

THE FIRST NATURALIZED OCCURRENCE OF *JASMINUM* (OLEACEAE) IN THE ARKANSAS FLORA

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ABSTRACT

Jasminum nudiflorum Lindl. is reported here as new to the Arkansas flora. A large, naturalized population consisting of 100s of plants/clones was discovered on a hillside and adjacent woods in Hot Spring County. This record also marks the first documentation of the genus *Jasminum* in Arkansas, outside of cultivation. Photographs of *J. nudiflorum*, including naturalized plants in habitat, along with keys for distinguishing *Jasminum* and *Forsythia* species in the state's flora, are provided.

In 2018, a large, naturalized population consisting of 100s of plants/clones of *Jasminum nudiflorum* Lindl. (winter jasmine) was documented from Hot Spring County (Figs. 1–3). Plants occurred on a hillside and adjacent disturbed woods, and were vigorously spreading via clonal offsets/ramets from layering of aerial stems. Some plants also were climbing into the lower branches of trees (Fig. 2). Spread appeared to be limited to clonal offsets, as no isolated plants were observed away from the population (obvious establishment from seeds was not apparent). The population occurred in proximity to an old homesite, and although no discernibly cultivated plants of *J. nudiflorum* were observed in the area, one or more cultivated plants of *J. nudiflorum* that may have once existed at the homesite presumably established the naturalized population via asexual spread.

Voucher specimens. **Arkansas.** Hot Spring Co.: Hwy 84, Prairie Bayou, ca. 1-2 mi NE of Junction 128 and Hwy 84 intersection, 100s of plants/clones on hillside and disturbed woods, spreading via stem layering and the production of clonal offsets, 10 Mar 2018, *Serviss 8613*; 3 Mar 2018, *Olsen 110* (HEND).

Jasminum nudiflorum is a deciduous, colonial shrub with pendulous stems, to 5 m tall, native to China (Bailey 1949; Bailey & Bailey 1976; Krüssmann 1977; Chang et al. 1996—Fig. 4). It sometimes is cultivated in Arkansas; however, this is the first documented occurrence of this species, and of the genus *Jasminum*, outside of cultivation in the state. *Jasminum nudiflorum* previously has been documented outside of cultivation in a number of other states in the eastern USA (Diamond 2013; Yatskievych 2013; Kartesz 2015; Weakley 2015; Keener et al. 2018; USDA, NRCS 2018). Naturalization and establishment (in Arkansas) of *J. nudiflorum* apparently is primarily or exclusively asexual by layering of stems, and it should be expected elsewhere in Arkansas, especially in the vicinity of where plants of the species are cultivated. Diamond (2013) documented it naturalizing in similar fashion (via layering of stems) in Alabama.



Figure 1. Naturalized plants of *Jasminum nudiflorum* from Hot Spring Co., Arkansas. Plants in open area at base of hillside. At least some, if not all, spread is asexual via layering of stems; stem tips that come in contact with substrate produce clonal offsets. Many plants/clones are shown here.



Figure 2. Naturalized plants of *Jasminum nudiflorum* from Hot Spring Co. Notice plants in open area and also at edge and within disturbed woods, several of which have climbed into the lower branches of *Juniperus virginiana* (eastern red cedar).

Jasminum mesnyi Hance (primrose jasmine—Fig. 5) also is cultivated in Arkansas and present in the naturalized floras of several eastern states (Diamond 2013; Kartesz 2015; Weakley 2015; Keener et al. 2018; USDA, NRCS 2018). Although it is not currently documented from the Arkansas flora, it should be expected as escaped or naturalized, similar to *J. nudiflorum*. *Jasminum mesnyi* and *J. nudiflorum* are similar in form and habit and potentially could be confused (see Figs. 4–5 and subsequent key for distinguishing characteristics between the two species).



Figure 3. Naturalized plants of *Jasminum nudiflorum* from Hot Spring Co. Vantage point from upslope. A number of smaller clonal offsets are present at the bottom of the photograph.

Both *Jasminum* species somewhat resemble *Forsythia* in growth form and habit, especially during flowering when the leaves are sometimes absent. Two species of *Forsythia* recently have been documented from the Arkansas flora (Serviss et al. 2015; Serviss et al. 2017—Fig. 6), and these potentially could be confused with *Jasminum*. See below for key to distinguish species of *Jasminum* (including *J. mesnyi*) and *Forsythia* present in the Arkansas flora.

- 1. Leaves ternately compound (sometimes a few leaves simple at the base of the branchlets), margins of leaflets entire and often pubescent; corolla lobes (4)5–8(11) in number; fruit a berry.
 - 2. Terminal leaflet 1–3 cm long; corolla lobes shorter than the corolla tube; plant deciduous **Jasminum nudiflorum**
 - 2. Terminal leaflet 2.5–7 cm long; corolla lobes longer than the corolla tube; plant evergreen to semi-evergreen, sometimes with only a few leaves present in late winter **Jasminum mesnyi**
- 1. Leaves simple (occasionally some leaves ternately compound in *F. suspensa*), margins of leaves (or leaflets) prominently toothed; corolla lobes 4 in number; fruit a capsule.
 - 3. Leaves oblong-elliptic, obovate-elliptic, or lanceolate, margins generally only serrate on the distal one-third to one-half of the lamina, otherwise entire; pith lamellate **Forsythia viridissima**
 - 3. Leaves ovate to ovate-elliptic, margins serrate along most to nearly all of the lamina; pith hollow **Forsythia suspensa**



Figure 4. *Jasminum nudiflorum* plant and habit. A–B. Flowers and inflorescences. C. Leaves (notice the two simple leaves at the base of the branchlet). D. Bark. E. Close-up of clonal offsets from the Hot Spring County population.

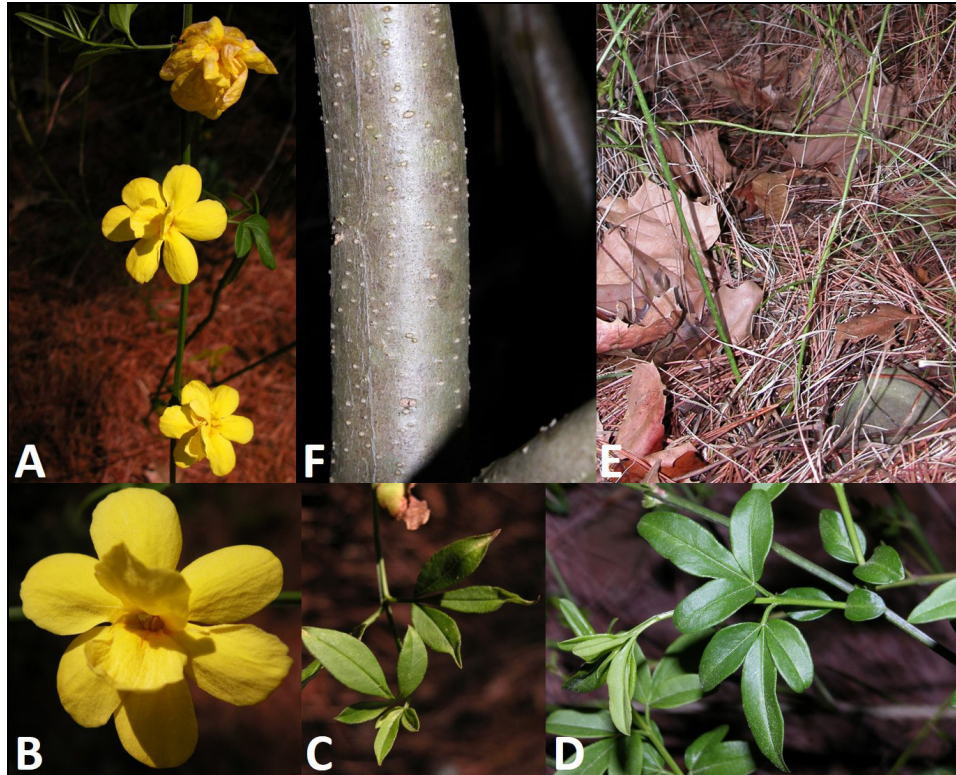


Figure 5. *Jasminum mesnyi* plant and habit. A–B. Flowers and inflorescences. C–D. Leaves (notice the two simple leaves at the base of the branchlet in Fig. D). E. Clonal offset from stem layering. F. Bark.

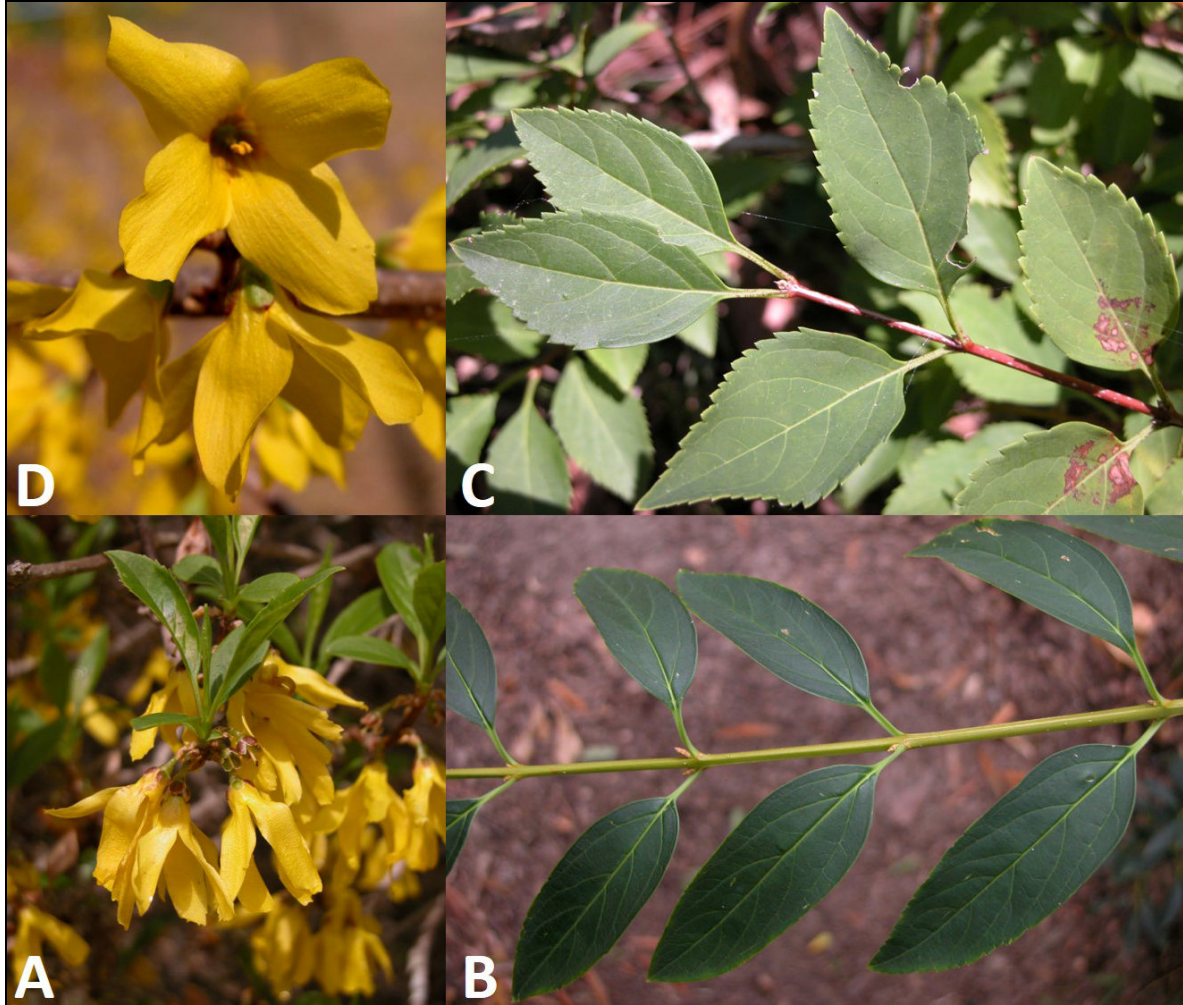


Figure 6. *Forsythia suspensa* (Thunb.) Vahl (weeping forsythia) and *F. viridissima* Lindl. (greenstem forsythia) for comparison with *Jasminum*. A–B. Flowers and leaves of *F. viridissima*. C–D. Leaves and flowers of *F. suspensa*. Both *Forsythia* species are naturalized in the Arkansas flora.

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