

# **First Report of a Leaf Spot Disease of Bells-of-Ireland (*Moluccella laevis*) Caused by *Cercospora apii* in California**

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Bells-of-Ireland (*Moluccella laevis*) (Lamiaceae) is an annual plant that is field planted in coastal California (Santa Cruz County) for commercial cutflower production. In 2001, a new leaf spot disease was found in these commercially grown cutflowers. The disease was most serious in the winter-grown crops in 2001 and 2002, with a few plantings having as much as 100% disease incidence. All other plantings that were surveyed during this time had at least 50% disease. Initial symptoms consisted of gray-green leaf spots. Spots were generally oval in shape, often delimited by the major leaf veins, and later turned tan. Lesions were apparent on both adaxial and abaxial sides of the leaves. A cercosporoid fungus having fasciculate conidiophores, which formed primarily on the abaxial leaf surface, was consistently associated with the spots. Based on morphology and its host, this fungus was initially considered to be *Cercospora molucellae* Bremer & Petr., which was previously reported on leaves of *M. laevis* in Turkey (1). However, sequence data obtained from the internal transcribed spacer region (ITS1, ITS2) and the 5.8S gene (STE-U 5110, 5111; GenBank Accession Nos. AY156918 and AY156919) indicated there were no base pair differences between the bells-of-Ireland isolates from California, our own reference isolates of *C. apii*, as well as GenBank sequences deposited as *C. apii*. Based on these data, the fungus was subsequently identified as *C. apii sensu lato*. Pathogenicity was confirmed by spraying a conidial suspension ( $1.0 \times 10^5$  conidia/ml) on leaves of potted bells-of-Ireland plants, incubating the plants in a dew chamber for 24 h, and maintaining them in a greenhouse (23 to 25°C). After 2 weeks, all inoculated plants developed leaf spots that were identical to those observed in the field. *C. apii* was again associated with all leaf spots. Control plants, which were treated with water, did not develop any symptoms. The test was repeated and the results were similar. To our knowledge this is the first report of *C. apii* as a pathogen of bells-of-Ireland in California.

*Reference:* (1) C. Chupp. A Monograph of the Fungus Genus *Cercospora*. Cornell University Press, Ithaca, New York, 1954.