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Prevalence and Partial Molecular Characterization of Citrus Psorosis Virus in Morocco

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Abstract: Citrus is one of the most economically important fruit tree crops in Morocco. *Citrus psorosis virus* (CPsV), the type species of the genus *Ophiovirus*, is the causal agent of psorosis, an economically important graft-transmissible disease of citrus. In order to assess the occurrence and distribution of CPsV in Morocco, surveys were conducted between 2017 and 2019, in the main citrus production areas of the country. Commercial groves, nurseries and one varietal collection were inspected for psorosis symptoms and a total of 435 samples were collected for analyses. The CPsV was widely distributed in the country with an infection rate of 44.8%, especially in the commercial orchards located in the Gharb region where 58.7% of the tested trees were infected. After RT-PCR, six CPsV isolates obtained from six Moroccan citrus growing areas were selected and submitted for molecular characterization by partial sequencing the coat protein gene. Multiple alignment of the obtained sequences showed high nucleotide identity (99.34-99.83%) among the Moroccan CPsV isolates, which clustered in the phylogenetic tree together with isolates from Argentina, USA and Egypt. CPsV spread in Morocco may be due to bud propagation, by small nurseries, from infected old trees, which were planted before the implementation of the certification program in the country.

Keywords**:** Citrus, Citrus psorosis virus, Surveys, RT-PCR, Molecular characterization, Morocco