



# First report of the *Zymoseptoria tritici* teleomorph stage causing septoria leaf blotch of wheat in Algeria

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Durum wheat (*Triticum durum*) is one of the most important cereal crops in Algeria with an annual production of approximately 1.3 million tonnes in 2015-2016. Septoria leaf blotch caused by *Zymoseptoria tritici* (syn. *Mycosphaerella graminicola*) is considered to be one of the major diseases affecting both durum and bread wheat in Algeria. Algerian *Z. tritici* populations undergo frequent sexual reproduction mirrored by co-occurrence of both mating types (Allioui *et al.*, 2014; Meamiche Neddaf *et al.*, 2017). Pseudothecia have been obtained under controlled conditions (Ayad *et al.*, 2014), however the natural occurrence of the teleomorph stage has never been reported in the country.

In November 2015, wheat stubble from naturally infected wheat fields in two different growing regions in Algeria (Algiers and Constantine) was sampled and examined for the presence of pseudothecia. Pseudothecia were observed using a stereomicroscope (Fig. 1). Five to ten pseudothecia were picked off with a needle, placed on a microscope slide in a drop of water, crushed and identified on the basis of their morphological characteristics (Fig. 2). Pseudothecia were dark brown, 68-117 µm in diameter, asci were hyaline, bitunicate, obpyriform, 33.5-48 × 10.5-33 µm and contained eight ascospores per ascus (Fig. 3). Ascospores were two-celled, hyaline, 9-14 × 2-3 µm.

Leaf samples bearing abundant fruiting bodies were selected and ascospores trapped using the inverted Petri dish method (Kema *et al.*, 1996). Ascospore-derived isolates were sub-cultured on potato dextrose agar, incubated at 18°C during five days in the dark prior to undertaking a pathogenicity test. Young wheat plants cv. Hoggar were inoculated by spraying a spore suspension ( $5 \times 10^6$  spores/ml) supplemented with two drops of Tween 20 per 40 ml, placed in moistened plastic bags for 72 h and kept under greenhouse conditions. Control plants were sprayed with sterile water. After 14 ± 2 days typical necrotic blotches with pycnidia were observed (Fig. 4). The pathogen was consistently reisolated from lesions. No symptoms were observed on the control plants inoculated with sterile water.

This is the first report of the *Zymoseptoria tritici* teleomorph causing

septoria leaf blotch on wheat in Algeria. Regular sexual reproduction generates new genotypes able to overcome host resistance (Cowger & Mundt, 2002) and adapt to other selective pressures, such as those generated by fungicide application.

## Acknowledgements

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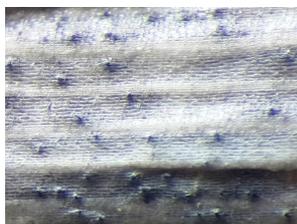


Figure 1

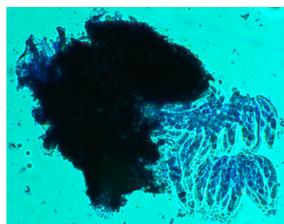


Figure 2

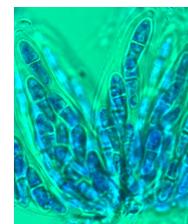


Figure 3



Figure 4

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