

**CARICA PAPAYA (CARICACEAE)
AS A PROBABLE WAIF IN CENTRAL TEXAS**

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ABSTRACT

Recent collection of *Carica papaya* in Lee County confirms the presence of mature specimens of the species in central Texas. The species at this location is considered to be a waif mostly likely established from discarded fruit spread by animals. This non-cold tolerant species perhaps has persisted at the location because of warmer than average temperatures during the past two winters. It is not expected to become naturalized.

We report *Carica papaya* (Caricaceae), the papaya tree, collected in a natural habitat about 450 km north of areas where it is cultivated in extreme south Texas (Holmes 2010), based on the specimen cited below.

TEXAS: Lee Co.: private ranch 8.85 km SW of Giddings, Texas, near community of Serbin, along the edges of game trails in post oak woodland openings, in fruit, 8 Nov 2016, *Dickschat 1* (BAYLU). Figures 1, 2, and 3.

Two populations of *Carica papaya* were documented on private ranchland in Lee County. The first location included one reproductively mature tree, with a cluster of immature trees and three seedling trees sprouting in close proximity. The second population included a reproductively mature specimen (ca. 13 cm diameter and 2.3 m tall) with several seedling trees. Both populations were found in woodland openings dominated by *Chasmanthium latifolium*, *Smilax bona-nox*, *Callicarpa americana*, *Croton capitatus*, *Ilex vomitoria*, *Juniperus virginiana*, and *Quercus stellata*.

Carica papaya (Caricaceae), the papaya tree, or *lechoso*, is a softwood tree cultivated worldwide for its fruits, leaves, and flowers as a food, vitamin, and mineral source (Holmes 2010). It has also been recognized as having a role in a wide range of medical and surgical conditions in traditional medicine (Morton 1978; Duke 1985), including burn treatment (Starleya et al. 1999).

Liquid papaya extract has been used for treatment of warts, corns, and cancers, the roots for piles and yaws, the leaves for nervous pains and the fruit for infected wounds, malignant tumors and blistering (Morton 1978). Papaya has also been used in industrial and other pharmaceutical applications including various cosmetic and textiles as well as ornamental landscaping (Holmes 2010).

Carica papaya is found in various tropical regions, e.g., Central and South America and west Africa (Holmes 2010). Cultivated for centuries, it has been found naturalized in Florida from the southern Keys north to Collier County (West & Arnold 1946; Wunderlin 1998; Ward 2011).

Based on distribution maps of papaya in tropical regions and in areas of pantropical introductions, including south Texas, a mature central Texas specimen is surprising based on climatic conditions. Likely establishment of this specimen occurred by mammalian or bird vectors (see description in Mink et al. 2015) similar to fruiting exotics established and previously documented in the state; e.g., *Carissa macrocarpa* (Singhurst & Holmes 2010), *Jasminum laurifolium* (Mink et al. 2015), *Asparagus aethiopicus* (Singhurst et al. 2016), and *Cupaniopsis anacardioides* (Mink et al. 2017).

Lethal low temperature for *Carica papaya* is -0.9 C (Whiteman 1957) and plants are able to withstand brief periods of frost (Snyder & Paulo de Melo-Abreu 2005). Climatic data sets (PRISM 2017) recorded no temperatures beyond the published critical low for *C. papaya* for Serbin, Texas, from 8 March 2015 until time of collection, 8 November 2016 (20 months). Plants are dioecious or gynodioecious (Teixeira da Silva et al 2007) and thus require another individual for fertilization. Given the prolific, short-lived, and fast-growing life history of *C. papaya* (Holmes 2010), fruits can be expected 10 to 14 months after germination (Teixeira da Silva et al 2007).



Figure 1. *Carica papaya* in understory forest of Lee Co., Texas. Photo by Jason R. Singhurst, 13 October 2016.

Permanent establishment of *Carica. papaya* in the Texas flora seems unlikely based on frost-sensitivity of the plant and historical mean temperatures of central Texas. Litz (1984) listed latitudes between 32' N and S as a delimiting growth zone. However, under particular cycles of unseasonably warm weather, periodic waifs, including reproductively mature specimens, could be encountered.



Figure 2. *Carica papaya* specimen (*T. Dickschat 1*) prior to mounting, Lee Co., Texas. Photo by Jason R. Singhurst, 8 November 2016.

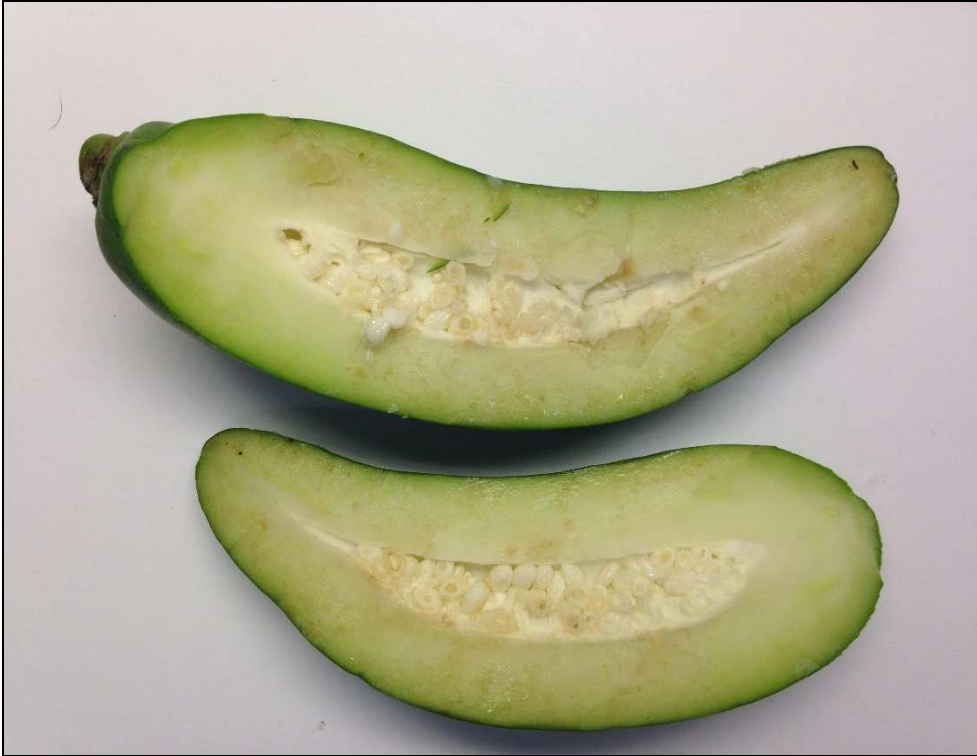


Figure 3. *Carica papaya* fruit specimen (*T. Dickschat 1*) prior to pressing, Lee Co., Texas. Photo by Jason R. Singhurst, 8 November 2016.

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