DISEASE NOTE

NEW RECORD OF ACIDOVORAX AVENAE SUBSP. CATTLEYAEON ORCHID IN ITALY

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Pot-grown plants of orchid (Phalaenopsis hybrid) cv Alice Girl with leaf spot symptoms were observed in a commercial glasshouse near Pescara (central Italy). Leaves bore circular-elliptical spots, sometimes with a water-soaked appearance, that turned blackish forming cavities in the parenchyma. Some leaves died. Tissue from lesion margins was ground in a mortar containing sterile saline, 0.1 ml aliquots of serial ten-fold dilutions were plated on nutrient agar and incubated at 25-27°C for three days. The resulting cream-coloured colonies were analysed in biochemical and pathogenicity tests and by SDS-PAGE of whole-cell protein extracts. All isolates accumulated poly-β-hydroxybutyrate, did not produce fluorescent pigments on medium B of King et al. (1954), hydrolysed starch, utilised L-arabinose, D-galactose and ethanalamine as carbon source and caused a hypersensitivity reaction in tobacco cv White Burley. In addition, they showed the same protein profile as a reference strain (PD3516, Wageningen) of Acidovorax avenae subsp. cattleyae (Pavarino) Willems et al.

Pathogenicity tests were made according to Stovold et al. (2001). Phalaenopsis plants were covered with plastic bags 12 h before and for 24 h after inoculation. Leaves were wounded with a sterile syringe and inoculated by wiping with a cotton wool swab impregnated with the bacterial suspension (1:2·10⁷ cfu ml⁻¹). All isolates tested reproduced the original symptoms. Re-isolations yielded the same colony type as in the primary isolation. We conclude that the causative agent of the disease was A. avenae subsp. cattleyae. To our knowledge this is the first record of this disease of Phalaenopsis hybrid in Italy since its discovery by Pavarino in 1911. Other hosts of this pathogen are Cattleya, Cypripedium, Dendrobium, and Ornithocephalum.


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