

## **CAMELLIA SASANQUA (THEACEAE) IN THE ARKANSAS FLORA**

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### **ABSTRACT**

*Camellia sasanqua* Thunb. is reported here as new to the Arkansas flora, the first definitive occurrence of the genus *Camellia* outside of cultivation in the state. Two spontaneous plants of *C. sasanqua* were discovered growing in disturbed, urban woods along a riparian zone in Clark County. Photographs of plants of the species are provided, along with additional notes on the genus in Arkansas.

*Camellia* is a genus of about 120 species of evergreen shrubs and trees widely distributed over eastern Asia (Bailey & Bailey 1976; Min & Bartholomew 2007). A few species, such as *C. sasanqua* (fall-flowering camellia), *C. japonica* (Japanese camellia), and *C. reticulata* (to-tsubaki), are prominent, highly regarded ornamentals in warm-temperate regions for their large, showy, colorful flowers and glossy, evergreen foliage (Bailey 1949; Min & Bartholomew 2007). *Camellia sinensis* is the most economically important species in the genus, as it is the commercial source of tea, which is obtained from the young leaves (Bailey & Bailey 1976; Min & Bartholomew 2007). In China, the seeds of *C. oleifera* are an important source of oil used in cooking, with a number of other species also used on a more localized basis for oil production (Min & Bartholomew 2007). Species of *Camellia* have alternate, simple, toothed leaves and perfect (bisexual), often large, solitary or paired flowers arranged in axillary inflorescences. The fruit is a large, few-seeded capsule.

*Camellia sasanqua* is a large, evergreen shrub or small tree to 5 meters tall that is native to Japan (Bailey & Bailey 1976; Krüssmann 1976) (Fig. 1). This species is an easily grown ornamental with attractive, glossy, evergreen foliage and flowers ranging in color from white to lavender, pink, rose, or magenta. It requires well-drained, neutral to mildly acidic soil and thrives under partial shade conditions (Bailey & Bailey 1976). As a consequence of these attributes, *C. sasanqua* regularly is cultivated in the southern USA, including Arkansas, and has been reported as a component of the naturalized floras of Florida, Georgia, and the Carolinas (Kartesz 2015; USDA, NRCS 2016), and documented by Weakley (2015) as a waif in Florida, Georgia, and South Carolina.

*Camellia sasanqua* has the capability to prolifically self-seed (Serviss & Peck 2008). In Arkansas in 2005, well over 100 spontaneous juvenile *C. sasanqua* plants were documented among different locations in Clark County. These plants, however, were present in the vicinity of cultivated, reproductive-age individuals of *C. sasanqua*, which themselves were undoubtedly the source of the spontaneous plants (Serviss & Peck 2008) (Figs. 2–4).

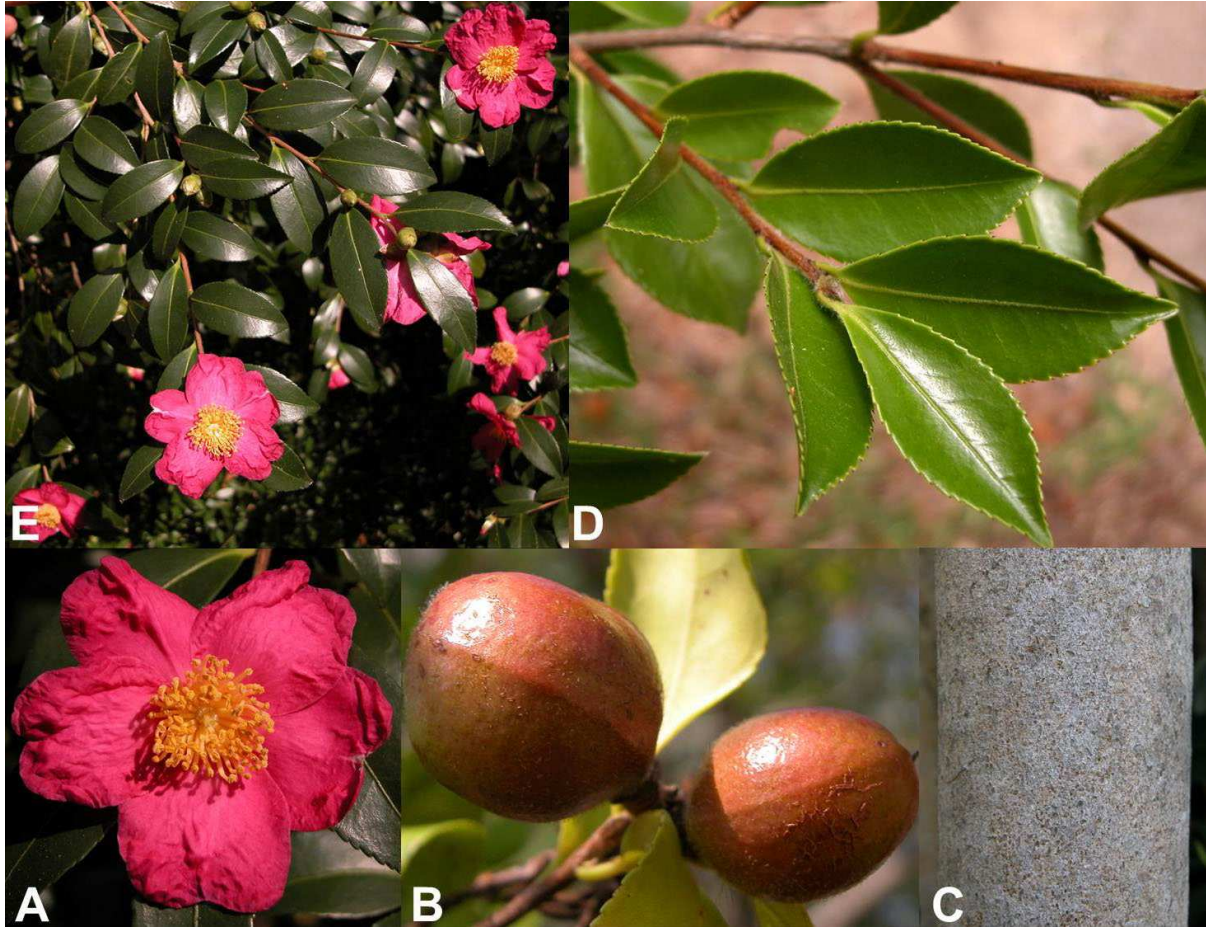


Figure 1. *Camellia sasanqua* (photographs taken from cultivated plants). (A) Flower. (B) Mature fruits. (C) Bark. (D) Leaves. (E) Flowers and habit.



Figure 2. Spontaneous juvenile plants of *C. sasanqua* in Clark County. Dozens of spontaneous plants of *C. sasanqua* were present at this site; eight of these juvenile plants are shown in the photograph (indicated by yellow-colored arrows). These spontaneous plants were produced via self-seeding from a single, large cultivated tree of *C. sasanqua* that also was present.





Figure 3. Spontaneous juvenile plants of *C. sasanqua* in Clark County (from a different location than the plants shown in Fig. 2). Several spontaneous plants of *C. sasanqua* were present at this site; four of these juvenile plants are shown in the photograph (indicated by yellow arrows). Two large, cultivated shrubs of *C. sasanqua* also were present and are the presumed source of the spontaneous juveniles.



Figure 4. Close-up view of spontaneous *C. sasanqua* plants from the same location as those shown in Fig. 3 showing some of the diversity in size among individuals. (A) Small plant (less than 10 cm tall). (B) Larger plant (ca. 75 cm tall).



In 2016, two spontaneous plants of *Camellia sasanqua* were documented at the edge of a ravine in highly disturbed, urban woods/greenbelt along a riparian zone in Clark County (Figs. 5–6). The site directly borders a residential area, and in addition to *C. sasanqua*, a number of other non-native angiosperm species were present and naturalized, including *Hedera helix* (English ivy), *Ilex cornuta* (Chinese holly), *Ligustrum sinense* (Chinese privet), *Liriope spicata* (creeping lilyturf), *Lonicera japonica* (Japanese honeysuckle), *Photina serratifolia* (Chinese photina), and *Vinca major* (greater periwinkle). The larger of the two *C. sasanqua* plants was 4.6 m tall with mature fruits and seeds (Fig. 5). The second plant was smaller, nearly 2 m tall, and located ca. 1.5 m away from the larger plant (Fig. 6). It is probable, based on the tendency of *C. sasanqua* to prolifically self-seed,

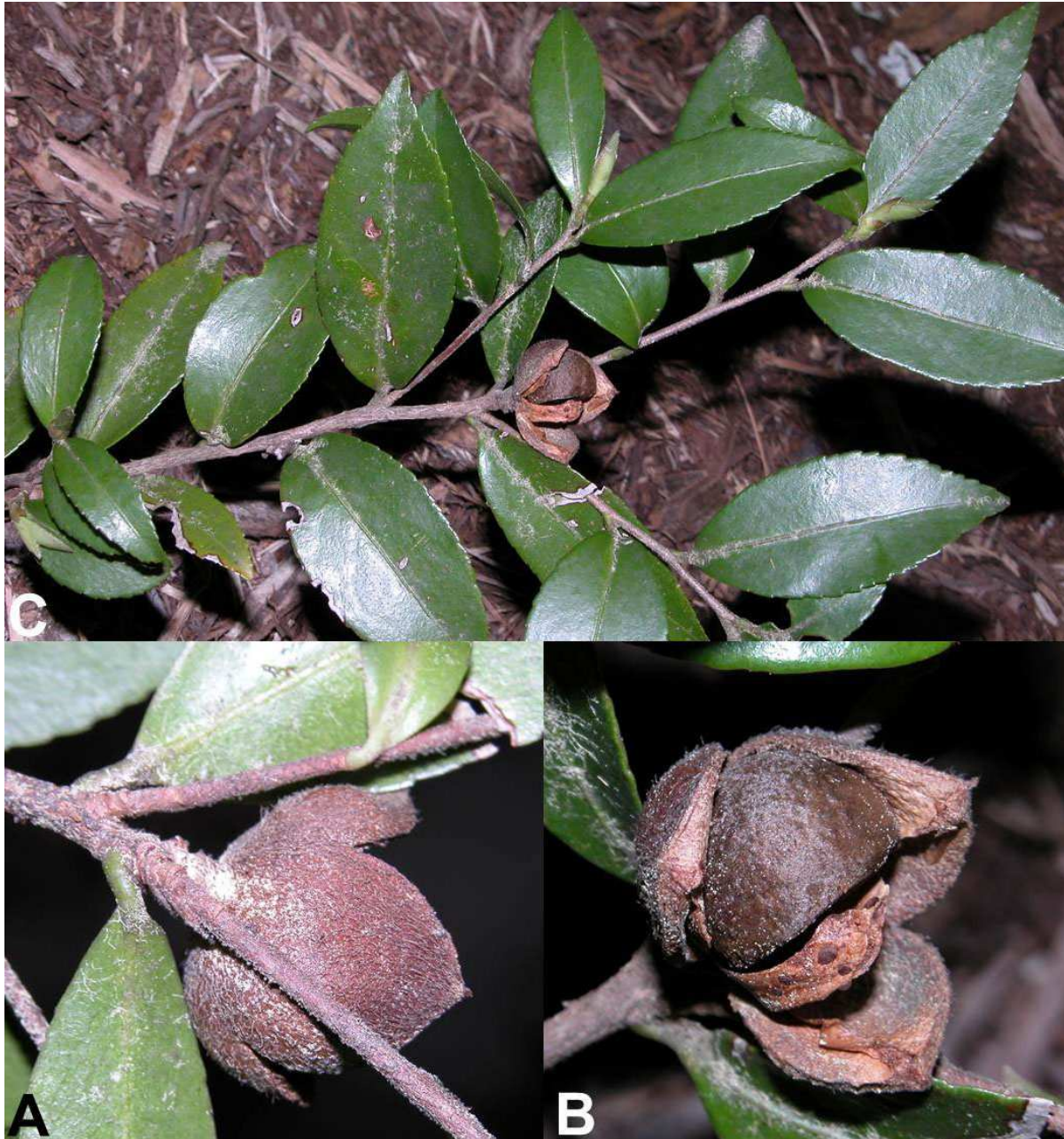


Figure 5. Photographs of leaves, mature fruits, and seeds from the larger spontaneous plant of *C. sasanqua* (notice the pubescence on the stems, leaves, fruit, and seed). (A) Mature fruit. (B) Mature fruit and one large, brown seed. (C) Stems and leaves.





Figure 6. Spontaneous plant of *C. sasanqua* in disturbed, urban woods in Clark County, Arkansas. This plant was sterile and nearly 2 m tall.



that the smaller plant was generated directly via seed from the larger individual. The origin of the larger plant is unknown; however, a large, cultivated plant of *C. sasanqua* was present at the edge of the residential area, across a street from the ravine. Based on observations provided by Diamond (2013) of eastern grey squirrels (*Sciurus carolinensis*) feeding on and burying seeds of *C. japonica* (the seeds of *C. sasanqua* are very similar in size, color, and shape to those of *C. japonica*), it is reasonable to surmise that squirrels may have transported seeds from the cultivated *C. sasanqua* plant into the adjacent woods, allowing for subsequent establishment of one or both of the *C. sasanqua* plants. Diamond (2013) also reported that the spontaneous occurrence of *C. japonica* in Alabama was, in fact, facilitated by dispersal of seeds by eastern grey squirrel.

Voucher specimens: **Arkansas.** Clark Co.: Two spontaneous plants at edge of ravine in disturbed, urban woods/greenbelt along riparian zone, along University Drive, adjacent to the intersection of University Drive and 10<sup>th</sup> Street (Hwy 7/67), Arkadelphia, 11 Apr 2016, *Serviss* 8228 (HEND); Numerous spontaneous seedlings, some to ca. 75 cm tall, in the vicinity of two large, cultivated shrubs of *C. sasanqua*, Ross House area off of Henderson Street, HSU campus, Arkadelphia, 29 May 2005, *Serviss* 6985 (HEND); Dozens of spontaneous juvenile plants in a semi-unkept area of home site in the vicinity of a large, cultivated tree of *C. sasanqua*, ca. one-half block N of intersection of 12<sup>th</sup> Street and Huddleston Street, Arkadelphia, 18 Mar 2005, *Serviss* 6861 (HEND).

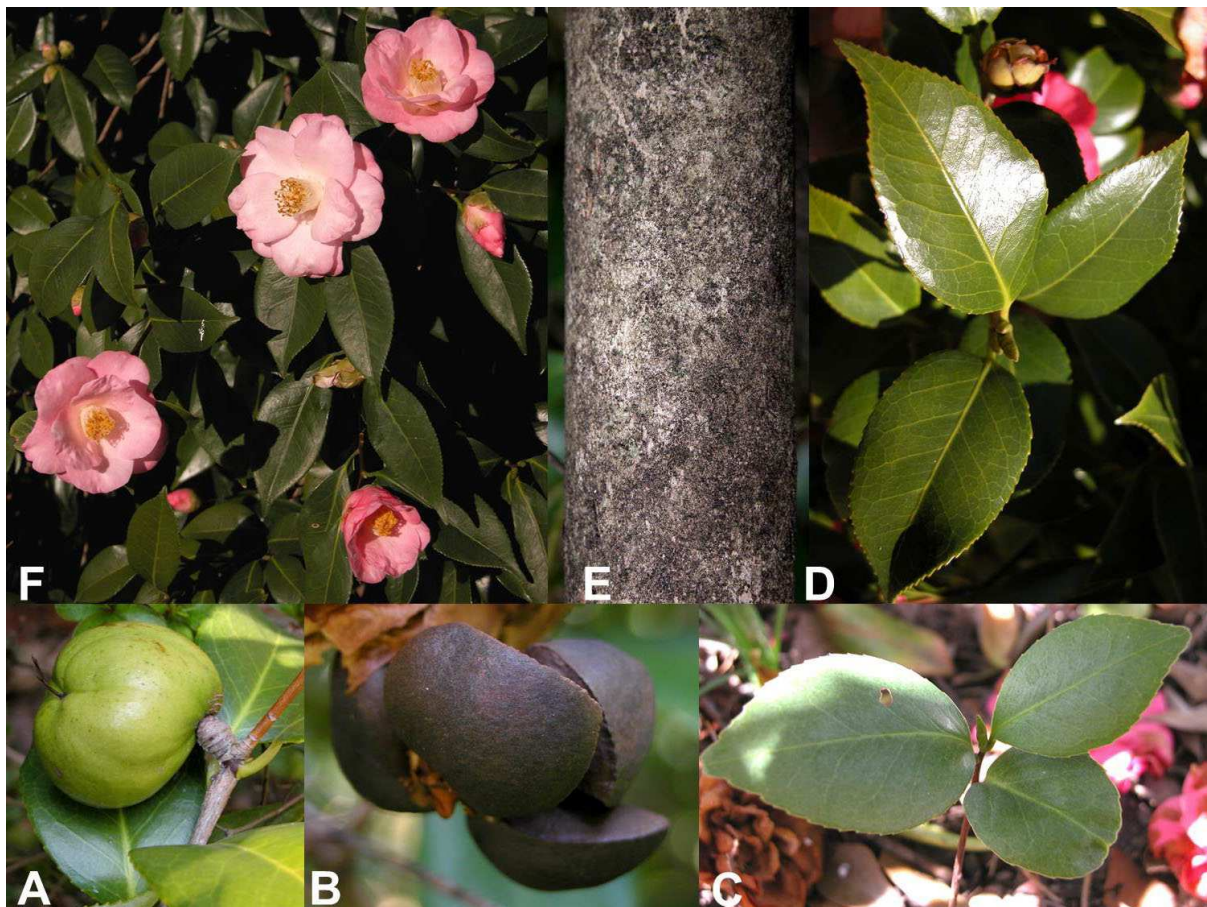


Figure 7. *Camellia japonica* for comparison with *C. sasanqua* (photographs taken from cultivated plants, except Fig. C). (A) Mature fruit. (B) Mature seeds. (C) Spontaneous juvenile plant of *C. japonica* from Clark County, Arkansas. (D) Leaves. (E) Bark. (F) Flowers and habit.

*Camellia sasanqua* is morphologically similar to *C. japonica* (Fig. 7) and spontaneous plants of *C. japonica* also have been documented from Arkansas (Serviss & Peck 2008) as well as a few other southern states (Diamond 2013; Weakley 2015). Consequently, *C. japonica* may be encountered in Arkansas outside of cultivation, where it could potentially be confused with *C. sasanqua*. *Camellia sasanqua* may be reliably distinguished from *C. japonica* by its pubescent stems (on new growth) and leaves (along midvein of upper surface) and pubescent ovaries and fruits. *Camellia japonica*, in contrast, has completely glabrous foliage, ovaries, and fruits.

#### ACKNOWLEDGEMENTS

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