**Disease Note**

**FIRST REPORT OF XANTHOMONAS GARDNERI CAUSING BACTERIAL LEAF SPOT ON BURDOCK IN IRAN**

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Plants were inoculated by injection with bacterial suspensions, diluted to contain approximately $10^6$ colony-forming units (Xanthomonas gardneri). Similarity with indicated that the isolates have the highest identity (99% with those deposited in GenBank. Sequence compression of the gyrB (GenBank accession No. KP892557) were compared to amplify a fragment of this gene. The amplified fragments of the isolates by the alkali lysis method (Arabi et al., 2001) were utilized inulin, maltose and malate but not glutamate and myo-inositol (Schaad et al., 2001). DNA was isolated from the isolates by the alkali lysis method (Arabi et al., 2006) and used in PCR with gyrB primers (Young et al., 2008) to amplify a fragment of this gene. The amplified fragments were sequenced and the nucleotide sequences for isolate for gyrB (GenBank accession No. KP892557) were compared with those deposited in GenBank. Sequence compression indicated that the isolates have the highest identity (99% similarity) with Xanthomonas gardneri. Pathogenicity tests to burdock and their hypersensitive reaction on geranium (pelargonium x bortorum) were proven. Leaves of burdock plants were inoculated by injection with bacterial suspensions, diluted to contain approximately $10^6$ colony-forming units (cfu) per milliliter. All strains of the bacteria isolated from burdock induced leaf spot symptoms. Disease symptoms appearing within 7 days post-inoculation, were similar to those caused by natural infections in the field. This is the first report on the pathogenicity of this species on burdock.


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**Disease Note**

**FIRST REPORT OF FUSARIUM OXYSPORUM CAUSING REDDISH-BROWN LEAF SPOT DISEASE ON SCREW-PINE IN CHINA**

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Common screw-pine (Pandanus utilis Bory) is a common ornamental tree in southwest China. Since April 2013, small and yellowish spots were observed on the leaf edge or base of common screw-pine grown in Yunnan Province, China. The lesions gradually increased in size and turned reddish-brown, then white and dry in the center but remaining reddish-brown at the margins. A fungus was consistently isolated from these lesions; on PDA, its macrospores were sickle-shaped, most 3 or 4 septate, 41 (40 to 42) × 4.2 (3.2 to 5.1) µm; microspores were fusiform or obovoid, 0 to 1 septate, 8.5 (5.8 to 10) × 4.0 (3.4 to 4.9) µm (n = 50). Pathogenicity was confirmed by inoculating three leaves from each of three healthy adult plants with 60 µl of a conidial suspension (1 × 10^6 conidia/ml). Non-inoculated leaves were used as controls, all leaves were covered with a plastic bag and incubated at 20 to 29°C and relative humidity of 64 to 83%. Symptoms similar to those observed in the field developed on inoculated leaves, while controls remained symptom free. The fungus could be re-isolated from symptomatic leaves but not from the controls. Its identity was further investigated by sequence comparison of the ITS (primers ITS1/ITS4), RPB2 (primers 5F/7CR) and TEF gene (primers EF1-728F/EF1-986R) of isolate SLYZZ-2 (Summerell et al., 2003). BLASTn analysis of the ITS gene (KX768532) with cognate sequences available in the GenBank database revealed 99% sequence identity to Fusarium oxysporum but only 95.9% sequence identity to F. incarnatum-equiseti in the Fusarium-ID database. However, BLASTn analysis of the RPB2 (KX768542) and TEF gene (KX768543) revealed 99.66 and 100% sequence identity, respectively, to F. incarnatum-equiseti in the FUSARIUM-ID (http://isolate.fusariumdb.org) database. Therefore, both molecular and morphological observations indicated that the pathogenic fungus was *F. oxysporum*. *F. oxysporum* was reported to cause leaf twisting on Allium cepa var. ascalonicum in U.S.A. (Kuruppu, 1999) and leaf spot on Dracaena arborea cv. massangeana (Wu et al., 2015). To our knowledge, this is the first report of *F. oxysporum* on P. utilis from Yunnan, China as well as worldwide.

This work was jointly funded by HUMYABTP (No. 2015GG0206), HUSFSR (No. XJ13B16) and NSFIC (No. 31400009).


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Received August 25, 2015
Accepted July 23, 2016