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Pointleaf manzanita ('little apple')
Arctostaphylos pungens

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Photo 1. Typical shrubby growth form of manzanita.

Photo 2. "Little apple" fruit produced by manzanita.

Photo 3. Close-up of the smooth, bright-red bark of manzanita.

Arizona residents who live in the desert valleys with its surrounding mountains (sometimes called "sky islands") are a fortunate bunch. Biodiversity of plants and animals throughout our state is among the best anywhere on earth. We have a seemingly endless supply of flora and fauna to photograph, sketch, collect, and admire and for the most part we are hindered in our interactions only by our imaginations. However, for those of us who try and incorporate our favorite local plant into our home landscape, we are limited by the specific requirements that each plant must have to thrive and grow.

Pointleaf manzanita (*Arctostaphylos pungens*) is a beautiful drought-tolerant woody plant that is well-adapted to thrive in the interior chaparral and Madrean oak woodlands, and, at cooler mid-elevations of the sky island mountains that often surround Arizona's desert valleys. This large round evergreen shrub typically grows at elevations from 3500 to 6500 feet in association with various oaks, pines, and junipers as well as many other shrubs, forbs, and grasses (Photo 1). It has oval-shaped leathery green leaves that form a striking contrast to its smooth and twisting bright red bark. Its pink flowers form an urn-shaped raceme that eventually produce small red berries resembling miniature apples. Indeed, manzanita means "little apple" in Spanish (Photo 2). Manzanita's contrasting combinations of colors, twisting bark, and naturally round shape are a few reasons it is desired as an ornamental (Photo 3). As tempting as it might be to use this beautiful plant in landscaping projects there are a few things to consider.

Manzanita is an "obligate seeder" which means it reproduces almost exclusively by seed. However, manzanita seeds require some very specific conditions related to fire cycles before they are able to germinate. In their natural environment, manzanita seeds fall to the ground where they await fire. Manzanita plant communities naturally experience cyclical wildfire which clears competition from older manzanita plants and other chaparral species making way for younger plants to establish. Fire heats and scarifies manzanita seeds exposing them to whatever soil moisture happens to be available after the fire. With adequate moisture, manzanita seeds germinate and begin the process of replacing the older plants with the seedlings that have the potential to grow into a nearly mature stand of chaparral within 10 years after the fire. During the years between fires, manzanita also

has the ability to reproduce vegetatively through a process called "layering" where branches from adult plants take root from growing points that come in contact with the ground. This boom and bust fire cycle repeats itself every 40-70 years and is apparent where there may be dense stands of similar age manzanita shrubs covering the mid-elevations (i.e., 3500 to 6500 feet) of the sky islands.

Most of us, when looking for the newest addition to our yards, visit our local nurseries. We spoke with representatives from 2 nurseries in Tucson to see what success, if any, they have had with cultivating and selling manzanita. One nursery said they had tried to propagate manzanita using clippings but were not successful on a large enough scale to offer them for sale. They were looking into using heat and smoke to germinate seeds but didn't know when or if plants might be available for sale. Another nursery had no experience with manzanita but suggested we contact nurseries along the California coast that regularly carry different species of manzanita.

In conclusion, Arizonans who live in the desert valleys are not prime candidates for using manzanita as a low input ornamental. Even though this shrub is considered to be fairly drought tolerant, the annual precipitation in Arizona's desert valleys is at the lower range of what this shrub normally needs to survive in the wild (i.e., 10-30 inches of rain per year). A second limitation is that this plant grows naturally in shallow steep soils at mid-elevations (Photo 4).

These beautiful shrubs are best enjoyed in their natural habitat like the interior chaparral and Madrean oak woodland, or, in just about any of Arizona's sky islands that occur throughout the entire state. So consider yourself fortunate if you already live in these areas where pointleaf manzanita grows naturally. And even if you don't, chances are you are within a fairly short drive where you can enjoy the sights and sounds of the wildlife and vegetation that grows in association with this strikingly beautiful native shrub.

Photo 4. Manzanita covering a rocky hillside near the north side of Mt. Lemmon (elevation ~ 4900 ft) near Tucson, AZ.

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[1] *All photos were taken by the senior author on the north side of Mount Lemmon above Pepper Sauce Campground (near Oracle, Arizona) at an elevation of about 4900 feet on November 23, 2016.*

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