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First report of begomovirus infecting two ornamental plants: *Ocimum Sanctum* and *Alternanthera Variegata* in India

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Ocimum sanctum is an ornamental herb that belongs to the family of Lamiaceae. It is an aromatic plant, refined for its medicinal properties (Sethi et al., 2004). O. sanctum is establish widely across tropical regions and fully fledged in homes and temples across India meant for its religious belief. Alternanthera variegata belonging to family Amaranthaceae have variegated leaves, perennial, is low sprawling or prostrate plants, with weak stems and simple leaves arranged in opposite pairs. Ocimum and Alternanthera plants exhibiting disease symptoms, having curling of leaves were collected from the gardens of Lakshmangarh, Rajasthan, India region in order to identify the begomoviral infection prevailing in them.

PCR was carried out using universal coat protein primer (Hallan, 1998). Forward primer sequence was GGRTTDGARGCATGHGTACATG (AC 1048) and reverse primer sequence was GCCYATRTAYAGRAAGCCMAG (AV 494). PCR product of expected size ~ 550 bp was obtained from both samples. PCR product of ~ 550 bp of O. sanctum and A. variegata samples was cloned and partially sequenced and has been deposited in NCBI GenBank Accession No. JF968443 and JN009666 respectively. BLASTn analysis was conducted with other begomovirus isolates in GenBank database at NCBI (Altschul et al., 1997). In the case of O. sanctum the alignment process of begomoviral sequence reveals 98% identity each with Tomato leaf curl virus AV1 gene for coat protein, isolate 4 (AJ810343) and Tomato leaf curl Gujarat virus - [Nepal] segment DNA-A, complete Sequence (AY234383). Whereas in the case of A. variegata BLASTn analysis of begomoviral sequence showed 93% identity with Tomato leaf curl Kerala virus isolate ToLCV-K5 segment DNA A, complete sequence (EU910140) and 86% identity with Tomato leaf curl virus AV1 gene for coat protein, isolate 21(AJ810360). By means of the results mentioned above this is the first ever report of Begomoviruses infecting Ocimum sanctum and Alternanthera variegata in India.

Biography

Dr. Rajarshi Kumar Gaur is presently working as Assistant Professor and Head, Department of Science, Mody Institute of Technology and Science (Deemed University), Rajasthan. He did his Ph.D on molecular characterization of sugarcane viruses of India. He received MASHAV fellowship in 2004 of Israel government for his post doctoral studies and joined The Volcani Centre, Israel and then shifted to Ben Gurion University, Negev, Israel. In 2007 he received the Visiting Scientist Fellowship from Swedish Institute Fellowship, Sweden for one year to work in the The Umea University, Sweden. He is also a recipient of ICGEB, Italy Post Doctoral fellowship in 2008. He worked on development of marker-free transgenic plant against cucumber viruses. He has made significant contributions on sugarcane viruses and published 40 national/international papers and presented near about 56 papers in the national and international conferences. He was awarded as Fellow of International Society of Biotechnology, Fellow of Madhaswami Educational Trust, Fellow of International Consortium of Contemporary Biologist and Fellow of International Society of Biotechnology. He has also visited Thailand, New Zealand, London and Italy for the sake of attending the conference/workshop. Recently, he received two projects on begomovirus from Department of Biotechnology, Government of India and Department of Science and Technology, New Delhi, India. He is also member and reviewer of several national and international scientific societies.

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