



**HAL**  
open science

## First report of an isolate of Pelargonium zonate spot virus in commercial glasshouse tomato crops in southeastern France

Kahsay Gebre Selassie, Brigitte Delecolle, Patrick Gognalons, Olivier Dufour, C. Gros, Anne-Cécile Cotillon, Giuseppe Parrella, Georges Marchoux

### ► To cite this version:

Kahsay Gebre Selassie, Brigitte Delecolle, Patrick Gognalons, Olivier Dufour, C. Gros, et al.. First report of an isolate of Pelargonium zonate spot virus in commercial glasshouse tomato crops in southeastern France. *Plant Disease*, 2002, 86 (9), pp.1052. 10.1094/PDIS.2002.86.9.1052C . hal-02678544

**HAL Id: hal-02678544**

**<https://hal.inrae.fr/hal-02678544v1>**

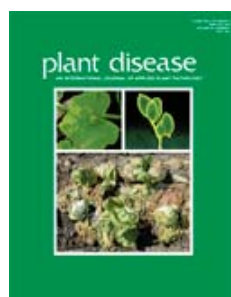
Submitted on 31 May 2020

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



Distributed under a Creative Commons Attribution 4.0 International License



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](#)

September 2002, Volume 86, Number 9

Page 1052

DOI: 10.1094/PDIS.2002.86.9.1052C

## Disease Notes

## First Report of an Isolate of *Pelargonium zonate spot virus* in Commercial Glasshouse Tomato Crops in Southeastern France

**K. Gebre-Selassie**, **B. Delecolle**, and **P. Gognalons**, INRA Station de Pathologie Végétale, BP 94, 84143 Montfavet Cedex, France; **O. Dufour**, **C. Gros**, and **A. C. Cotillon**, SPV, Domaine Saint-Maurice, BP 94, 84143 Montfavet Cedex, France; **G. Parrella**, CNR, CEVICOM, Via Amendola 165/a, 70126 Bari, Italy; and **G. Marchoux**, INRA Station de Pathologie Végétale, BP 94, 84143 Montfavet Cedex, France

## Open Access.

In summer 2000, symptoms similar to *Pelargonium zonate spot virus* (PZSV) were observed for the first time on tomato plants in southeastern France. The plants were from commercial glasshouse fresh-market crops. Symptoms observed were chlorotic mottling with bright yellow distinct rings on leaves and curved line patterns on stems. Fruit symptoms included chlorotic and necrotic spotting, marked concentric ring patterns, and distortions. Diagnosis was made from symptomatic leaves and fruits by mechanical inoculation on a set of host plants. Local chlorotic and necrotic lesions were observed on *Chenopodium amaranticolor*, *C. quinoa*, *Cucumis sativus* cv. Marketeer, *Cucumis melo* cv. Vedrantaïs, *Phaseolus vulgaris* cv. Pinto, *Vicia faba* cv. D'Aguadulce, *Vigna unguiculata* cv. Black Eye, and systemic symptoms were observed on *Capsicum annuum* cvs. Yolo Wonder, Yolo Y, Florida VR2, and Criollo de Morelos 334, *Datura stramonium*, *Lycopersicon esculentum* cvs. Momor and Stevens, *L. hirsutum* (PI 134417 and PI 247087), *Nicotiana benthamiana*, *N. clevelandii*, *N. tabacum* cv. Xanthi nc, *Ocimum basilicum* cv. Latino, *Petunia hybrida* cv. Rose du ciel, and *Physalis floridana*. No reaction was observed on *Pisum sativum* cv. Douce Provence, *Salvia splendens* cv. Etna, or *Zinnia elegans* cv. Liliput. Symptoms on tomato of PZSV, *Parietaria mottle virus* (PMoV), and *Tomato spotted wilt virus* (TSWV) are similar, particularly those elicited in fruits. Therefore, the field samples were checked using double-antibody sandwich enzyme-linked immunosorbent assay against antisera of the type-strain of PZSV and tomato strain of PMoV and their homologous antigens, which were supplied by D. Gallitelli and P. Roggero respectively, and our antiserum of TSWV. Electron microscopy of negatively stained preparations from leaves of tomato and *D. stramonium* showed that the sap contained very few paraspherical shaped particles, 26 to 29 nm in diameter. Three isolates collected from two different regions (Vaucluse and Bouches du Rhône) showed a very close serological relationship with the Italian type-strain of PZSV and tested negative against antisera of PMoV and TSWV. The French isolates were biologically different from the type-strain, but were similar to the Spanish strain of PZSV because they infected *D. stramonium*, *N. benthamiana*, *O. basilicum*, and *V. unguiculata* (2). Moreover, in transverse tissue sections, virions were not observed in the nucleus and tubular structures, unlike the Italian isolates, (1) but were present in the cytoplasm and particularly in the mesophyll cells. There are only a few records of the occurrence and distribution of PZSV in Mediterranean countries.

**References:** (1) M. A Castellano and G. P Martelli. *Phytopathol. Mediterr.* 20:64, 1981. (2) M. Luis-Arteaga. *Plant Dis.* 84:807, 2000.

## Cited by

## 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 INRA Institut National de la Recherche Agronomique

***Pelargonium zonate spot virus* Is Transmitted Vertically via Seed and Pollen in Tomato**

M. Lapidot, D. Guenoune-Gelbart, D. Leibman, V. Holdengreber, M. Davidovitz, Z. Machbash, S. Klieman-Shoval, S. Cohen, and A. Gal-On  
*Phytopathology* Aug 2010, Volume 100, Number 8: 798-804  
[Abstract](#) | [PDF Print \(435 KB\)](#) | [PDF with Links \(314 KB\)](#) | [e-Xtra](#)

**Emerging Viral Diseases of Tomato Crops**

Inge M. Hanssen, Moshe Lapidot, and Bart P. H. J. Thomma  
*Molecular Plant-Microbe Interactions* May 2010, Volume 23, Number 5: 539-548  
[Abstract](#) | [PDF Print \(480 KB\)](#) | [PDF with Links \(378 KB\)](#)

[Journals Home](#) | [APSnet](#) | [IS-MPMI.net](#) | [Contact Us](#) | [Privacy](#) | [Copyright The American Phytopathological Society](#)