

DISEASE NOTE

FIRST RECORD OF VIRUS INFECTION OF BLUE POTATO BUSH, *LYCIANTHES RANTONNETII*

P. Salamon¹, K. Nemes², K. Salánki² and L. Palkovics³

¹Agricultural Biotechnology Center, Szent-Györgyi Albert Street 4, 2100 Gödöllo, Hungary

²Centre for Agricultural Research, Hungarian Academy of Sciences, Plant Protection Institute, Herman Ottó Street 15, 1022 Budapest, Hungary

³Department of Plant Pathology, Corvinus University of Budapest, Ménesi Road 44, 1118 Budapest, Hungary

In the past two decades numerous woody plants of the family Solanaceae native to South and Central America became popular ornamentals in many European countries. These plants are vegetatively propagated and may act as sources of pathogens of new world origin. *Lycianthes rantonnetii* (syn. *Solanum rantonnetii*) known as blue potato bush is a symptomless host of viroids (Luigi *et al.*, 2011). In autumn of 2012, a three-year-old bush of *L. rantonnetii* decorating a home garden in northeastern Hungary exhibited a peculiar yellow-green mosaic on the top leaves. Inoculation of test plants with the extract of diseased leaves caused necrotic lesions on *Chenopodium quinoa*, mosaic mottling on *Nicotiana tabacum* Xanthi-NC and *Cucumis sativus*, as well as mosaic and leaf narrowing on *Capsicum annuum*, suggesting the presence of *Cucumber mosaic virus* (CMV). To confirm the presence of CMV, total nucleic acid was extracted from symptomatic tobacco leaves and used in RT-PCR with primers designed in the coat protein gene of subgroups I and II (K. Salánki unpublished information; Gellért *et al.*, 2012). A DNA fragment of the expected size of 1030 bp was amplified using subgroup I-specific primers only. The PCR product was cloned and sequenced (GenBank accession No. KC306960). Sequence analysis showed that the CMV strain from *L. rantonnetii* grouped with subgroup IA and is closely related to CMV-Fny and CMV-Rs with 99% and 100% identity at nucleotide and amino acid levels, respectively. This is the first record of a viral infection of *L. rantonnetii*, which is also a new natural host of CMV.

Gellért Á., Salánki K., Tombác K., Tuboly T., Balázs E., 2012. A *Cucumber mosaic virus* based expression system for the production of Porcine circovirus specific vaccines. *PLoS ONE* 7: e52688.

Luigi M., Luison D., Tomassoli L., Faggioli F., 2011. Natural spread and molecular analysis of pospiviruses infecting ornamentals in Italy. *Journal of Plant Pathology* 93: 491-495.

Corresponding author: L. Palkovics
Fax: +36.1.482 6324
E-mail: laszlo.palkovics@uni-corvinus.hu

Received September 15, 2013
Accepted September 19, 2013

DISEASE NOTE

FIRST REPORT OF *TOMATO SPOTTED WILT VIRUS* IN *IBERIS SEMPERFLORENS*

G. Parrella¹, L. Cavicchi², B. Greco¹ and M.G. Bellardi³

¹Istituto per la Protezione delle Piante del CNR, Via Università 133, 80055 Portici (NA), Italy

²Plesso Didattico G. Scarabelli (Imola), Facoltà di Agraria, Alma Mater Studiorum, Università degli Studi, Bologna, Italy

³Dipartimento di Scienze e Tecnologie Agroambientali, sezione di Patologia Vegetale, Alma Mater Studiorum, Università degli Studi, Viale G. Fanin 42, 40127 Bologna, Italy

Iberis semperflorens L. (family Brassicaceae) is a perennial evergreen shrub, endemic to southern Italy and Sicily and it has been recently proposed as flowering potted plants for commercial purposes (Iapichino and Bertolino, 2009). During summer 2013, symptoms of chlorotic/necrotic spots and rings were observed in some potted plants of *I. semperflorens*, cultivated in a greenhouse at Albenga (Northwest Italy). Twenty-five (5%) of 500 plants were symptomatic and 20 of these plants were sampled and tested by commercial DAS-ELISA kits for tospoviruses (Agdia, USA). All the samples reacted positively only with *Tomato spotted wilt virus* (TSWV) antiserum. Total RNA was extracted from leaves of ELISA-positive samples (two plants) using an EZNA total RNA kit (Omega BioTek, USA) and used as template in RT-PCR reactions to confirm the presence of TSWV by using tospo-generic primers, designed to amplify part of the coat protein (CP) gene of tospoviruses (Eiras *et al.*, 2001). PCR products of the expected size (453 bp) were cloned in pGEM-T Vector (Promega, USA) and two independent clones sequenced by MWG Biotech (Germany) yielded an identical sequence (accession No. HG475336) which was compared with other TSWV sequences available in GenBank using DNAMAN. The partial CP sequence showed 99.5% nucleotide identity with several Italian TSWV isolates (HQ839729-31, DQ376177-9, DQ376183, DQ915946). This new finding suggests that *I. semperflorens* is a newly established TSWV natural host (Parrella *et al.*, 2004) and that it may play a role as a reservoir of the virus in nature.

Eiras M., Resende R.O., Missiaggia A.A., De Ávila A.C., 2001. RT-PCR and Dot Blot hybridization for a universal detection of tospoviruses. *Fitopatologia Brasileira* 26: 170-175.

Iapichino G., Bertolino M., 2009. *Iberis semperflorens* L. an attractive Italian endemic shrub with high potential as flowering potted plant. *Acta Horticulturae* 813: 329-334.

Parrella G., Gognalons P., Gebre-Selassie K., Vovlas C., Marchoux G., 2004. An update on host-range of *Tomato spotted wilt virus*. *Journal of Plant Pathology* 85: 227-264.

Corresponding author: G. Parrella
Fax: +39.081.7755872
E-mail: parrella@ipp.cnr.it

Received October 15, 2013
Accepted October 23, 2013