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Bacterial leaf spot caused by *Xanthomonas cucurbitae* reported on pumpkin in Nepal

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Xanthomonas cucurbitae causes leaf spots of cucurbits worldwide (Bradbury, 1986; Maringoni & Leite, 1988). During a survey made in 2009, small necrotic spots with chlorotic haloes were observed on the leaf surface and also scab-like lesions on fruits of pumpkin plants (*Cucurbita moschata* var. Arka Chandan). Symptoms were observed in several commercial vegetable fields at Thimi and Bashundhara areas, in Bhaktapur and Kathmandu districts respectively, Central Region, Nepal .

Samples were collected from both fields, and yellow-pigmented *Xanthomonas*-like bacterial colonies were observed on yeast peptone glucose agar after streaking and incubation at $28 \pm 1^\circ\text{C}$ for 48 hours. Six isolates were identified as *Xanthomonas cucurbitae* on the basis of morphological, physiological and biochemical tests. All strains were Gram negative rods, aesculin positive, produced H₂S from peptone and grew at 36°C. All the strains produced acid from arabinose, galactose and trehalose. Pathogenicity of the isolates was confirmed on pumpkin plants (cvs. Arka Chandan and Lunga di Napoli) in greenhouse tests by spraying 10 healthy potted plants of each cultivar with bacterial suspensions (10^8 cfu/ ml) of each isolate. A known *Xanthomonas cucurbitae* strain (CFBP 922) and sterile distilled water were used, respectively, as positive and negative controls. All the strains caused symptoms similar to those observed in the field within a week of artificial inoculation. Bacteria re-isolated from the lesions were similar to the original strains according to the above-mentioned morphological, cultural and biochemical tests. A 1473 bp region of the 16S rDNA from all strains was amplified with primers NOC-1F (5'AGAGTTTGATCATGGCTCAG3') and NOC-3R (3'ACGGTTACCTTGTTACGACTT5') and sequenced (GenBank Accession No. GU373651, strain NEP XC10). A BlastN search of GenBank revealed that the strains had 100% identity with the 16S rDNA sequence of *Xanthomonas cucurbitae* type strain LMG 690 (NR_026387). The finding of this pathogen in Nepal is particularly significant since cucurbits represent one of the major vegetable crops of Nepal . This pathogen has been reported both in India and China (Bradbury, 1986) with which Nepal shares its boundaries. Contaminated seeds and/or transplants may have been the source of introduction of the pathogen to this region. To our knowledge, this is first report of *Xanthomonas cucurbitae* on pumpkin in Nepal .

References

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