

First Report of Brown Rot Caused by *Monilinia fructicola* on Nectarine in Serbia. J. Hrustić and M. Mihajlović, Sclar of the Ministry of Education and Science of the Republic of Serbia; B. Tanović, Laboratory of Applied Phytopathology, Institute of Pesticides and Environmental Protection, Banatska 31b, 11080 Belgrade, Serbia; and G. Delibašić, I. Stanković, B. Krstić, and A. Bulajić, Institute of Plant Protection, Department of Phytopathology, University of Belgrade-Faculty of Agriculture, Nemanjina 6, 11080 Belgrade, Serbia. This research was supported by grants III 46008 and III 43001 of the Ministry of Education and Science, Republic of Serbia. Plant Dis. 97:147, 2013; published online as <http://dx.doi.org/10.1094/PDIS-08-12-0718-PDN>. Accepted for publication 4 September 2012.

In August 2011, nectarine (*Prunus persica* (L.) Batsch var. *nucipersica* (Suckow) C. K. Schneid) fruit originated from Oplenac region with symptoms of fruit rot was collected at a green market in Belgrade. Fruit had large, brown, sunken lesions covered with grayish brown tufts. Symptoms resembled those caused by species of *Monilinia* including *M. laxa*, *M. fructigena*, or *M. fructicola* (2). In order to isolate the causal organism, small superficial fragments of pericarp were superficially disinfected with commercial bleach and placed on potato dextrose agar (PDA). The majority (32 out of 33) isolates formed rosetted non-sporulating colonies with lobed margins resembling those of *M. laxa*. However, one isolate (Npgm) produced an abundant, grayish-white colony with even margins and concentric rings of sporogenous mycelium, resembling those described for *M. fructicola* (2). Conidia were one-celled, hyaline, ellipsoid to lemon shaped, 7.38 to 14.76 × 4.92 to 9.84 µm, and borne in branched monilioid chains. The average daily growth on PDA at 24°C was 10.9 mm. A single-spore isolate of Npgm was identified as *M. fructicola* based on the morphology of colony and conidia, temperature requirements, and growth rate (2). Morphological identification was confirmed by an amplified product of 535 bp using genomic DNA extracted from the mycelium of pure culture and species-specific PCR for the detection of *M. fructicola* (2). The ribosomal internal transcribed spacer (ITS) region of rDNA of Npgm was amplified and sequenced using primers ITS1/ITS4. Sequence analysis of ITS region revealed 100% nucleotide identity between the isolate Npgm (GenBank Accession No. JX127303) and 17 isolates of *M. fructicola* from different parts of the world, including four from Europe (FJ411109, FJ411110, GU967379, JN176564). Pathogenicity of the isolate Npgm was confirmed by inoculating five surface-disinfected mature nectarine and five apple fruits by placing a mycelial plug under the wounded skin of the fruit. Nectarine and apple fruits inoculated with sterile PDA plugs served as a negative controls. After a 3-day incubation at 22°C, inoculated sites developed brown lesions and the pathogen was successfully reisolated. There were no symptoms on the control nectarine or apple fruits. *M. fructicola* is commonly present in Asia, North and South America, New Zealand, and Australia, while in the EPPO Region the pathogen is listed as an A2 quarantine organism (3). In Europe, the first discovery of *M. fructicola* was reported in France and since then, it has been found in Hungary, Switzerland, the Czech Republic, Spain, Slovenia, Italy, Austria, Poland, Romania, Germany, and Slovakia (1). Most recently, *M. fructicola* was found on stored apple fruits in Serbia (4). To our knowledge, this is the first report of *M. fructicola* decaying peach fruit in Serbia. These findings suggest that the pathogen is spreading on its principal host plants and causing substantial economic losses in the Serbian fruit production.

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e-Xtra*

First Report of Frosty Mildew Caused by *Mycopappus alni* on Asian Pear in Korea. S. C. Lee, K. S. Han, Horticultural & Herbal Crop Environment Division, National Institute of Horticultural and Herbal Science, Suwon 441-440, Korea; J. H. Park, S. E. Cho, and H. D. Shin, Division of Environmental Science and Ecological Engineering, Korea University, Seoul 136-701, Korea. Plant Dis. 97:147, 2013; published online as <http://dx.doi.org/10.1094/PDIS-08-12-0730-PDN>. Accepted for publication 27 September 2012.

Asian pear (*Pyrus pyrifolia* Nakai), also known as Japanese or Korean pear, is widely cultivated in East Asia. On September 2011, irregularly shaped necrotic lesions were observed on leaves of cv. Shinheung growing in an orchard in Gangneung City, Korea. At 40× magnification under a microscope, the white to cream colored propagules were epiphyllous, conical, scattered to aggregated, and composed of stroma-like bases, globose to subglobose, 55 to 100 µm wide and 35 to 75 µm high with filamentous and claviform hyphae. The filamentous hyphae were cylindrical, 125 to 425 × 3.5 to 6 µm, 2- to 8-septate, and obtuse to subobtuse at the apex. The claviform hyphae were clavate to cylindrical, 35 to 125 × 5 to 12.5 µm, aseptate to 3-septate, and obtuse at the apex. The fungus was isolated from leaf lesions and cultured on potato dextrose agar (PDA). The colonies consisted of thin mycelia colored whitish at first and then pale brown on PDA. Sclerotia were produced on PDA after 2 weeks incubation at 15°C, but conidia were not observed in culture. An isolate from KUS-F26196 was deposited in the Korean Agricultural Culture Collection (Accession No. 25 KACC46693). These morphological and cultural characteristics were consistent with *Mycopappus alni* (Dearn. & Barthol.) Redhead & G.P. White (1,3,4). Fungal DNA was extracted with DNeasy Plant Mini DNA Extraction Kits (Qiagen Inc., Valencia, CA). The complete internal transcribed spacer (ITS) region of rDNA was amplified with the primers ITS1/ITS4 and sequenced. The resulting sequence product of 520 bp was deposited in GenBank (Accession No. JX458815). A BLAST search in GenBank revealed that the sequence was 99% similar to *M. alni* (AB254190, AB254177, AB254189). To determine the pathogenicity of the fungus, propagules were detached from lesions on the naturally infected leaves using fine needles. Each propagule was transferred individually onto five places of six detached healthy leaves. Control treatment comprised placing small agar blocks onto five places of six detached healthy leaves. The plants were incubated in a humid chamber at RH 100% and 18°C. Symptoms were observed after 2 days on all inoculated leaves. The pathogen was reisolated from lesions on the inoculated leaves, confirming Koch's postulates. No symptoms were observed on control leaves. The fungus has been associated with frosty mildew on *Alnus* spp., *Betula* spp., *Crataegus* spp., and *Pyrus* spp. in North America, Turkey, Russia, and Japan (1,2,4). To our knowledge, this is the first report of frosty mildew on *P. pyrifolia* caused by *M. alni* globally as well as in Korea. Since the infections may be limited to the mountainous area with low night temperature and high humidity, economic losses seem to be negligible. However, the disease could be a potential threat to the safe production of Korean pears in case of prolonged period of cool and moist weather.

References: (1) U. Braun et al. Mikologiya i Fitopatologiya 34(6):1, 2000. (2) D. F. Farr and A. Y. Rossman. Fungal Databases. Systematic Mycology & Microbiology Laboratory, ARS, USDA. Retrieved from <http://nt.ars-grin.gov/fungalatabases/>, August 2, 2012. (3) S. A. Redhead and G. P. White. Can. J. Bot. 63:1429, 1985. (4) Y. Takahashi et al. Mycoscience 47:388, 2006.

* The e-Xtra logo stands for "electronic extra" and indicates this Disease Note online contains supplemental material not included in the print edition.

e-Xtra*

First Report of Leaf Blight Caused by *Septoria allii* on Garlic Chives in Korea. J. H. Park, S. E. Cho, Division of Environmental Science and Ecological Engineering, Korea University, Seoul 136-701, Korea; K. S. Han, Horticultural & Herbal Crop Environment Division, National Institute of Horticultural & Herbal Science, Suwon 441-440, Korea; and H. D. Shin, Division of Environmental Science and Ecological Engineering, Korea University, Seoul 136-701, Korea. Plant Dis. 97:147, 2013; published online as <http://dx.doi.org/10.1094/PDIS-08-12-0809-PDN>. Accepted for publication 29 September 2012.

Garlic chives, *Allium tuberosum* Roth., are widely cultivated in Asia and are the fourth most important *Allium* crop in Korea. In June 2011, a leaf blight of garlic chives associated with a *Septoria* spp. was observed on an organic farm in Hongcheon County, Korea. Similar symptoms were also found in fields within Samcheok City and Yangku County of Korea during the 2011 and 2012 seasons. Disease incidence (percentage of plants

(Disease Notes continued on next page)

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