

***EUONYMUS JAPONICUS* (CELASTRACEAE) NEW TO THE ARKANSAS FLORA**

BRETT E. SERVISS

Department of Biological Sciences
Henderson State University
Arkadelphia, Arkansas 71999
servisb@hsu.edu

JONATHAN W. HARDAGE

2268 Highway 128
Bismarck, Arkansas 71929
jh201098@reddies.hsu.edu

BROOK L. OLSEN

P.O. Box 484
Bismarck, Arkansas 71929
brooklolsen@gmail.com

JAMES H. PECK

P.O. Box 705
Cedar Key, Florida 32625
james.peckck@gmail.com

ABSTRACT

Euonymus japonicus Thunb. is reported here as new to the Arkansas flora. This is the first definitive record of this species outside of cultivation in Arkansas. One spontaneous plant of *E. japonicus* was discovered growing at the edge of disturbed, urban woods in Clark County. Photographs of the plant in habitat are provided.

In 2017, a single, spontaneous/escaped plant of *Euonymus japonicus* Thunb. (Japanese spindle tree) was documented at the edge of a large expanse of highly disturbed, urban woods in Clark County (Figs. 1–2). The site, although large, is surrounded mostly by residential areas, with Rose Hill Cemetery about one block northeast of the location. No cultivated plants of *E. japonicus* were in the immediate vicinity, but a large, cultivated plant of *E. japonicus* is present in the Rose Hill Cemetery. Bird-mediated dispersal of seeds from the cultivated plant of *E. japonicus* is the presumed source of the spontaneous *E. japonicus* individual. Escaped *E. japonicus* should be expected elsewhere in Arkansas, particularly in the vicinity of where plants of the species are cultivated.

Euonymus japonicus is a large, evergreen shrub or small tree to 5 meters tall, or sometimes more, that is native to Japan (Bailey & Bailey 1976; Krüssmann 1977; Ma & Funston 2008). This species is grown in the southern USA, including Arkansas, as an ornamental for its glossy, tightly-clustered, evergreen foliage and ease of cultivation. *Euonymus japonicus* has been reported previously as a component of the naturalized floras of a few eastern states (Diamond 2013; Hannick et al. 2013; Kartesz 2015; Weakley 2015; USDA, NRCS 2017).

Voucher specimen. **Arkansas.** Clark Co.: One spontaneous/escaped plant growing at edge of highly disturbed, urban woods, off 12th St., about one block SW of the intersection of 12th St. and Main St., Arkadelphia, 29 Sep 2017, Serviss 8600 (HEND).



Figure 1. Spontaneous plant of *Euonymus japonicus* in disturbed, urban woods in Clark County, Arkansas (plant was ca. 1.5–2 m tall). A plant of *Ligustrum sinense* (Chinese privet) also may be seen in the photo.

Three species of non-native *Euonymus* currently are known from the Arkansas flora. In Arkansas, *E. japonicus* is similar to some forms of *E. fortunei* (wintercreeper) and may be confused with it. Non-native *Euonymus* species in Arkansas may readily be distinguished using the following key.

1. Plants deciduous; young stems quadrangular in cross section, the angles often with corky wings **Euonymus alatus**
1. Plants evergreen (sometimes partially evergreen in *E. fortunei*); stems terete in cross section, not winged.
 2. Plant liana-like **Euonymus fortunei**
 2. Plant a shrub.
 3. Growth form with branches procumbent, sprawling, or ascending **Euonymus fortunei**
 3. Growth form erect **Euonymus japonicus**



Figure 2. Close-up photographs of leaves and stems of the spontaneous *Euonymus japonicus* plant.

ACKNOWLEDGEMENTS

We are grateful to the Henderson State University Department of Biological Sciences and the Ellis College of Arts and Sciences for supporting this work.

LITERATURE CITED

- Bailey, L.H. and E.Z. Bailey. 1976. Hortus Third. A Concise Dictionary of Plants Cultivated in the United States and Canada. Vol. 1. MacMillan.
- Diamond, A.R. 2013. New and noteworthy woody vascular plant records from Alabama. *Phytoneuron* 2013-47: 1–13.
- Hannick, V.C., J.N. Mink, J.R. Singhurst, and W.C. Holmes. 2013. Annotated checklist of the vascular flora of McLennan County, Texas. *Phytoneuron* 2013–29: 1–37.
- Kartesz, J.T. 2015. Taxonomic Data Center. The Biota of North America Program (BONAP). Chapel Hill, North Carolina. <<http://www.bonap.org/index.html>> Accessed October 2017.
- Krüssmann, G. 1977 (1985). Manual of Cultivated Broad-Leaved Trees and Shrubs. Vol. 2. Timber Press, Portland, Oregon.
- Ma, J. and M. Funston. 2008. *Euonymus*. Pp. 440–460, in Z.Y. Wu and P.H. Raven (eds.). Flora of China. Vol. 11 (Oxalidaceae through Aceraceae). Science Press, Beijing, and Missouri Botanical Garden Press, St. Louis.
- USDA, NRCS. 2017. The PLANTS Database. National Plant Data Team, Greensboro, North Carolina. <<http://plants.usda.gov/java/>> Accessed October 2017.
- Weakley, A.S. 2015. Flora of the Southern and Mid-Atlantic States. Working draft of 21 May 2015. Univ. of North Carolina Herbarium (NCU), Chapel Hill. <<http://www.herbarium.unc.edu/flora.htm>> Accessed October 2017.