Sayed Sartaj Sohrab et al., Virol Mycol 2017, 6:1(Suppl)
http://dx.doi.org/10.4172/2161-0517.C1.018

Molecular diagnosis and genetic variability of *Begomovirus* causing leaf curl disease of *Amaranthus cruentus* L

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Amaranthus is well known and used in multiple purposes as: leafy vegetables, cereals, seed and ornamentals in various countries. This is short lived perennial or annual plant. Severe leaf curl disease was observed on *Amaranthus* plant growing adjacent to tomato crop infected leaf curling disease in a natural field at Jeddah, Saudi Arabia. The causative pathogen was identified by polymerase chain reaction using *Begomovirus* specific primers. The *Begomovirus* association with this disease was confirmed by full genome as well as beta satellites sequence analysis, amplified by PCR and rolling circle amplification from naturally infected *Amaranthus* sample. Assembled sequences of both full genome and beta satellites were submitted to GenBank. The full-length nucleotide sequence analysis results revealed 99.8% identities with Tomato leaf curl Sudan virus infecting tomato reported from the Arabian Peninsula. In phylogenetic relationships, the identified virus formed closest cluster with previously reported Tomato leaf curl Sudan virus. Findings of this study strongly supported that the associated virus could be a variant of Tomato leaf curl Sudan virus, a virus that occurs in Sudan, Yemen and Arabian Peninsula. This host can serve as alternative host as well as reservoir for *Begomovirus* and disease spread to other new hosts in the near future in Saudi Arabia.

Biography

Sayed Sartaj Sohrab is working as an Assistant Professor at King Fahd Medical Research Center, King Abdulaziz University, Saudi Arabia. He completed his PhD from Jamia Millia Islamia, New Delhi India and has worked in Indian Agricultural Research Institute (IARI), PUSA, New Delhi. He has published more than 41 research papers in both Plant and Animal Virology. Currently, he is working on Dengue virus and MERS-CoV in Jeddah Saudi Arabia. Apart from all these, he is also working on begomoviruses infecting tomato and cucurbits in Saudi Arabia. His main research interest is virus characterization and an edible vaccine development against pathogenic viruses.

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