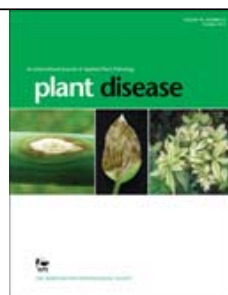




Journals Home APSnet IS-MPMInet My Profile Help Subscribe Search Advanced Search



About the current issue's cover

ISSN: 0191-2917

SEARCH

Enter Keywords

- ☐ Phytopathology
☒ Plant Disease
☐ MPMI

search

[Advanced Search](#)

Inside the Journal

BACK ISSUES

(Issues before 1997)

First Look

View Most Downloaded Articles

About Plant Disease

Editorial Board

Submit a Manuscript

Author Instructions

Policies/Procedures

Online e-Xtras

= "Open" Access

plant disease

Editor-in-Chief: R. Michael Davis
 Published by The American Phytopathological Society

Home > Plant Disease > Table of Contents > Abstract

[Previous Article](#) | [Next Article](#)

July 2000, Volume 84, Number 7

Page 807

<http://dx.doi.org/10.1094/PDIS.2000.84.7.807A>

Disease Notes

First Report of a Phytoplasma-Associated Leaf Yellowing Syndrome of Palma Jipi Plants in Southern México

I. Cordova and **C. Oropeza**, Centro de Investigación Científica de Yucatán, Apdo. Postal 87, 97310, Cordemex, Yuc. México; **H. Almeyda**, INIFAP/Universidad Autónoma de Nuevo León; **N. A. Harrison**, University of Florida, Fort Lauderdale Research and Education Center, Fort Lauderdale 33314-7799

Open Access.

The palm-like monocot Palma Jipi (*Carludovica palmata*, Cyclanthaceae), from which Panama hats are traditionally made, is important to the rural economy of southern Mexico and other Latin American countries. A lethal decline of *C. palmata* plants was first recognized by farmers at Kalkini in the state of Campeche, Mexico, during 1994. Characterized by a progressive yellowing of successively younger leaves, affected plants died within a few weeks after the onset of this primary symptom. Annual losses estimated at 10% of the naturalized *C. palmata* population have since occurred in the vicinity of Kalkini, an area in which coconut lethal yellowing (LY) disease is also prevalent. The close proximity and superficially similar symptomatology of these two diseases suggested that both might share a common etiology. DNA samples were obtained from five diseased and five healthy *C. palmata* plants by small scale extraction of immature leaf bases and assessed for phytoplasma DNA by use of the polymerase chain reaction (PCR) at laboratories in Mérida, INIFAP/Universidad Autónoma de Nuevo León (Nuevo León) and the University of Florida (Fort Lauderdale). Samples from symptomatic plants consistently tested positive by PCR employing universal rRNA primers (P1/P7), which amplify a 1.8-kb phytoplasma rDNA product (4), and negative when LY-specific primers LYF1/LYR1 (1) or MMF/MMR (3) were used. No PCR products were evident when DNAs of symptomless plants were evaluated with these primer combinations. Fragment patterns resolved by 8% polyacrylamide gel electrophoresis of rDNA digested separately with either *AluI*, *BamHI*, *BstUI*, *DdeI*, *DraI*, *EcoRI*, *HaeIII*, *HhaI*, *HinfI*, *MspI*, *RsaI*, *Sau3AI*, *TaqI*, or *Tru9I* endonucleases revealed no differences between phytoplasma isolates associated with five *C. palmata* plants. Collectively, restriction fragment length polymorphism (RFLP) patterns generated with key enzymes *AluI*, *BamHI*, *DraI*, and *HaeIII* clearly differentiated the *C. palmata* yellows (CPY) phytoplasma from LY and other known phytoplasmas previously characterized by this means (2). A sequence homology of

Quick Links

[Add to favorites](#)

[E-mail to a colleague](#)

[Alert me when new articles cite this article](#)

[Download to citation manager](#)

[Related articles found in APS Journals](#)

This Journal is brought to you via a subscription from the DigiTop--USDA's Digital Desktop Library



99.21% between 16S rDNA of CPY (1,537 bp; GenBank accession, AF237615) and LY (1,524 bp; accession, U18747) indicated that these strains were very similar. This relationship was confirmed by phylogenetic analysis of 16S rDNA sequence, which placed both strains into the same phytoplasma subclade.

References: (1) N. A. Harrison et al. *Plant Pathol.* 43:998, 1994. (2) I.-M. Lee et al. *Int. J. Syst. Bacteriol.* 48:1153, 1998. (3) J. P. Martínez-Soriano et al. *Rev. Mex. Fitopat.* 12:75, 1994. (4) C. D. Smart et al. *Appl. Environ. Microbiol.* 62: 2988, 1996.

Cited by

Occurrence of a 16SrIV Group Phytoplasma not Previously Associated with Palm Species in Yucatan, Mexico

Roberto Vázquez-Euán, Nigel Harrison, María Narvaez, and Carlos Oropeza
Plant Disease Mar 2011, Volume 95, Number 3: 256-262
[Abstract](#) | [PDF Print \(848 KB\)](#) | [PDF with Links \(719 KB\)](#)

Lethal yellowing-type diseases of palms associated with phytoplasmas newly identified in Florida, USA

N.A. Harrison, E.E. Helmick, and M.L. Elliott
Annals of Applied Biology Aug 2008, Volume 153, Number 1: 85-94
[CrossRef](#)

16S rRNA interoperon sequence heterogeneity distinguishes strain populations of palm lethal yellowing phytoplasma in the Caribbean region

N A HARRISON, W MYRIE, P JONES, M L CARPIO, M CASTILLO, M M DOYLE, and C OROPEZA
Annals of Applied Biology Oct 2002, Volume 141, Number 2: 183-193
[CrossRef](#)

Detection and Characterization of a Lethal Yellowing (16SrIV) Group Phytoplasma in Canary Island Date Palms Affected by Lethal Decline in Texas

N. A. Harrison, M. Womack, and M. L. Carpio
Plant Disease Jun 2002, Volume 86, Number 6: 676-681
[Abstract](#) | [Interpretive Summary](#) | [PDF Print \(627 KB\)](#) | [PDF with Links \(372 KB\)](#)