

Guide to Native Vegetation



Of
Ambos Nogales

Guide to Native Vegetation of Ambos Nogales

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Ecology of Ambos Nogales

The people of Ambos Nogales like plants and have various uses for them. This is a guide to the native vegetation of this area to help familiarize Nogales residents with the types of plants that would be well suited for planting in the Nogales region.

Nogales is located in a highly diverse ecological region. It rests between two major zones—the Madrean Evergreen Woodland and Semi-Desert Grassland. Each of these zones is unique in the type of life it sustains; the two come together in a pretty even mix in the Nogales region with Madrean Evergreen Woodland at the higher elevations and Semi-Desert Grassland at the lower elevations. Because Ambos Nogales encompasses a mixture of both of these types of environmental areas, this guide consists of plants that are common to both.

Madrean Evergreen Woodland is primarily en-cinal. This means it is home to many different types of live oaks. It is mild in the winter and generally wet in the summer. At the lower elevations it is commonly open and comes in contact with Semi-Desert Grassland. Both zones occupy approximately the same elevational range, but the Woodland generally exists along rocky slopes, drainages and other habitats with thin soils (Brown, 59-65). Semi-Desert Grassland is predominantly a perennial grass and scrub area which usually rests between desert scrub and evergreen woodland (Brown, 123). While it would appear that these two ecological regions are very different, many of the grasses present in Semi-Desert Grassland provide much of the groundcover in Madrean Evergreen Woodlands.

These ecological zones have plants that are native to them and well adapted for living in them. It should also be noted that within these specific ecological zones there are riparian areas which harbor their own sets of plants and trees and are dependent on water from streams and rivers. In other words, while it is true that the Cottonwood is a tree that is common to both Semi-Desert Grasslands and Madrean Evergreen Woodlands, it always grows by rivers and streams— so it should not be planted in an area where it cannot receive as much water as it needs.

This guide is divided into two sections. The first section, called Common Plants, focuses on those plants that do not grow in riparian areas and would therefore be safe to plant anywhere in the Nogales region. The second section, titled Plants that Require Special Attention, include trees that—like the title suggests—need special



attention if planted outside their natural environment. For example, this section includes the types of trees which grow in riparian areas in both the Madrean Evergreen Woodland areas and the Semi-Desert Grassland areas and would therefore need a lot of water if planted out of their natural habitats. This guide will also provide information on the types of environmental areas in which each of the plants listed grow naturally, describing whether they grow on slopes, valleys or mesas. It is important to think about such requirements of trees and plants before attempting to plant them.

to give area residents an idea of the types of plants that are well suited for planting in their area, but it is by no means comprehensive. It is designed to offer residents information about some of the plants that are native to Nogales and plant characteristics that should be considered before selecting plants. There are actually many other plants native to the area that would work well, and there are many non-native plants that could also potentially be used.



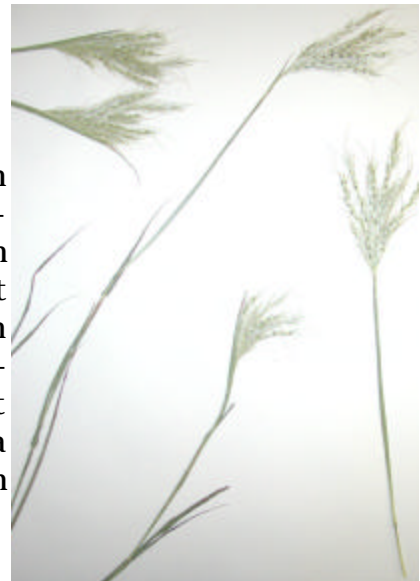
Part I: Common Plants

This section includes plants that do not require special attention and that are native to both the Madrean Evergreen Woodland and the Semi-Desert Grassland. The vegetation included here is organized under several categories according to the type of vegetation (such as grasses, trees and shrubs). Each entry indicates the common names in English and Spanish, followed by the scientific name in italics. When a plant has more than one name, the most common name is listed first.

Grasses

Cane Beardgrass / Cane Bluestem
Popotillo algodónero / Cola de Coyote
Botriochloa barbinodis

This grass is indigenous to the Madrean Evergreen Woodland. It is perennial and uses very little to no water. It does well with full sun exposure and is useful in revegetation and erosion control because of its deep root system. For this reason it would be useful to plant on hillsides and slopes subject to erosion. It grows naturally on rocky slopes and mesas. Although it grows best in warm weather, it is hardy and cold-tolerant. It is a large bunch-grass with white flowers which appear from late spring to early fall.



Blue Grama
Navajita común / Grama
Bouteloua gracilis



Blue Grama is another type of perennial grass which requires very little water and is indigenous to both Madrean Evergreen Woodland and Semi-Desert Grassland. Like the Cane Beardgrass, Blue Grama is a perennial grass which is relatively hardy and prefers growing in full sun. It has become increasingly popular as a natural “meadow” grass and is widely adapted to a number of different environments. This is a particularly nice grass to plant because the seeds attract wildlife, such as birds and other small mammals. Similar to Blue Grama is Sprucetop Grama (*B. chondrosoides*) which would also be useful to plant for revegetation purposes.



Tanglehead
Zacate colorado / Zacate aceitillo
Heteropogon contortus

Like Blue Grama, Tanglehead is common to both Madrean Evergreen Woodland as well as Semi-Desert Grassland. It uses little to no water and prefers full sun exposure. It is perennial, hardy to 15° F and has orange flowers that bloom in the summer and fall. While it is naturally present in the landscape, it should be noted that it may not be as beneficial to plant as the other species of grasses mentioned previously. This is because it is mildly allergenic and semi-invasive in the landscape, meaning it can take off and grow everywhere if not properly cared for. It is also somewhat short lived, which may be a question to address before planting.

Trees

Emory Oak
Bellota Prieta
Quercus emoryi

This tree is a favorite of local residents who like to eat its acorns. It is common to both Madrean Evergreen Woodland and Semi-Desert Grassland. It is an evergreen oak which grows naturally near slopes, ridges, canyons and valleys. It grows to be a mature size of about 40 ft. tall and 30 ft. wide and prefers full sun. As discussed at the beginning of this guide, oaks are one of the most common trees in the Madrean Evergreen Woodland. For a tree that creates shade but does not clash with the natural environment like many of the well-liked riparian trees, this oak will be an excellent choice. It is hardy and has low water usage. Other possible oaks that are indigenous to the area and would be good to plant include Silverleaf Oak (*Q. hypoleucoides*), Arizona White Oak (*Q. arizonica*), Encino Prieto (*Q. albocincta* or *Q. sideroxyla*) and Mexican Blue Oak (*Q. oblongifolia*).



Catclaw Acacia
Uña de Gato
Acacia greggii

This tree is very common to Semi-Desert Grassland. There are many species of Acacia, and they are abundant as well as easy to get. This tree requires very little water (from none to watering once monthly) and is hardy to 0° F. It grows to be about 12 ft. tall and 15 ft. wide and prefers full or reflected sun. Some argue that this tree is evergreen, but it drops its leaves late in the winter. The Catclaw Acacia is a particularly nice tree since it produces highly fragrant puff-ball flowers in the late fall. These last for a long time and are not commonly allergenic. This tree attracts butterflies and other kinds of wildlife because of the seeds, nectar and cover it offers. These trees are common along desert washes although they also grow along slopes, canyons, flats and arroyos.



Alligatorbark Juniper
Junípero Cortza de Cocodrilo
Juniperus deppeana

This evergreen is indigenous and common to the Madrean Evergreen Woodland although it occurs occasionally in Semi-Desert Grassland. It is an attractive tree and is considered the largest juniper in the region, growing to be about 35 ft. tall by 20 ft. wide. Its size as well as its checkered pattern on the bark, square twigs and large fruit set it apart from other types of juniper. It grows naturally on slopes, ridges, canyons and arroyos.



In other words, it likes to be in areas where it gets water, but it doesn't require a substantial amount like the trees that grow predominantly in riparian environments. It is hardy and likes full sun although it is sensitive to heat. It can also be allergenic to some. The wood of this tree is often used for such activities as building fences or is used for firewood.

One-seed Juniper
Cedro

Juniperus coahuilensis

This is another type of juniper that grows in Madrean Evergreen Woodland areas as well as occasionally in grasslands. Like the Alligator-bark Juniper, it grows on slopes, ridges, arroyos and canyons, and it also grows on mesas. This juniper grows to be 20 ft. high by 15 ft. wide, and prefers full sun. It gets its name from the cones that only have one seed and is also called Rose-fruited Juniper from the rosy color of these cones. The cones of the One-seed Juniper are juicy and have sweet pulp. It is a smaller version of juniper and has low water use. It should be noted that it is also mildly allergenic. Like other junipers, it is also used for firewood and in small-scale construction.



Arizona Cypress
Táscale / Ciprés
Cupressus arizonica

The Arizona Cypress is a nice-looking evergreen. It is native to Madrean Evergreen communities but not to Semi-Desert Grasslands, as it grows better at higher elevations. This may be something to consider before planting this tree, although its overall water usage is low so it could be grown at lower or more arid elevations without causing a problem. It has a fast growth rate and can reach a size of about 50 ft. tall by 20 ft. wide. It prefers full sun exposure and can be allergenic to some, like the Junipers. It is also hardy to 10° F so it can withstand colder weather.

Velvet Mesquite

Mezquite

Prosopis velutina* / *P. juliflora

This tree is highly common in Semi-Desert Grassland areas and requires very little water. It grows the best along drainages and other areas where it can get water, but it doesn't require enough to be problematic. It also grows on bajadas, on rocky slopes and in many other habitats. Perhaps the most unique feature of mesquites in general is that they grow bean pods which can be eaten by both people and animals. It is deciduous, prefers full sun and is hardy. The Velvet Mesquite can grow up to 40 ft. tall and 40 ft. wide, and it flowers in the spring. It also attracts butterflies and other wildlife. However before planting this tree it should be taken into consideration that it has invasive roots, can be allergenic, and it is somewhat messy when it drops its pods.



Ironwood

Palo Fierro

Olneya tesota



This is a very low water use tree, only needing to be watered about once a month. It is common to Semi-Desert Grassland, below 2500 ft., prefers full sun, and is evergreen. It grows to a mature size of about 25 ft. by 25 ft., and is hardy to 15° F. It prefers good drainage, since it grows naturally on slopes, in arroyos, and in valleys and plains. The ironwood has lavender flowers that bloom from late spring to summer, and also has edible fruit. Like the Mesquite, this tree can be somewhat messy .

Shrubs

Trailing Indigo Bush
Orégano Cimarrón
Dalea greggii

This is a very useful as well as a very beautiful evergreen plant. Since it is a ground cover, it grows to occupy however much space it is allowed. It should be watered about once a month. It prefers full to lightly filtered sun, is evergreen and is hardy to 15° F. It has brightly colored flowers which are usually pink or purple and blooms from spring to summer. It is suitable to be planted on slopes and banks for the purposes of erosion control (see also Cane Beardgrass). It should be noted that

it has a fast growth rate and should be pruned seasonally. If it is planted in an area where there are a lot of rabbits it should be protected from them while young.



Creosote Bush/Greasewood
Gobernadora
Larrea tridentata



Creosote Bush is a shrub that is highly common to Semi-Desert Grassland. It grows to a mature size of about 8 ft. high by 6 ft. wide, and requires virtually no watering. It is hardy to 5°F and prefers full sun. Its evergreen leaves have a pleasant smell that is characteristic of desert rain. It also has yellow flowers that bloom from the early spring until fall.

Velvet Pod Mimosa
Gatuño
Mimosa dysocarpa

This Mimosa is native to both Madrean Evergreen Woodland and Semi-Desert Grassland. It is a deciduous shrub which requires very little watering (from none to once monthly). It prefers full sun and can grow to 5 ft. tall and 6 ft. wide. It is also hardy to 15° F and has pink flowers which fade to white in the summer. These flowers are nicely scented, but they aren't the only reason why this shrub is a real people pleaser. The Velvet Pod Mimosa also grows relatively fast and attracts birds.



Ocotillo
Ocotillo
Fouquieria splendens

The Ocotillo is primarily found in Semi-Desert grassland communities. It is deciduous, requires little to no water and grows along slopes, ridges, canyons, bajadas and plains. It is a long-lived plant that gets its name from the word *ocote* (from Nahuatl *ocotl*) which refers to torches. The vibrantly colored red flowers atop of the long stalks of this plant resemble small torches, which is exactly what 'ocotillo' means. It grows to be about 15-20 ft. tall by 10-15 ft. wide and, although it prefers full sun, it is hardy to 10°F. Its red flowers bloom in the spring and attract hummingbirds.

Kidneywood
Palo Dulce
Eysenhardtia orthocarpa

Like many of the plants in this guide, Kidneywood is native to both environmental zones of Ambos Nogales. Although it is classified as a shrub, it can also be considered a small tree. It grows naturally on slopes and in canyons, and it is browsed by both white-tail and mule deer. It is a deciduous tree that requires low water usage, and it has vanilla-scented white flowers which appear from spring to summer. It prefers full sun but is hardy to 15°F. It grows to be up to 15-20 ft. tall by 9-12 ft. wide so it makes an excellent patio tree for small spaces. The scented foliage attracts butterflies, which makes this tree especially enjoyable.



Turpentine Bush
Turpentine Bush
Ericameria laricifolia

This is a good choice for a shrub since it fits into both zones and requires very little watering. It is an evergreen that grows to be about 2.5 ft. tall and 4 ft. wide. It prefers full sun and is very hardy— to 5° F. It has bright yellow flowers that bloom in the fall. It makes an excellent plant for bordering an area. It has a pungent fragrance that some people find pleasant.



Desert Honeysuckle
Cola de Gallo / Chuparro / Colegillo

Anisacanthus thurberi

This is a drought-tolerant shrub that requires very little water and also little care. It is native to Semi-desert Grassland regions and has a moderate growth rate. It prefers either full or filtered sun and grows to be about 6 f.t tall by 4 ft. wide. It is a deciduous shrub but is nevertheless hardy to 10°F. It has orange flowers which last for a long time—from spring all the way to fall. The trumpet-shaped flowers attract hummingbirds.

Wildflowers

Lupine
Lupinos
Lupinus neomexicanus

There are actually many species of lupines, but this one is one of the most common and easy to find. Also, it is native to Madrean Evergreen Woodland as well as Semi-desert grassland communities and uses very little water. These flowers are purple annuals that prefer full sun, bloom from winter to spring and are semi-hardy to 28°F. The plant grows to be up to 2 ft. tall. The flowers are poisonous. It has been said that Lupines are somewhat difficult to grow, but pouring boiling water over the seeds and letting them soak will help produce good results.





Superb Penstemon
San Jocesitos / Pichelitos / Alhelies del campo
Penstemon superbus

This is a very pretty and common flower native to Madrean Evergreen Woodlands, so it prefers to grow at higher elevations. It is perennial and uses very little water. It grows to be about 4 ft. tall and 3 ft. wide and likes either full sun or filtered light. Hardy to as low as 7°F, it has pink or red flowers which bloom from later winter to spring. These scented flowers attract hummingbirds. The only potential problem with this flower is that it does not grow well unless it has good drainage for its roots. This needs to be considered before planting.

Mexican Hat

Ratibida columnaris

This flower is also native to the region, found at higher elevations. It is perennial, hardy, and prefers growing in full sun with light shade. It has moderate water usage—needing to be watered about two times per month. It grows to be about 3 ft. tall and 1 ft. wide and has beautiful yellow and maroon flowers that bloom from later spring to early fall.





Desert Marigold

Baileya multiradiata

This wildflower is very common in both Madrean Evergreen Woodland and Semi-Desert Grassland regions up to 5,000 ft. It prefers full sun, is perennial, and grows to a mature size of 1.5 ft. tall by 1 ft. wide. It requires both very little water and very little care. It is hardy to 10°F, and its yellow flowers last nearly all year. Desert Marigold can also be used in revegetation as a groundcover useful for erosion control.

Cacti and Other Succulents

Hedgehog Cactus Pitayita / Pitahaya ceniza *Echinocereus* spp.

There are several types of Hedgehog Cacti, all of which are very nice looking. One of the benefits of planting cacti is that they require virtually no water. The Hedgehog Cacti all have very colorful bodies, ranging from purple (*E. fasciculatus* and *E. triglochidiatus*) to multi-colored (*E. pactinatus* v. *rigidissimus*). They are common to both Madrean Evergreen and Semi-desert Grassland communities. They are evergreen, prefer full sun and are hardy to 18°F. Their flowers range in color (magenta being the most common), and they bloom in the spring. They grow to be about 1 ft. tall and can sprawl to 2 ft. wide.



Engelmann (Sprawling) Prickly Pear
Nopal del Monte
Opuntia phaeacantha

This is a very common and useful cactus. Common to both zones of concern here, Engelmann Prickly Pears are surprisingly hardy (5° F), are evergreen and prefer full sun. They grow up to 2 ft. tall and sprawl out to be 6 ft. wide. They have yellow flowers which bloom in the spring. These cacti are an excellent choice for planting for many reasons, such as tolerating a wide variety of soils and having a fast growth rate. Perhaps the most useful aspect of the Sprawling Prickly Pear is that it has edible fruit with which many people are familiar. A number of things can be made with these fruits, such as jam, candy and tea.



Mountain Yucca / Spanish Bayonette
Yuca
Yucca schottii



This yucca grows primarily in Madrean Evergreen Woodlands and occasionally in Semi-Desert Grasslands. It usually grows on hills, on slopes and in canyons. It prefers full sun or light shade but it will not flower in the shade. It grows to be up to 15 ft. tall and 10 ft. wide, requires little to no water and is extremely cold tolerant (hardy to 0° F). It is most suitable to intermediate or high elevations, is evergreen and has white flowers which bloom in the summer. It is also useful since the pulp of this yucca is edible and tastes similar to a bland apple.



Banana Yucca
Dátil
Yucca baccata

This Yucca is a very resilient plant native to Madrean Evergreen Woodland and Semi-Desert communities. It is considered a tough plant since it is highly cold and drought tolerant (hardy to 0° F). It prefers full sun and grows to be 4-6 ft. tall by 4-10 ft. wide. It has white flowers blooming from the early spring to summer and is evergreen. It also produces edible fruit. It should be noted that it prefers coarse, well-drained soil. It also has a moderately slow growth rate. However, overall it is a good choice for planting and does not cause problems.

Parry's Agave
Magüey
Agave parryi

This agave is also native to both zones. It grows to be about 2 ft. tall by 2 ft. wide and uses very little water (from none to once monthly). It prefers full or filtered sun, is evergreen and is hardy to 5° F. Its yellow flowers bloom only once in the summer and grow up in tall stalks which come out of the center of the plant. It has a slow growth rate but should prove to be of interest since it attracts hummingbirds.



II: Plants That Require Special Attention

As was briefly mentioned in the beginning of this guide, there are many plants that are native to a zone but grow within specialized environments, such as by rivers or streams. For example, a tree such as a Cottonwood naturally grows by rivers, streams and canyon bottoms because it requires a lot of water to grow at its best. For this reason, a riparian tree should not be grown in an area where it cannot get as much water as it would in its natural riparian environment.

Likewise, there are many plants that do not require so much water but still can cause problems— because they are not native to the area at all or because they create a lot of litter, drop large branches, have invasive roots or are otherwise invasive in the landscape. This section of the guide is dedicated to plants (which may or may not be native to the area) that either require a lot of water or cause other problems such as invasiveness. These are plants that should be carefully considered before planting.

Cottonwood

Álamo

Populus fremontii

This is a very popular tree since it is quite large and has a big, fluffy top that creates a lot of shade. It is a deciduous tree which grows naturally only in riparian areas usually within Madrean Evergreen Woodland communities. It can grow in riparian areas in other communities as such as the Sonoran Desert. While it is a large and well-liked tree, it is a riparian tree that grows best by rivers, streams and arroyos where it can get a lot of water. This tree should be carefully considered before planting because it has very high water usage and would not be suited to any areas where getting water is difficult. It also grows a pretty extensive and invasive root system which can cause problems such as breaking up concrete foundations and water and sewer mains.





Mountain Cottonwood
Güérigo
Populus brandegeei

This tree is a white poplar which is closely related to both Aspens and Cottonwoods but has a semi-hard reddish wood. Many people like this tree and consider it spectacular-looking, but, like its relative the Cottonwood, it grows in riparian areas near rivers, streams and canyon bottoms. For this reason it should only be planted for landscape reasons in areas where plenty of water is available. Its wood is also widely used in furniture making and was commonly used for beams in Spanish colonial missions. It is a common riparian tree in Madrean Evergreen Woodland, but it is more rare in riparian areas of Semi-Desert Grasslands.

Arizona Walnut
Nogal Prieto
Juglans major var. major

This is a very popular native tree to the Nogales area, and it is the tree which gives the town its name. Although one would think that since the town gets its name from this tree it would be safe to plant anywhere in Nogales, this is not true. Like Cottonwoods and Mountain Cottonwoods, it is a riparian tree which grows near riverbanks, canyon bottoms and streams. It does however provide a lot of shade, which makes it useful, but it should be grown in an area where it can get an ample amount of water.





Eucalyptus
Eucalipto
***Eucalyptus* spp.**

These trees are very popular and they certainly seem to be everywhere although they are not native to Sonora and Arizona. They grow naturally in tropical to sub-tropical regions as opposed to the Madrean Evergreen Woodland or Semi-Desert grassland areas which concern us here. Unlike riparian trees, Eucalyptus trees don't require so much water. However, they are not indigenous and can create other difficulties because they are known to drop large branches and have invasive roots. They are also semi-invasive in the landscape, and have been known to change the soil composition where they are planted, not allowing other plants to grow near them.

Willow
Sauce
***Salix* spp.**

Much like the Cottonwood and the Arizona Walnut, these are riparian trees, and they are native to both areas with which we are concerned in this guide. Even the sturdier varieties of this species grow near arroyos and streams. Many of them grow *in* wetland habitats which are quite distinct from the drier landscape of Nogales. They also drop a lot of litter. These factors should be considered before planting these trees. Nevertheless, this tree still remains popular due to its size and appearance as well as its capacity for providing shade.



Common Privet

Trueno

Ligustrum lucidum

Although this is a highly popular hedge which people enjoy trimming into shapes, it is not indigenous to the area and indeed comes from Asia. Its berries may have medicinal use (consult a specialist before using), but they are mildly poisonous. The tree is cold-tolerant and requires a substantial amount of water, although it is not technically a riparian plant. Its soil needs to be kept constantly moist, indicating the level of water usage, and it also drops seeds profusely, indicating the potential for invasiveness in the landscape. This tree is mainly used as a hedge, but it often grows to the size of a small tree—much larger than originally anticipated. Despite these considerations, these trees still tend to be well-liked by the people of the Nogales region.



Conclusions

This guide introduces the general public to some plants which grow naturally in the Nogales area and would be suitable for planting anywhere in the Nogales region. The guide concentrates on plants that use little water and are not likely to cause problems in the landscape. However, this is by no means a definitive guide to which plants could or should be planted. This is only a sample of those plants that can be planted without causing problems. There are indeed many other plants native to the area that would fit the criteria of what could be planted. It should be kept in mind that just because plants are native to an area does not mean they are suitable for planting anywhere in their region of origin. It is very important to pay attention to the areas where specific plants grow naturally and these factors must be taken into consideration before planting. It should also be mentioned that there are other plants which are not native to the area that could be planted without causing any problems, but close attention should be paid to any non-native plant's natural environment, and those factors should also be taken into consideration before planting.

Glossary

Annual: describes plants that bloom once a year, then die off, and need replanting again the following year, such as some flowers.

Bajada: describes a low, broad, gently sloping depositional area that is located between alluvial fans.

Deciduous: describes plants and trees that lose their leaves in the winter.

Evergreen: describes plants and trees that don't lose their leaves but stay green all year round.

Habitat: describes the place where a plant or animal lives naturally. This includes necessary components of survival such as food, water, and space.

Invasive: describes plants and trees which either proliferate outside of the area in which they were intended by dropping seeds profusely or whose root systems grow to be large enough to cause damage to the ground or concrete foundations and utilities, such as floors, sidewalks, tiles, and water and sewer pipes.

Perennial: describes plants which, unlike annuals, keep coming up year after year, although they die off in the winter. These plants do not need replanting if the conditions remain favorable.

Riparian: describes the environment near rivers, streams and arroyos, which hosts its own specialized sets of plants due to being near bodies of water.

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