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First Report of *Colombian datura virus* in India

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Datura (*Datura inoxia*) is rich in tropane alkaloids that are present in their seeds and flowers which are used for medicinal/therapeutic purpose. *Colombian datura virus* (CDV; genus *Potyvirus*, *Potyviridae*) has a worldwide distribution and broad host range which was first identified in *Brugmansia* plants (Solanaceae) from Colombia (Kahn & Bartels, 1968; Schubert *et al*., 2006; Steele & Thomas, 2009). A survey was conducted from January to May 2014 in Rajasthan India, to investigate the epidemiology of potyvirus. Datura showed characteristic symptoms of leaf reduction (Fig. 1) and flower distortion.

Twenty-five symptom-bearing and symptomless leaf samples from different regions were collected for confirmation of potyvirus infection. ELISA was performed using AgDia Inc, Potyvirus group (PVG) ELISA kit (Elkhart, United States) which confirmed the presence of potyviruses. Furthermore, total RNA was extracted from twenty positive samples using an RNA isolation kit (Ambion, USA) followed by RT-PCR using a coat protein (CP) specific primer CN48 (Pappu *et al.,* 1993) and an oligodT primer (T21V). For the complete amplification of the CP region, we designed CDF (GCTGATACAGTTGATGCCG) and CDR (TAACCTCTAACCTTGACGCACAC) primers using Primer3Plus (http://www.bioinformatics.nl/cgi-bin/primer3plus/primer3plus.cgi/) software by using the sequence of GenBank Accession No. JQ801448 as a reference sequence. Amplicons of expected size (~800 nt) were obtained from only seventeen samples. The amplified products were sequenced twice in both directions, out of which a single sequence was submitted to GenBank (KM386637). Sequence alignment analysis of CDV coat protein gene showed 92-99% identity with CDV isolates of other countries. Phylogenetic analysis of CDV was performed using MEGA 6.0 (Tamura *et al*., 2013) indicating that the Indian isolates shares a common ancestry with the isolates from Japan and Hungary (Fig. 2). This is the first report of the natural infection of CDV causing severe mosaic symptoms on *Datura inoxia* in India. The distribution and economic impact of this virus is still unknown and further studies on the characterisation as well as determination of host range of CDV in India is required.

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Figure 1

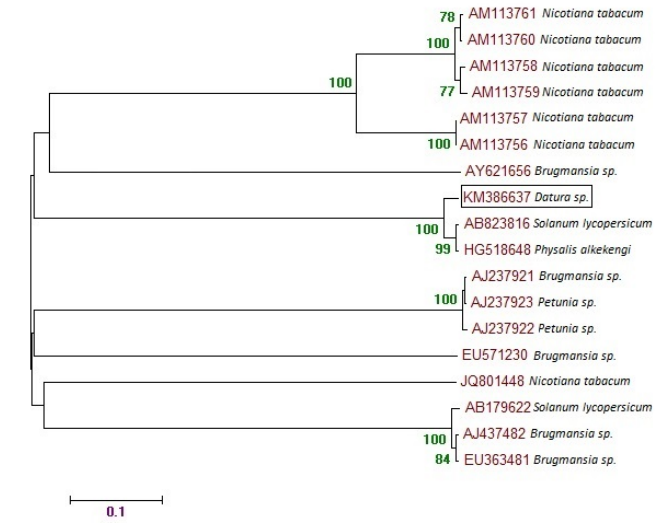

Figure 2

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