



## First report of *Polerovirus* of the family *Luteoviridae* infecting cotton in India

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**Received:** 31 Dec 2011. **Published:** 25 Apr 2012. **Keywords:** Cotton leafroll dwarf virus (CLRDV), viral disease of cotton

Cotton blue disease caused by *Cotton leaf roll dwarf virus* (CLRDV, Genus: *Polerovirus*, Family: *Luteoviridae*) is a serious problem in cotton cultivation in South America causing yield losses up to 80% in susceptible varieties (Silva *et al.*, 2008; Distéfano *et al.*, 2010). This positive-sense, single-stranded RNA virus is transmitted by aphids (*Aphis gossypii*) in a circulative-persistent manner. It can spread very fast and is difficult to control. So far, this disease has not been reported from India. Cotton plants affected by this disease show stunting, leaf rolling, intense green foliage, vein yellowing, brittleness of leaves, reduced flower and boll size, sometimes resulting in sterility of plants (Fig. 1).

Leaf samples from plants with symptoms suggestive of CLRDV and apparently healthy plants were collected from cotton fields (Nagpur, Maharashtra, India) and washed with *RNase*-free sterile double distilled water before total RNA isolation. RNA was extracted from leaf samples (100 mg) using Spectrum Plant Total RNA kit (Sigma USA). RT-PCR was performed using Qiagen OneStep RT-PCR kit (Qiagen, USA) following the manufacturers' instructions with the primers PL4F(5'-GCGACAAATAGTTAATGAATACGGT-3') and o3R(5'-GTCTACCTATTTBGGRTTNTGGAA-3'). The primers were designed to amplify a region of approximately 600 bp of the capsid protein sequence of CLRDV (Corrêa *et al.*, 2005). PCR conditions were: denaturation at 94°C for 45 s, primer annealing at 49°C for 45 s, extension at 72°C for 45 s for 35 cycles and final extension at 72°C for 10 min. PCR from symptom-bearing samples resulted in the amplification of a 600 bp band which is the expected size (Fig. 2). PCR from healthy samples did not produce an amplicon. The PCR products were sequenced directly and the resulting sequence was deposited at GenBank (Accession No. JN033875). The coat protein sequences derived from the PCR products from

symptom-bearing plants showed more than 90% similarity with Cotton leaf roll dwarf virus and Chickpea stunt virus (another member of *Polerovirus*) as reported by earlier workers (Corrêa *et al.*, 2005; Silva *et al.*, 2008; Distéfano *et al.*, 2010). This is the first report of the detection of a *Polerovirus* infecting cotton in India.

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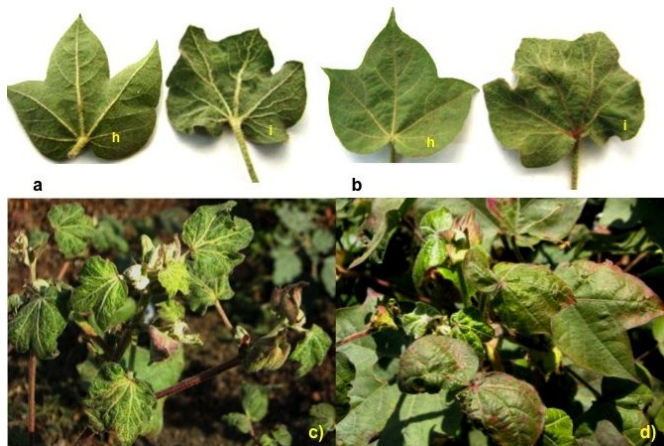


Figure 1

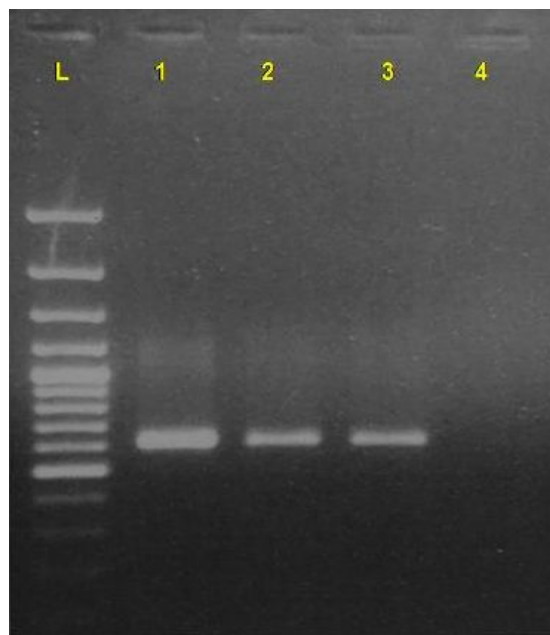


Figure 2

**To cite this report:** Mukherjee AK, Chahande PR, Meshram MK, Kranthi KR, 2012. First report of *Polerovirus* of the family *Luteoviridae* infecting cotton in India. *New Disease Reports* **25**, 22. [doi:10.5197/j.2044-0588.2012.025.022]

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