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# First report of *Pseudomonas mediterranea* causing tomato pith necrosis in Argentina


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During the summers of 2007 and 2008 fruiting tomato plants (*Solanum lycopersicum* cv. Orco) from commercial glasshouses near La Plata, Argentina (35°S 57°W) showed abundant adventitious root production, apical chlorosis of leaves and a brown discoloration of the stem pith. These symptoms were similar to those reported by López *et al.* (1994) and Catara *et al.* (2002) on tomatoes affected by *Pseudomonas corrugata* or *P. mediterranea*. Bacteria consistently isolated from stem lesions formed cream-coloured, glistening, convex colonies on sucrose peptone agar and were non-fluorescent on King's medium B. Four strains were selected for further study. All were aerobic, Gram-negative rods with PHB inclusions. In LOPAT tests, all induced a hypersensitive response in tobacco plants, were oxidase positive, did not cause soft rot of potato tubers, and were negative for levan and arginine dihydrolase. Colonies developed at 28°C and 37°C but not at 41°C. Additional characterization was achieved by API 20 NE tests strips (Biomerieux®). Reference strains 536·7 (Spain), 592·4 (Spain) and CFBP 10906 (France) of *P. mediterranea* and strain NCPPB 2445 of *P. corrugata* were included in all tests for comparison.

Further identity was confirmed by PCR, using species-specific primers PC5/1-PC5/2 for *P. mediterranea* and primers PC1/1-PC1/2 for *P. corrugata* (Catara *et al.*, 2002). All the strains were identified by the amplification of a 600 bp DNA fragment characteristic of *P. mediterranea* (Catara *et al.*, 2002). The strains of *P. mediterranea* were also differentiated from those of *P. corrugata* by PCR/RFLP analysis of 16S rDNA gene by using endonuclease *Alu*I.

Pathogenicity was verified on four-week-old tomato plants (cv. Presto) by injecting bacterial suspensions at $10^7$ cfu $mL^{-1}$ or sterile distilled water for controls, after which the plants were kept for 72 h in a humid chamber before incubation at 25°C. After 45 days inoculated plants showed necrotic pith symptoms similar to those observed on field-grown plants, whereas no lesions were observed on controls.

Pith necrosis caused by *P. corrugata* and *P. viridiflava* has been previously reported in Argentina (Alippi *et al.*, 1993, 2003). This is the first report of a disease caused by *P. mediterranea* on glasshouse-grown tomatoes in Argentina and South America.


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