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DISEASE NOTES

First Report of the natural occurrence of *Groundnut bud necrosis virus* on *Catharanthus roseus* in India

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Symptoms of virus-like infections (20 to 25%) were observed on *Catharanthus roseus* (cv. Titan series) commonly known as Madagascar periwinkle in the gardens of the University of Delhi, and Dilli Hatt, Delhi, India, during July to October 2016. The infected plants exhibited stunted growth, bud necrosis, necrotic spots, and veinal necrosis on leaves, leaf distortion, stem necrosis, and even death of the plant in severe cases. The symptomatic plants gave positive results when analyzed by direct antigen coating (DAC)-ELISA using *Groundnut bud necrosis virus* (GBNV) specific antisera (polyclonal antibody) against the N-protein (Jain et al. 2005). The average absorbance values measured at 405 nm were 1.735 and 0.489, for the infected and healthy (control) samples, respectively. Leaf extracts from the infected plants when mechanically inoculated to cowpea (*Vigna unguiculata* cv. Pusa Komal) and periwinkle seedlings produced local chlorotic spots, which later exhibited systemic infection. Both mechanically inoculated cowpea and periwinkle seedlings also reacted positively when analyzed by DAC-ELISA using the antibody against N-protein. Total RNA was extracted from the infected leaves of periwinkle and mechanically inoculated cowpea using RiboZol RNA extraction reagent (AMRESCO, U.S.A.) according to the manufacturer's directions. Reverse transcription (RT)-PCR was carried out using the One Step RT-PCR kit (Thermo Scientific), with a primer pair specific for the N-gene of GBNV, Gs1F (5′-ATGGTTGAAAAGAGCAAGAATGATGC-3′) and GWs1R (5′-CTTCTT(A/T)GA(A/G)TGT(AC/T)CACCATA(A/G)TCATCC-3′) (Holkar et al. 2017), and yielded

Self Attested
P. Pushpa Devi