

DISEASE NOTE

FIRST REPORT OF A LEAF SPOT DISEASE CAUSED BY *SCLEROTIUM ROLFSII* ON *JASMINIUM MULTIFLORUM* IN INDIA

S. Mahadevakumar and G.R. Janardhana

Mycology and Phytopathology Laboratory, Department of Studies in Botany, University of Mysore, Manasagangotri, Mysore-570 006, Karnataka, India

Jasminium multiflorum is an important crop grown extensively in parts of Southern India. A characteristic leaf spot disease was observed during field surveys conducted in 2013-2015. The disease incidence ranged from 18 to 23% over about 45 cropped hectares. Water-soaked lesions (2-8 mm) appeared initially on the basal leaves followed by the development of large necrotic spots (0.5-1.5 cm) with sclerotial bodies at the center of the necrotized areas. Affected leaf tissues were surface-sterilized with 2% NaOCl, transferred onto potato dextrose agar (PDA) and incubated at 28±2°C. Fungal colonies with dense, aerial whitish cottony mycelium with uniformly globoid sclerotia (1-2.2 mm) were observed after 10-12 days of incubation. Based on the morpho-cultural characteristics, the fungus was identified as *Sclerotium rolfsii* (Mordue, 1974). The identification was confirmed by PCR amplification of ITS-rDNA using ITS1/ITS4 primers (White *et al.*, 1990). The PCR product was sequenced directly and the sequence analysis revealed 100% homology with *S. rolfsii* (GenBank accession No. KP412469.1). A representative sequence of *S. rolfsii* was deposited in GenBank (accession No. KT768140.1). Pathogenicity tests were conducted on 30 healthy leaves by inoculating 2-3 sclerotia from 12 days-old culture. The appearance of necrotic leaf spots was noticed on 22 inoculated leaves seven days post inoculation. No such symptoms were observed on control leaves challenged with water. The fungal pathogen was re-isolated on PDA and its identity confirmed. To the best of our knowledge, this is the first report on the occurrence of *S. rolfsii* causing leaf spot of *J. multiflorum* in India.

Mordue J.E.M., 1974. CMI descriptions of pathogenic fungi and bacteria. No. 410.

White T., Bruns T., Lee S., Taylor J., 1990. Amplification and direct sequencing of fungal ribosomal RNA genes for phylogenetics. In: Innis M.A., Gelfand D.H., Sninsky J.J., White T.J. (eds). PCR Protocols: a Guide to Methods and Applications. Academic Press, San Diego, CA, USA.

Corresponding author: G.R. Janardhana
E-mail: grjbelur@gmail.com

Received November 3, 2015
Accepted November 5, 2015

DISEASE NOTE

FIRST REPORT OF *PSEUDOMONAS SYRINGAE* pv. *ACTINIDIAE* ON *ACTINIDIA* spp. CULTIVATED IN CAMPANIA (SOUTHERN ITALY)

L. Zampella¹, F. Mastrobuoni¹, M. Petriccione¹, P. Ferrante², S. Marcelletti² and M. Scortichini^{1,2}

¹Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (CREA)-Unità di ricerca per la Frutticoltura, Via Fioranello, 52; I-00134 Roma, Italy

²Consiglio per la ricerca in agricoltura e l'analisi dell'economia agraria (CREA)-Centro di ricerca per la Frutticoltura, Via Torrino, 3; I-81100, Caserta, Italy

To ascertain the presence of *Pseudomonas syringae* pv. *actinidiae* in Campania (southern Italy) field surveys were carried out since 2011 in all areas of kiwifruit (*Actinidia deliciosa* and *A. chinensis*) cultivation. In some orchards of Caserta, Benevento, Napoli and Salerno provinces, leaf spotting and twig wilting were observed, possibly indicating the occurrence of the pathogen, but no cankers along the trunk and main branches and plant collapse were seen. Generally, the incidence of these symptoms varied from 3% to 20%. Isolation from symptomatic organs and identification procedures were done according to Ferrante and Scortichini (2009, 2010). In parallel, with all samples, duplex PCR (Gallelli *et al.*, 2011) and real-time PCR (Gallelli *et al.*, 2014) were directly applied to plant tissues. The reference *P.s.* pv. *actinidiae* CRA-FRU 8.43 strain (Ferrante and Scortichini, 2010) was used as positive control. Pathogenicity tests were carried out on pot-grown, one-year-old plants of *A. deliciosa* cv. Hayward with representative isolates of *P.s.* pv. *actinidiae* obtained from all of the provinces (Ferrante and Scortichini, 2009). Bacterial isolates from all provinces were identified by PCR as *P.s.* pv. *actinidiae*. In addition, the successful inoculation of cv. Hayward demonstrated the pathogenicity of the representative isolates. The occurrence of the pathogen was also confirmed by the detection techniques applied directly to plant samples. *P.s.* pv. *actinidiae* was isolated in Napoli and Benevento provinces from cv. Hayward; in Salerno province from cvs Hayward and G3 Gold, and in Caserta province from cvs Hayward, JinTao and Soreli.

Ferrante P., Scortichini M., 2009. Identification of *Pseudomonas syringae* pv. *actinidiae* as causal agent of bacterial canker of yellow kiwifruit (*Actinidia chinensis* Planchon) in central Italy. *Journal of Phytopathology* **157**: 768-770.

Ferrante P., Scortichini M., 2010. Molecular and phenotypic features of *Pseudomonas syringae* pv. *actinidiae* isolated during recent epidemics of bacterial canker on yellow kiwifruit (*Actinidia chinensis*) in central Italy. *Plant Pathology* **59**: 954-962.

Gallelli A., LAurora A., Loreti S., 2011. Gene sequence analysis for the molecular detection of *Pseudomonas syringae* pv. *actinidiae*: developing diagnostic protocols. *Journal of Plant Pathology* **93**: 425-435.

Gallelli A., Talocci S., Pilotti M., Loreti S., 2014. Real-time and qualitative PCR for detecting *Pseudomonas syringae* pv. *actinidiae* isolates causing recent outbreaks of kiwifruit bacterial canker. *Plant Pathology* **63**: 264-276.

Corresponding author: M. Scortichini
E-mail: marco.scortichini@entecra.it

Received December 2, 2015
Accepted December 10, 2015