



Plum Potential

Plum Potential in the Bluegrass: a Fantasy Rooted in Reality

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At the dawn of civilization, when humans began to think of settling down during the summer to collect their thoughts and fatten each other up for the winter, I am sure that many of them across the Northern Hemisphere settled in thickets of plum. I would have.

Before humans spread into the North, following large mammals to feast on, those large animals—especially mastodons and mammoths—would have been the original ecological cause for the veritable existence of plum thickets. This concept has been recently advanced by Hans Vera in his book: *Grazing Ecology and Forest History* (CABI, 2000). Today, wild plums are concentrated in transitions from woodland to fields or other openings maintained by mankind. But in the old days without humans, plums would have grown mostly along broad trails maintained by larger animals, and especially around more permanent springs, licks and “stamping grounds” frequented by these wonderful beasts—now sadly extinct. As well as the obvious attraction of their fruits, plums are adapted to such disturbed habitats with their thorny branches resisting excessive browsing, and their suckering roots allowing rapid recovery after damage of stems above ground. The intimate association of plums and larger mammals no doubt extended to gastric processing, the best fruit being chosen the soonest and leading to appropriate accumulations of droppings, at places that may have been strategic for both plants and animals. I often wonder how we humans may have developed hygienic behavior around our old stone-age villages. Did we each have our special bush under which to squat? Did we defend or mark these places? Did we choose to fertilize and otherwise nurture our favorite plums at those places?

Unfortunately, the economic and ecological potential of American plums has been largely ignored during the past century. There was much research during 1880-1920, especially in midwestern states, but today the USDA has only one specialist on native plums—Bill Okie at Byron, Georgia; others may be at Cornell. Taxonomists still struggle with the proper definition of species and varieties; and ecologists generally overlook their place in the presettlement landscape.

In the central Bluegrass region, the common bluish or purplish wild plum, *Prunus americana*, is relatively sour and slow to ripen. More desirable orange or reddish fruit can be produced by the “goose plum”, *P. munsoniana*. That largely midwestern species was grown by settlers from the east as well as by native people, and indeed most of these trees today appear to have been planted. But there is a concentration of plants that may be more native along roadsides and fencerows on the uplands in Jessamine County between Wilmore and High Bridge. The only other population known to me in Kentucky that appears to have some native character is on uplands in northern Hart County, within a few miles of Upton. A more common species across southern regions of the state is the widespread southeastern “Chickasaw plum”, *P. angustifolia*. That species is generally delicious but reaches its northern limit in the Bluegrass, and rarely produces fruit.

I have been growing *munsoniana* for over 30 years with mixed success, but finally there may be rays of hope. My initial effort was to supply the University’s Arboretum with several plants, which are doing quite well now at the northwest side adjacent to the Greg Page Apartments. More recently, I have established over a dozen trees in the city’s greenway on Willowood Road (near intersection of Greentree Road and Armstrong Mill Road). Lessons are as follows:

- (1) There is much variation in fruit quality, with a remarkable range in ripening date from June to October, the later fruits being generally less obviously or juicily desirable.
- (2) A few plants ripen in June, and tend to have the largest & best fruit; these include clone “Delaney” from an old house in Woodford County.
- (3) Cross-pollination seems to be needed for good fruit production; sometimes there are almost no fruits, especially if the spring is cold.
- (4) Some local animals, especially squirrels, will go after fruit, but plums can be picked or shaken off trees a week or two before fully ripe, then allowed to ripen safely indoors.

People interested in edible landscaping across this region should pay a lot more attention to this species, as well as to pawpaws, raspberries, hickories and other native fruits or nuts. The city of Lexington is poised to realize the ancestral potential of such plants, even though Virginians have largely wiped away the original culture that sustained humanity in this region before the establishment of our current nation.



Along Willowood Road on 31 March 2017—much variation in form!





“Delaney” on 4 July, 2017

[Following notes are extracted from Atlas at bluegrasswoodland.com]

***Prunus munsoniana* W. Wight & Hedrick** **Red or Goose Plum**
ATLAS DATA: HAB 8,10 E? 4. ABU g8 s8 -3 [detailed at website]

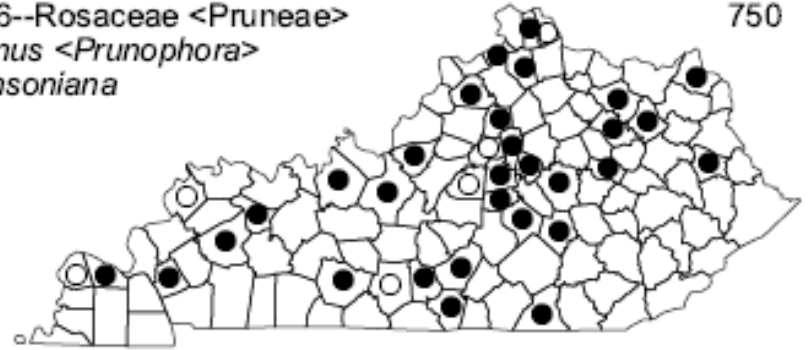
This species has been much confused with *angustifolia* and *hortulana*. It was not described until 1911, and not recognized in Ky. until B found it on "dry slopes in the Outer Bluegrass" during the 1930s. Uncertain records mapped here (open dots) are mostly dubious records of *hortulana*, which has not been reliably distinguished in Ky. The native range of *munsoniana* is reportedly similar to the largely lower midwestern *hortulana* but shifted slightly to the south and east (K, PL). Typical wild-type *munsoniana* may have been centered in c. Ky. and e. Tenn., but the species has been widely grown with varied cultivars and hybrids. In the central Bluegrass, Short (1828-9) noted it under "Prunus chicasa... Frequent in shrubberies occasionally occurring wild." *P. munsoniana* is now largely restricted to old home sites, fencerows and thickets at the edge of old fields. In addition to widespread cultivation after Virginian settlement, it is likely that Native Americans used and dispersed this valuable fruit-producer.

Prunus munsoniana generally appears intermediate between *angustifolia* and *hortulana* in overall stature, flower size, fruit size and other characters (Hedrick 1911, Wight 1915, Little 1977, Shaw & Small 2004, 2005; F, GC, W). It tends to form taller trees than *angustifolia* but differs most clearly in its leaves, which are larger (mostly 5-10 cm long versus 3-6 cm), less folded and more pubescent on the lower surface. Also, it has longer pedicels (ca. 8-12 mm versus 3-8 mm) and tends to have larger fruit. However, there is much genetic variation in fruits, from relatively large sweet early-maturing ones in late June to those with much poorer quality for human consumption even at the end of their ripening in August.

Recently, J.R. Rohrer in Flora of North America has combined this species with *Prunus rivularis*, the "creek plum" of Texas and Oklahoma. But those plants are generally much smaller, with fruits that are relatively small and often described as "bitter". There may be some continuous variation from *angustifolia* (a relatively short shrubby species that is widespread across SE USA) to *rivularis* to *munsoniana* to *hortulana*—which tends to have larger (less suckering) trees, larger (less folded) leaves and larger (tastier) fruit.

2256--Rosaceae <Prunae>
Prunus <Prunophora>
munsoniana

750



Additional Notes: Names and Taxonomy.

There is not a widely accepted, unique common name for this species in Kentucky. In other states it is sometimes known as "goose plum" (from a story about the stomach contents of a goose) or "Munson's plum" (after an early collector). There is much genetic variation in fruits, from relatively large sweet early-maturing plants in late June to those with generally poorer quality for human consumption in August, September or even October. The species is closely allied with the Chickasaw plum (*P. angustifolia*), which occurs widely on uplands of southeastern and mid-western states, and there may be intermediate plants (for example along the Bluegrass Parkway between Frankfort and Bardstown). Both species all have relatively blunt, gland-tipped leaf-teeth; sepals with or without marginal glands; and sweet red to yellowish fruits, without the glaucous bloom typical of the common "American plum" (*P. americana*) and its allies. The American plums tend to ripen later. *P. munsoniana* is also closely allied (and often confused) with the species sometimes known as "garden plum" (*P. hortulana*), which is centered around lowlands of the central Mississippi Valley, and which often appears transitional to *americana*. Typical *hortulana* is unknown as native in the state. *P. munsoniana* is somewhat similar to the more northern "Canadian plum" (*P. nigra*).

Life-form and Morphology.

This plum makes small trees, often up to 20-30 feet tall, and it also sends up suckers about 5-10 feet from the main stems. Its leaves are relatively long (mostly 2-5 inches), often folded, short-hairy below and usually glossy above; its teeth are somewhat rounded ("depressed"), with the gland near the sinus (versus ascending with a terminal gland in *hortulana*). Blossoms are relatively large, in March-April (or into May when planted further north), mostly before the leaves are flushed.

Distribution and Ecology.

The lower midwestern range of *munsoniana* is similar to *hortulana* but shifted slightly to the south. In Kentucky the species is largely restricted to old home sites, fencerows and thickets in farmland. Most plants may be descended from old plantings, and it is likely that Native Americans also cultivated this valuable fruit-producer. In a few cases, the species appears to be more native; for example, on Ron Houpp's old farm west of Wilmore (Jessamine Co.) there is a large old thicket that

is far from houses but perhaps associated with a nearby prehistoric archaeological site. As reflected in its range, red plum is largely restricted to rather rich moist soils, while the Chickasaw plum tends to occur on drier and less fertile ground, sometimes sandy.

Propagation and Trials.

This species can be easily grown from seed, if protected from animals and overwintered in a germination bed. To ensure clonal purity, one can also dig suckers from trees that produce desirable fruit, and grafting is possible with the usual techniques. In Kentucky, there has been little interest to establish orchards in recent decades, but Doug Hines (on Townsend Creek in Bourbon Co.) has a good initial collection, and some of us have been trying to establish a plantation for public use at the nearby Griffith Farm in Harrison Co. I also helped establish a small but diverse planting in the Arboretum at University of Kentucky, which now produces good crops at 2-3 year intervals.

Folklore and Uses.

The red plum became the most widely cultivated native plum across eastern and central states during 1865-1915, as documented in the USDA's Bulletin No. 179 (1916), and in several reports from individual states. The most remarkable compendium was compiled by Ulysses Prentiss Hedrick in "The Plums of New York" (1911). Many cultivars of *munsoniana* were named and described during this period: including Arkansas, Choptank, Clifford, Mrs. Cleveland, Cooper, Davis, Downing, Drouth King, Hollister, Hughes, Jewell, Macedonia, Miles, Milton, Newman, Nimon, Ohio, Osage, Poole Pride, Pottawattamie, Robinson, Sophie, Texas Belle, Thousand & One, Whitaker, Wild Goose, Wonder and Wooten. There has been much confusion among these, and hybrids are also known with several other species of American and Eurasian plums.

In addition to being excellent raw when ripe, the fruit can of course be made into jam and wine, which is highly recommended by Roberta Burns and John Walker of Lexington, Fayette Co. We should experiment further with various traditional methods for fermentation, including those from Japan. But perhaps the most obvious method to preserve the fruit's goodness would be to partially dry the fruits into "prunes". There has been so such use yet documented for this species.

Red plum: *Prunus munsoniana*

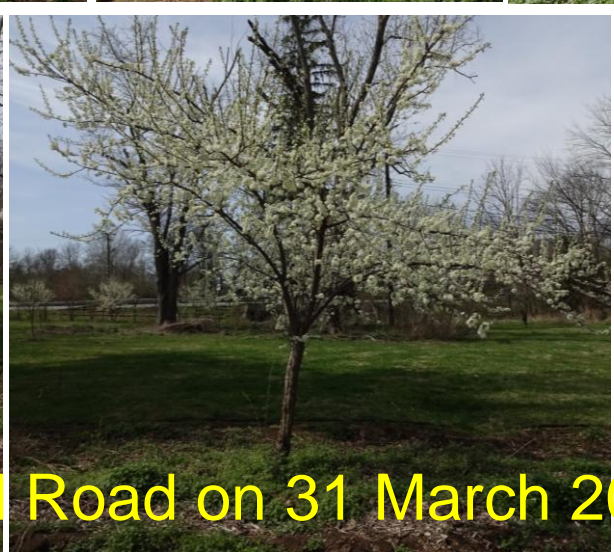
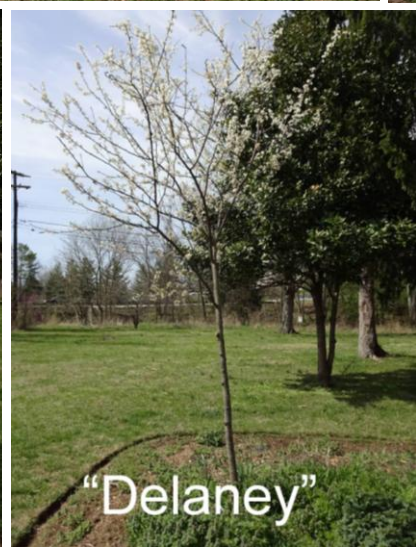




Left: fallen from old
Delaney tree in backyard
after damage by squirrels
[4 July 2017]

Left: picked from
younger Delaney
tree in greenway
[4 July 2017]





Along Willowood Road on 31 March 2017—the dozen trees in front

Along Willowood Road on 4 July, 2017—much variation in fruit quality!

