



First report of *Stemphylium* leaf blight of garlic (*Allium sativum*) caused by *Stemphylium vesicarium* in Turkey

Z. Polat*, G. Besirli, İ. Sönmez and B. Yavuz

Atatürk Central Horticultural Research Institute, Yali Cad., Yalova, Turkey

*E-mail: z_polat@hotmail.com

Received: 24 Apr 2012. Published: 30 Jun 2012. Keywords: fungal garlic disease

During a routine survey for garlic (*Allium sativum*) diseases conducted in late spring of 2011 in Taşköprü District, Kastamonu Province in Turkey, symptoms of a new disease were observed in many locations. Initial symptoms were white flecks that enlarged and produced sunken purple lesions sometimes surrounded by a yellow to pale brown border (Fig. 1). A *Stemphylium* sp. was isolated from lesions on leaves showing symptoms. Based on morphological characteristics, the species was further identified as *Stemphylium vesicarium* (Wall.) Simmons (Ellis, 1971). Colonies were effuse, olivaceous brown to black, somewhat velvety (Fig. 2), conidia pale to mid-brown or olivaceous brown, verrucose, with up to six transverse and several longitudinal septa, mostly constricted at the major transverse septa, 20-50 x 15-26 µm (Fig. 3).

For the pathogenicity test, inoculum for agar plugs was prepared from six-day-old cultures grown at 25°C on potato sucrose agar medium (PSA). PSA plugs (6-mm diameter) with fungal inoculum taken from these cultures were placed singly onto 20 intact garlic leaves, with the mycelial surface in contact with the leaf. The inoculated garlic plants were kept in pots at 25°C with a 12 hour photoperiod and 90% RH in a controlled environment chamber. After two days incubation, the fungal plugs were removed, and pots of garlic were transferred to the glasshouse with a 12 hour photoperiod at 25°C. Disease was assessed every day for up to 14 days (Zheng *et al.*, 2009). The causal agent was re-isolated and Koch's postulates were fulfilled. This is the first report of *S. vesicarium* on garlic in Turkey. Similar purple spot symptoms caused by *S. vesicarium* have been described on garlic in India, South Africa, Spain and Australia (Rao & Pavgi, 1975; Aveling & Naude, 1992; Basallote *et al.*, 1993; Suheri & Price, 2000). Further studies are needed to determine the distribution and

to assess the economic impact of this disease in Turkey.

Acknowledgements

The authors would like to thank Mr. Hüseyin Arslan and Mr. Satı Mehmet Sezer for their assistance.

References

- Aveling TAS, Naude SP, 1992. First report of *Stemphylium vesicarium* on garlic in South Africa. *Plant Disease* **76**, 426. [http://dx.doi.org/10.1094/PD-76-0426E]
- Basallote MJ, Prados AM, Peres de Algaba A, Melero-Vara JM, 1993. First report in Spain of two leaf spots of garlic caused by *Stemphylium vesicarium*. *Plant Disease* **77**, 952. [http://dx.doi.org/10.1094/PD-77-0952A]
- Ellis MB, 1971. *Dematiaceous hyphomycetes*. Kew, London, UK: Commonwealth Mycological Institute.
- Rao NNR, Pavgi MS, 1975. *Stemphylium* leaf blight of onion. *Mycopathologica* **56**, 113-118. [http://dx.doi.org/10.1007/BF00472582]
- Suheri H, Price TY, 2000. *Stemphylium* leaf blight of garlic (*Allium sativum*) in Australia. *Australasian Plant Pathology* **29**, 192-199. [http://dx.doi.org/10.1071/AP00034]
- Zheng L, Rujing LV, Hsiang T, Huang J, 2009. Host range and phytotoxicity of *Stemphylium solani*, causing leaf blight of garlic (*Allium sativum*) in China. *European Journal of Plant Pathology* **124**, 21-30. [http://dx.doi.org/10.1007/s10658-008-9387-x]



Figure 1



Figure 2



Figure 3

To cite this report: Polat Z, Besirli G, Sönmez İ, Yavuz B, 2012. First report of *Stemphylium* leaf blight of garlic (*Allium sativum*) caused by *Stemphylium vesicarium* in Turkey. *New Disease Reports* **25**, 29. [http://dx.doi.org/10.5197/j.2044-0588.2012.025.029]

©2012 The Authors

This report was published on-line at www.ndrs.org.uk where high quality versions of the figures can be found.