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DISEASE NOTE

FIRST REPORT OF *TOBACCO RATTLE VIRUS* IN *AQUILEGIA* sp. IN FRANCE

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In 2002, mosaic and yellow ringspot symptoms were observed in the leaves of each of 20 colombine plants (*Aquilegia* sp., family *Ranunculaceae*) in a garden in Alsace (France). Electron microscopy revealed that sap extracts of these plants contained rod-shaped particles 22 nm wide and either 200 to 210 nm or 90 to 100 nm long, which were typical of tobravirus particles. *Nicotiana tabacum* 'Xanthi', *Chenopodium quinoa* and *C. amaranticolor* plants inoculated manually with extracts of infected *Aquilegia* plants developed necrotic local lesions five days after inoculation. A semi-purified virus preparation from tobacco reacted in DAS-ELISA with antibodies to *Tobacco rattle virus* (TRV) (Loewe, Germany). RT-PCR with RNA extracts of the original and inoculated plants using TRV RNA 1 specific primers (Robinson, 1992) yielded 464 nucleotide-long amplicons, one of which had a sequence identical to parts of those of TRV isolates PPK20 and SYM (GenBank accession Nos AF166084 and X06172). No *Cucumber mosaic virus* or potyviruses were detected in the original plants by DAS-ELISA. Among 80 one-year-old seedlings of *Aquilegia* hybrid cultivars McKana, Kristall and Biedermeier inoculated by root woundings or leaf rubbing with inocula from infected 'Xanthi', *C. quinoa* or *Aquilegia* sp. plants using phosphate buffer (0.02 M) containing 0.5% (vol/vol) 2-mercaptoethanol, 2% (w/vol) polyvinylpyrrolidone (25,000 M) and 2% (w/vol) sodium bisulfite, none developed symptoms and no virus was detected in these plants for up to one year post inoculation.

Robinson D.J., 1992. Detection of tobacco rattle virus by reverse transcription and polymerase chain reaction. *Journal of Virological Methods* **40**: 57-66.

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