NOTEWORTHY COLLECTION

IMpatiens parviflora DC. (BALSAMINACEAE): FIRST RECORD FROM WISCONSIN AND THE GREAT LAKES REGION OF A POTENTIALLY INVASIVE SPECIES

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Previous Knowledge. Impatiens parviflora (small balsam, small-flowered touch-me-not) is an annual herb native to central Asia. It became established in Europe in the mid-19th century, and today is a common and widespread invasive plant throughout eastern, central, and northern Europe (Chmura & Sierka 2006, Hejda 2012). Reczyńska et al. (2015) called it “the most commonly observed alien plant in Central European deciduous forests.”

The PLANTS Database (USDA-NRCS 2016) does not list Impatiens parviflora for any U.S. state, but includes it for the Canadian provinces of British Columbia, New Brunswick, Nova Scotia, Prince Edward Island, and Quebec. In 2013 thousands of plants were discovered in the understory of a mesic forest in Oregon (D. Maze s.n., July 8, 2013, OSC#241051; P.F. Zika 26231 & D. Maze, July 19, 2013, OSC#241857). As of this writing, North American observations of Impatiens parviflora have been posted on the citizen science website iNaturalist (2016) from Prince Edward Island, the Vancouver area of British Columbia, the Seattle area of Washington, and the Portland area of Oregon, as well as my observation from Eau Claire, Wisconsin.

Discussion. Impatiens parviflora was introduced to botanic gardens in Europe beginning about 1830 (Coombe 1956). Coombe speculated that the spread of the species across Europe was probably due to a single introduction of seed, because the European populations are very uniform in contrast to the polymorphism exhibited by populations in the species’ native mountains of Asia. Whether or not this is true, the species has proven itself to be an extremely successful invader and has proved highly adaptable in Europe over time. Today it is common in moist deciduous forests, particularly those with some degree of disturbance and along forest edges (Chmura & Sierka 2006). It is best at colonizing areas with a sparse herb layer, but is much less successful in areas with a thick herbaceous cover (Chmura & Sierka 2006). Unlike many exotics, it has also successfully invaded undisturbed forest (EPPO 2016). Impatiens parviflora shows high ecological plasticity in its ability to inhabit soils of varying acidity, fertility, and moisture (Reczyńska et al. 2015), although it is intolerant of waterlogged soils (Coombe 1956). Although it was previously absent from central European oak forests, it began establishing itself in those habitats in the 1960s and now is
found in over 20% of vegetation sampling plots (Reczyńska et al. 2015). Mean cover of *I. parviflora* in those plots, however, has not increased in the past 30 years. The authors concluded that the presence of *I. parviflora* has not had a serious effect on oak forests and that, despite its invasion of a new community type, this weed has a low competitive ability and rarely becomes dominant (Reczyńska et al. 2015). Plant removal experiments have shown that the impact of *I. parviflora* on diversity and composition of the herb layer of forest communities was minimal (Hejda 2012).

Jacq., *Hesperis matronalis* L., *Leonurus cardiaca* L., *Nepeta cataria* L., *Parthenocissus inserta* (A. Kern.) Fritsch, and *Urtica dioica* L. In July 2016 thousands of individuals of *Impatiens parviflora* were growing in deep shade on the slope just south of the Fine Arts building (Figure 1) and continuing westward for about 240 meters in moderate shade along the edge of a narrow forest remnant and mowed lawn to the north.

What is the potential for *Impatiens parviflora* to become a pernicious weed in the Great Lakes region, or elsewhere in the United States? Recently the USDA Plant Epidemiology and Risk Analysis Laboratory of the Animal and Health Inspection Service (APHIS 2013) published a weed risk assessment for *Impatiens parviflora* concluding that it posed a high risk. Comparing it to the other species using the weed risk assessment model of Koop et al. (2012), *I. parviflora* shared many of the traits of other invasive species (APHIS 2013). However, when compared to species with similar establishment/spread risk scores, the impact score for *I. parviflora* was relatively low. If it follows the pattern of invasion seen in Europe, it may become widespread but have only minimal impact on forest herb diversity.

**Diagnostic Characters.** As its name suggests, *Impatiens parviflora* can be distinguished from other exotic *Impatiens* and our two native species, *I. capensis* Meerb. and *I. pallida* Nutt., by its small flowers that measure only 0.8–1.5 cm in length. The flowers of *I. parviflora* are pale yellow with some reddish brown spotting at the throat. In contrast the exotics are various shades of red, purple, blue, or white, and *I. capensis* is orange. Only *I. pallida* has a color similar enough to be confused with *I. parviflora*, but the flowers are decidedly larger, at least 2.5 cm in length. In *I. pallida* the spur is bent at a right angle to the axis of the saccate sepal, whereas in *I. parviflora* the spur is straight (Figure 2). Leaf blades of *I. parviflora* have sharp teeth, averaging about 3 teeth per cm along the...
margin; *I. pallida* has blunt teeth that are more remotely spaced with only 1-2 per cm.

**Specimen Citation.** Wisconsin, Eau Claire Co., City of Eau Claire, campus of the University of Wisconsin-Eau Claire, between Haas Fine Arts Bldg. on Water St. and the Chippewa River (N44.800631, W91.502274; elev. 238 meters). Carpeting shaded forest floor in highly disturbed remnant of floodplain forest. July 2, 2016, *Joseph R. Rohrer 10892* (UWEC; WIS, MICH, WTU); August 8, 2016, *Joseph R. Rohrer 10893* (UWEC).

**LITERATURE CITED**


