



Natural occurrence of *Clerodendron yellow mosaic virus* on *Bougainvillea* in India

Chitra Nehra, Anurag Kumar Sahu, Avinash Marwal and R.K. Gaur*

Department of Science, Faculty of Arts, Science and Commerce, Mody University of Science and Technology, Lakshmangarh, Sikar-332311, Rajasthan, India

*E-mail: gaurrajshahi@hotmail.com

Received: 21 Jul 2014. Published: 25 Oct 2014. Keywords: begomovirus, CIYMV, phylogenetic analysis

Bougainvillea (*Bougainvillea peruviana*) is a common and popular ornamental plant of the family *Nyctaginaceae* commonly grown in the gardens of India. During a survey in the spring seasons of 2012 and 2013, bougainvillea plants throughout Rajasthan State, India exhibited typical symptoms for a begomovirus infection, including leaf curling and stunted growth (Fig. 1). Total DNAs were extracted from leaf samples of ten symptom-bearing and one symptomless plant, and analysed by PCR using virus component-specific primers (Wyatt & Brown, 1996). Agarose gel electrophoresis of the PCR products showed amplicons of the expected size (~550 bp) suggesting the presence of DNA-A genomic components in the plants exhibiting symptoms. Efforts to detect DNA-B components and associated satellite molecules were also made by PCR using specific primers, PCRC1/PBL1v2040 (Rojas *et al.*, 1993) and beta01/beta02 (Briddon *et al.*, 2002), respectively, but were not successful.

PCR-positive samples were subjected to rolling circle amplification (RCA, TempliPhi kit, GE healthcare, USA) to obtain the full-length viral genomes. RCA products were digested with *EcoRI*, *BamHI*, *HindIII*, *Sall*, *XhoI*, *PstI* and *XbaI*. After gel electrophoresis all the ten samples showed single fragments of ~2.7 kbp, which were cloned into pGEMT vector using *EcoRI* restriction sites. Five independent clones (one clone/plant) were sequenced and showed 100% identity with each other (GenBank Accession No. KF704391). Sequence analysis of DNA-A revealed 98% identity at nucleotide level with *Clerodendron yellow mosaic virus* (CIYMV) isolates (Fig. 2) suggesting that our isolate is an isolate of CIYMV. To the best of our knowledge this is the first report of natural occurrence of CIYMV on *B. peruviana* in India. However, there is a need for more detailed study about

CIYMV as it is broadening its host range.

Acknowledgements

The authors express their thanks for financial support to the Council of Scientific and Industrial Research (file no 09/1064 (0002)/2013-EMR-1).

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Figure 1

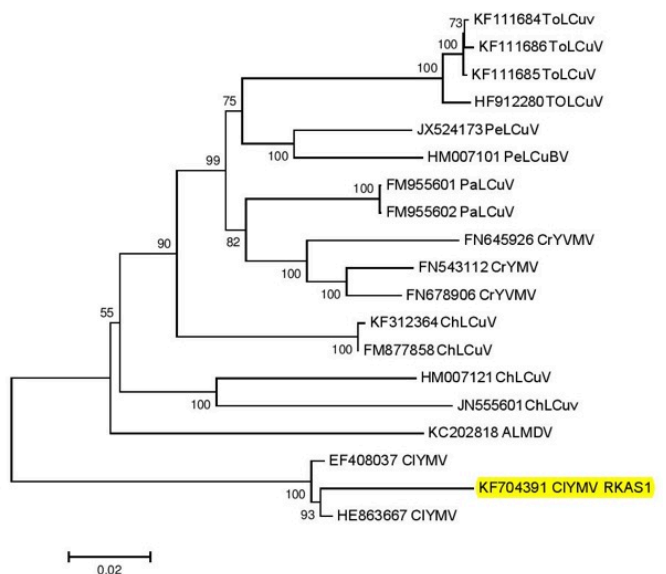


Figure 2

To cite this report: Nehra C, Kumar Sahu A, Marwal A, Gaur RK, 2014. Natural occurrence of *Clerodendron yellow mosaic virus* on *Bougainvillea* in India. *New Disease Reports* **30**, 19. <http://dx.doi.org/10.5197/j.2044-0588.2014.030.019>

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