

NEW DISEASE REPORT

First report of leaf rust on plum (*Prunus cerasifera*) by *Tranzschelia pruni-spinosa* var. *discolor* in the eastern Mediterranean region of Turkey

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During the 2003 growing season, plum producers in the eastern Mediterranean region of Turkey encountered defoliation of plum trees (*Prunus cerasifera*), as a result of rust infections. Disease was observed in almost all plum orchards in the region on leaves but not on fruit or twigs. Early disease symptoms were observed in late May as distinct angular bright-yellow lesions on the upper leaf surface. As the disease progressed, light orange-brown pustules (uredinia) bearing urediniospores were observed in the centre of the lesion on the lower leaf surface. By early September, leaf lesions turned dark brown as they produced teliospores within rusty brown pustules.

Microscopic examination of pustules revealed clustered uredinio- and teliospores. The single-celled urediniospores ($23\text{--}42 \times 13\text{--}20\text{ }\mu\text{m}$) were broadly fusiform or clavate with a golden to cinnamon wall and markedly thickened at the apex ($5\text{--}7\text{ }\mu\text{m}$). Two-celled teliospores ($25\text{--}39 \times 18\text{--}25\text{ }\mu\text{m}$) were chestnut to blackish in colour. The apical cell was darker, coarsely verrucose, globoid and frequently showed wall thickening at the apex ($3\text{--}5\text{ }\mu\text{m}$). The basal cell was oblong or ovate, generally tapered towards the base, smaller and lighter than the apical cell. The causal agent was identified as *Tranzschelia pruni-spinosa* var. *discolor* based on morphological characteristics (Laundon & Rainbow, 1971) and distinguished from *T. pruni-spinosa* var. *pruni-spinosa* on the basis of teliospore morphology and host range (domestic rather than wild plum).

Pathogenicity tests were conducted on 1-year-old plum (cv. Canerigi) nursery stock grown in a glasshouse at

20°C. Plant leaves were inoculated by atomizing an aqueous suspension of urediniospores (10^5 spores mL^{-1}) collected from diseased leaves. After inoculation, the plants were covered with a plastic bag for 48 h and kept in the growth room at 22°C with a 16 h photoperiod. Within 5 weeks after inoculation, typical uredinia and urediniospores developed on inoculated leaves.

This is the first report of plum rust on cultivated plum in the eastern Mediterranean region of Turkey. Previous reports list *T. pruni-spinosae* var. *discolor* on cultivated plums in the USA (Bolkan *et al.*, 1985), India (Sharma & Bhardwaj, 2001) and Israel (Reuveni, 2000).

References

- Bolkan HA, Ogawa JM, Michailides TJ, Kable PF, 1985. Physiological specialization in *Tranzschelia discolor*. *Plant Disease* **69**, 485–6.
- Laundon GF, Rainbow AF, 1971. *Tranzschelia pruni-spinosa* var. *discolor*. *CMI Description of Pathogenic Fungi and Bacteria*, no. 287. Kew, UK: Commonwealth Mycological Institute.
- Reuveni M, 2000. Efficacy of trifloxystrobin (Flint), a new strobilurin fungicide, in controlling powdery mildew on apple, mango and nectarine, and rust on prune trees. *Crop Protection* **19**, 335–41.
- Sharma IM, Bhardwaj SS, 2001. Evaluation of plum cultivars and fungicides against rust. *Plant Disease Research* **16**, 100–3.

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