ramorum*. Currently the latter species is classified as invasive, and a second one, *Phytophthora kernoviae*, is about to be placed in this category. Intensive surveys for the presence of these new potentially deadly pathogens have been underway and will continue with funding to search for the second invasive species. Whether or not additional new species with potential destructiveness are found, there are older known species which can erupt at any time and severely damage our crop plants. Correctly identifying them to species level is the first critical step in mitigating crop health risk locally and ensuring plant biosecurity globally.

The new identification key, *Phytophthora: Identifying Species by Morphology and DNA Fingerprints*, enables diagnosticians and regulatory personnel as well as researchers to identify *Phytophthora* species with speed and confidence. There were only about 50 identified species when the last key was published in 1990, but now that species number is approaching 100. In addition, there have been tremendous efforts in search of a reliable, high-resolution molecular character for rapid identification. This book presents a new key, integrating the classical morphological approach and a new DNA fingerprinting technique called PCR-SSCP. The dichotomous key uses minimal morphological characters, followed by pictorial illustrations. The DNA fingerprint key uses only the rDNA-ITS region amplified with a single pair of primers; a detailed step-by-step fingerprinting protocol is provided.

A total of 652 original photos are included to illustrate individual species covered as well as a partial list of other molecular characters used for description of new species and differentiation of existing species in recent years. This book will be an excellent resource for those who are interested in identifying *Phytophthora* species. Sixty of the important species and taxons are presented in the book. Also, the framework of the identification keys in the book will readily accept the introduction of additional species as they are studied and described.

Features and Benefits of the NEW *Phytophthora* Identification Key

Integration of classical approach and modern DNA finger printing technology - This enables students, teaches, diagnosticians, and researchers to correctly identify *Phytophthora*; they can use one method to identify and another to confirm isolate identities. Plus, it allows those who are skilled in DNA fingerprinting techniques to learn the classical approach and visa versa.

New dichotomous-like key is presented using minimal morphological characters and the DNA fingerprint key uses only the rDNA-ITS region amplified with a single pair of universal primers - This enables plant health regulatory personnel and diagnosticians to quickly identify Phytophthora species.

Pictorial illustrations of morphological characters used in the key and description of individual species - This helps beginners to understand and master essential taxonomic terms and diagnostic characters of individual species. It will also bring them up to speed in their new research and diagnostic service positions.

Step by step procedures are provided for all methods used in development of both keys - This allows key users to easily become adept in species identification.

Provides a PCR-SSCP fingerprint key along with the protocol of how to use it - This DNA fingerprint technique is quicker and can be used as a confirmation of the morphological identification. Diagnosticians and beginning students c

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Often the book Phytophthora: Identifying Species by Morphology and DNA Fingerprints will bring that you the new experience of reading some sort of book. The author style to clarify the idea is very unique. If you try to find new book to see, this book very suitable to you. The book Phytophthora: Identifying Species by Morphology and DNA Fingerprints is much recommended to you you just read. You can also get the e-book from the official web site, so you can more easily to read the book.

Maria Abel:

A lot of people always spent their own free time to vacation as well as go to the outside with them household or their friend. Do you realize? Many a lot of people spent they will free time just watching TV, or even playing video games all day long. If you wish to try to find a new activity this is look different you can read some sort of book. It is really fun for you personally. If you enjoy the book that you read you can spent 24 hours a day to reading a reserve. The book Phytophthora: Identifying Species by Morphology and DNA Fingerprints it is rather good to read. There are a lot of individuals who recommended this book. These people were enjoying reading this book. In the event you did not have enough space to bring this book you can buy the actual e-book. You can m0ore simply to read this book from your smart phone. The price is not to fund but this book offers high quality.

John Yang:

Reading can called mind hangout, why? Because when you find yourself reading a book mainly book entitled Phytophthora: Identifying Species by Morphology and DNA Fingerprints your thoughts will drift away trough every dimension, wandering in every aspect that maybe unfamiliar for but surely will become your mind friends. Imaging each and every word written in a publication then become one contact form conclusion and explanation which maybe you never get before. The Phytophthora: Identifying Species by Morphology and DNA Fingerprints giving you another experience more than blown away your mind but also giving you useful details for your better life with this era. So now let us demonstrate the relaxing pattern is

your body and mind is going to be pleased when you are finished looking at it, like winning a casino game.
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