

[Share](#) |[About the cover for August 2010](#)ISSN: 0191-2917  
e-ISSN: 1943-7692

## SEARCH

Enter Keywords

- MPMI
- Phytobiomes
- Phytopathology
- Plant Disease

search

[Advanced Search](#)

## Resources

[Subscribe](#)[About Plant Disease](#)[First Look](#)[Most Downloaded Articles](#)[Journals Impact](#)[Submit a Manuscript](#)[Customer Care](#)[About My Password](#)[Rights and Permissions](#)[Plagiarism and Ethics](#)[Advertise](#)[Open Access](#)[ORCID Registry](#)ORCID  
Connecting Research  
and ResearchersREGISTRATION IS  
FREE AND FAST.ORCID is an open, non-profit,  
community driven organization.Your ORCID ID ensures  
you get credit for your work  
throughout your career.Register today at  
[orcid.org](#)

# plant disease

Editor-in-Chief: Alison E. Robertson  
Published by The American Phytopathological Society[Home](#) > [Plant Disease](#) > [Table of Contents](#) > [Abstract](#)[Previous Article](#) | [Next Article](#)

August 2010, Volume 94, Number 8

Page 1068

<https://doi.org/10.1094/PDIS-94-8-1068C>

## Disease Notes

## First Report of *Beet mosaic virus* Infecting Chickpea (*Cicer arietinum*) in Tunisia

**S. G. Kumari**, Virology Laboratory, International Center for Agricultural Research in the Dry Areas (ICARDA), P.O. Box 5466, Aleppo, Syria; **A. Najjar**, National Institute of Agricultural Research in Tunisia (INRAT), Tunis, Tunisia; **N. Attar**, ICARDA, Aleppo, Syria; **M. H. Loh**, Department of Primary Industries (DPI), Knoxfield, Victoria, Australia; and **H.-J. Vetten**, Julius Kuehn Institute-Federal Research Center for Cultivated Plants (JKI), Institute for Epidemiology and Pathogen Diagnostics, Messeweg 11/12, 38104, Braunschweig, Germany

## Open Access.

Chickpea plants with severe yellowing and tip wilting were observed in the Cap-Bon Region of Tunisia in 2006. The viral-like symptoms resulted in yield loss of approximately 25% in some fields. A total of 110 symptomatic chickpea plants was collected from nine chickpea fields and tested at the Virology Laboratory of ICARDA, Syria for eight legume viruses using tissue-blot immunoassay (TBIA) (3). Polyclonal antisera produced at the ICARDA Virology Laboratory were used to test for *Chickpea chlorotic dwarf virus* (genus *Mastrevirus*, family *Geminiviridae*), *Broad bean stain virus* (genus *Comovirus*, family *Secoviridae*), *Broad bean mottle virus* (genus *Bromovirus*, family *Bromoviridae*), and *Bean yellow mosaic virus* and *Pea seed borne mosaic virus* (genus *Potyvirus*, family *Potyviridae*). Antiserum to *Beet mosaic virus* (BtMV; genus *Potyvirus*, family *Potyviridae*) (AS-0143) was provided by the German Collection of Microorganisms and Cell Cultures (DSMZ, Braunschweig, Germany). In addition, three monoclonal antibodies (MAb) were used to detect *Faba bean necrotic yellows virus* (FBNYV; genus *Nanovirus*, family *Nanoviridae*) (MAb 3-2E9) (1), potyviruses (PVAS-769 [MAb PTY 3 Potyvirus Group] American Type Culture Collection, Manassas, VA), and luteoviruses (MAb B-2-5G4) (2). Twenty-two of the plants tested positive with MAb PTY 3 and BtMV antisera, 56 samples reacted with MAb B-2-5G4, and eight plants with the FBNYV MAb, whereas 24 plants tested negative with all antisera. Because reactions with the BtMV antiserum were unexpected, detection of BtMV was confirmed by reverse transcription-(RT)-PCR assays using BtMV-specific primers (LN26 and LN27) (4), which produced an amplicon of expected size (1,050 bp) from all plants that reacted with BtMV antiserum but not from plants that were serologically negative. Leaf tissue from a BtMV-infected plant was ground in 0.01 M potassium phosphate buffer, pH 7.2 (1:20, wt/vol), mixed with 0.5% celite, and used for mechanical

## 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](#)

## FOCUS ISSUE

## Effector-Triggered Susceptibility



## FOCUS ISSUE

## Epidemiology:

Past, Present, and Future Impacts on Understanding Disease Dynamics and Improving Plant Disease Management



inoculation of chickpea seedlings (cv. Beja 4). In addition, adults of three legume aphid species (*Aphis craccivora*, *A. fabae*, and *Acyrtosiphon pisum*) were starved for 1 h before feeding on BtMV-infected chickpea leaves for an acquisition access period of 5 min. Fifteen aphids of each species were placed on each chickpea plant, allowed to feed for 24 h, and then sprayed with an insecticide. Tip wilting symptoms appeared on plants 15 to 20 days after mechanical and aphid inoculations but not on plants used as negative control treatments (inoculated mechanically with healthy leaf tissue or with aphids that had fed on noninfected chickpea plants). Use of BtMV antiserum for TBIA analysis of inoculated plants revealed systemic BtMV infections in 35 of 92 plants inoculated mechanically and 15 of 75 plants inoculated with viruliferous *A. fabae* only. To our knowledge, this is the first record of BtMV infecting chickpea in Tunisia.

**References:** (1) A. Franz et al. Ann. Appl. Biol. 128:255, 1996. (2) L. Katul. Characterization by serology and molecular biology of bean leaf roll virus and faba bean necrotic yellows virus. Ph.D. thesis. University of Gottingen, Germany, 1992. (3) K. M. Makkouk and A. Comeau. Eur. J. Plant Pathol. 100:71, 1994. (4) L. G. Nemchinov et al. Arch. Virol. 149:1201, 2004.

