



Infection of *Urtica incisa* with chili leaf curl virus and tomato leaf curl betasatellite in Oman

Muhammad Shafiq Shahid¹ · Amir Raza¹ · Muhammad Shafiq¹  · Abdullah M. Al-Sadi¹ · Rob W. Briddon²

Received: 27 June 2018 / Accepted: 8 September 2018 / Published online: 2 October 2018
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In 2016, *Urtica incisa* plants in a mixed crop field in the Salalah region of Oman showed typical symptoms of begomovirus infection. Twinned icosahedral particles (18–20 nm) were observed in symptomatic plant samples by electron microscopy. Total nucleic acid was extracted from leaves with the CTAB method (Porebski et al. 1997) and used in PCR with begomovirus specific primers TYLCD-356 (5'-ATCA TTTCCACKCCCGYCTCGA-3') and TYLCD-1044 (5'-GCRTGMGTACABGCCATATACA-3'). The expected 688 bp product was obtained from two symptomatic plants. The presence of a begomovirus DNA genome was confirmed by rolling-circle amplification (RCA) with the TempliPhi 100 Amplification System (GE Healthcare) and sequencing of ~2.7 kb *Hind*III-digested RCA products after cloning in pUC19 vector. The sequence of isolates Wed8–24 (MH475358) and Wed8–25 (MH475359) was 2759 bp in length. Pairwise sequence analysis by the Sequence Demarcation Tool (SDT) with the MUSCLE algorithm showed 99.6% nucleotide (nt) identity with each other (Muhire et al. 2014). The sequence of both isolates had the highest nt sequence identity (99.2%) with a chilli leaf curl virus (ChiLCV) isolate from tomato in Oman (JN604495).

A betasatellite was also amplified from *U. incisa* samples by PCR using betasatellite specific primers Sat101 and Sat102 (Shahid et al. 2017). The amplified products of 1391 bp (MH475360) and 1386 bp (MH475361) were cloned in pTZ57R/T and sequenced. Sequences had a 99.7% nt identity and the highest nt sequence identity (98.6%) with a tomato leaf curl betasatellite (ToLCB) isolate from kidney bean in Oman (KX787940). No amplicons were recovered from *U. incisa* samples by PCR using primer pairs designed to amplify alphasatellites or DNA-B components. This is the first report of identification of ChiLCV and ToLCB in *U. incisa* from Oman.

Funding This work was supported by the Sultan Qaboos University (Grant Code: SR/AGR/CROP/16/01 and IGR/AGR/CROP/17/02).

Compliance with ethical standards

Conflict of interest Authors declare that they have no conflict of interest.

Ethical approval This article does not contain any studies with human participants performed by any of the authors.

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Muhammad Shafiq Shahid and Amir Raza contributed equally to this work.

✉ Muhammad Shafiq Shahid
mshahid@squ.edu.om

¹ Department of Crop Sciences, College of Agricultural and Marine Sciences, Sultan Qaboos University, 123 Muscat, Oman

² Agricultural Biotechnology Division, National Institute for Biotechnology and Genetic Engineering, Jhang Road, Faisalabad, Pakistan