

DISEASE NOTE

IDENTIFICATION OF COTTON LEAF CURL KOKHRAN VIRUS AND MULTIPLE SATELLITE MOLECULES INFECTING *JASMINUM SAMBAC* IN PAKISTAN

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Jasminum sambac is grown as an ornamental across South-eastern Asia. Amongst a group of 15 *J. sambac* plants growing next to cotton fields in Faisalabad in 2016, four were exhibiting mild leaf curling, yellowing and vein-thickening, typical of begomovirus infection. DNA was extracted from the leaves of two symptomatic and one non-symptomatic plant using the CTAB method. DNA fragments of ca. 2.8 kb were PCR amplified and cloned from the symptomatic (plants p1 and p2) and non-symptomatic (plant p3) plants with begomovirus-specific primers BF/BR (Mubin *et al.*, 2011). The sequences of three clones (GenBank accession Nos. KY797661-KY797663 from p1 to p3, respectively) showed 99% nucleotide sequence identity with cotton leaf curl Kokhran virus (CLCuKoV; AJ496286). Betasatellites and alphasatellites were amplified using primers beta01/beta02 and DNA101/DNA102, respectively (Mubin *et al.*, 2011). The sequences of two betasatellites [KY797668 (p2) and KY797669 (p3)] and a partial sequence (p1) showed 99% sequence identity with cotton leaf curl Multan betasatellite (CLCuMuB; FN432359). Three alphasatellite clones (KY797664-KY797666, from p1, p1 and p3, respectively) had 99% sequence identity with guar leaf curl alphasatellite (HE599396) and one (KY797667; p3) had 98% sequence identity with okra leaf curl alphasatellite (AJ512954). Marwal *et al.* (2013) previously showed *J. sambac* in India to be infected with a begomovirus based on partial sequences. This is the first report of *J. sambac* being a host for CLCuKoV, CLCuMuB and alphasatellites which are associated with cotton leaf curl disease in South Asia. This shows *J. sambac* is an alternative, sometimes asymptomatic host for economically important, crop-infecting begomoviruses on the subcontinent.

Marwal A., Sahu A., Prajapat R., Gaur R.K., 2013. First report of begomovirus infecting two ornamental plants: *Jasminum sambac* and *Millingtonia hortensis*. *Indian Phytopathology* **66**: 115-116.

Mubin M., Akhtar S., Amin I., Briddon R.W., Mansoor S., 2012. *Xanthium strumarium*: a weed host of components of begomovirus–betasatellite complexes affecting crops. *Virus Genes* **44**: 112-119

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FIRST REPORT OF *PLEUROSSTOMA RICHARDSIAE* ASSOCIATED WITH GRAPEVINE DECLINE DISEASES OF GRAPEVINE IN TURKEY

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Pleurostoma richardsiae (Nannfeldt) Réblová & Jaklitsch is a lesser known grapevine trunk fungus that can cause black vascular streaking, brown necrosis and white rot (Halleen *et al.*, 2007). During a survey to determine fungi associated with trunk diseases in young vineyards in Ankara province, trunk samples were collected from vines with decline symptoms. Of the various fungi isolated from internal brown vascular streaks and dark spots around the pith, one isolate was identified as *P. richardsiae* based on morphological characters (Carlucci *et al.*, 2015). Actin and beta-tubulin sequences were generated from our isolate with primer pairs act512/act783 and T1/Bt2b (GenBank accession Nos. KY496707 and KY496708) and isolates had 8% and 94% genetic identity with corresponding sequences from the type of *P. richardsiae* (CBS 270.33; AY579271 and AY579334). Pathogenicity tests were carried out on green shoots of grapevine cv. Sultana using agar plugs (5 mm) from 10-day-old cultures grown on PDA at 23 ± 2°C. Controls were inoculated with sterile agar plugs. Four months after inoculation the fungus was reisolated from symptomatic inoculated shoots, fulfilling Koch's postulates (Carlucci *et al.*, 2015). Control plants were asymptomatic and *P. richardsiae* was not recovered. To our knowledge, this is the first report of *P. richardsiae* associated with trunk diseases of grapevine in Turkey.

Carlucci A., Cibelle F., Lops F., Phillips A.J., Ciccarone C., Raimondo M., 2015. *Pleurostomophora richardsiae* associated with trunk diseases of grapevines in southern Italy. *Phytopathologia Mediterranea* **54**: 109-123

Halleen F., Mostert L., Crous P.W., 2007. Pathogenicity testing of lesser known vascular fungi of grapevines. *Australasian Plant Pathology* **36**: 277-285.

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