Trees and Shrubs for Beneficial Insects in Central New Mexico

COOPERATIVE EXTENSION SERVICE • GUIDE H-177

Miranda L. Kersten, Program Manager
and **Alissa J. Freeman,**
Former Senior Program Specialist
Agricultural Science Center at Los Lunas

Amanda R. Skidmore
Former Extension Integrated Pest Management Specialist
and **Marisa Y. Thompson**
Extension Urban Horticulture Specialist
Department of Extension Plant Sciences

NM STATE
College of Agricultural, Consumer and Environmental Sciences
New Mexico State University
aces.nmsu.edu/pubs

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(Cover photo of a bee collecting pollen by Ashley B. Bennett.
All other photos by Miranda L. Kersten, NMSU.)

Developing a habitat to provide resources for beneficial insects and other arthropods (pollinators and natural enemies) is an excellent way for homeowners and landscape managers to support a healthy urban ecosystem. Trees and shrubs are an important resource for beneficial arthropods in urban areas; they can supply pollen, nectar, and shelter year-round. Understanding the seasonal life cycle of trees can aid with providing resources throughout the year. Trees and shrubs that flower in the early spring provide invaluable food sources for early emerging pollinators, while late-blooming plants provide valuable resources for overwintering arthropods. Trees and shrubs—both dead and alive—also provide nesting and overwintering habitat for many pollinators and natural enemies.

Figure 1. **Butterflies, bumble bees, and hummingbirds are frequent visitors to trumpet-shaped flowers.**

Figure 2. **Many pollinators and predatory insects are associated with bowl-shaped flowers.**

Flower size, shape, and aroma influence pollinator attractiveness (Figures 1–4). Trees and shrubs with showy, colorful, and fragrant flowers are typically pollinated by insects and other animals, while plants with inconspicuous flowers are often wind-pollinated. Flowers provide both nectar and pollen—important food resources for pollinators. Wind-pollinated trees can provide supplemental pollen resources for bees, especially in the spring. Other bees, particularly several species of leafcutter bees (family Megachilidae), collect plant resin and pine sap from wind-pollinated trees and other plants to help create their nests. Wind-pollinated trees also provide many ecological functions, such as serving as larval host plants for butterflies and moths, providing nesting sites, and providing food sources for birds and mammals.

Figure 3. **Plants in the Asteraceae family are characterized by composite or disk-shaped flowers. These flowers are popular with bees, butterflies, and predatory insects.**

Figure 4. **Funnel-shaped flowers support many insects and birds.**

In addition to providing food and habitat resources, consider how pest management practices may affect beneficial arthropods. For example, if you choose to use a pesticide to manage pests in your landscape, it is important to consider the timing of any application. Avoid spraying blooming trees and shrubs, if possible, to reduce exposure to foraging insects. Scout plants for blooming flowers and beneficial insects before spraying, and look for products that have less of a toxic effect on non-target insects.

Typically, pollinators prefer to forage on nectar and pollen from a single plant species, making trees with an abundance of flowers especially attractive to pollinators. When selecting a tree for your landscape, consider if and how it will support beneficial insects. Native tree and shrub species are important to incorporate into your landscape. Native beneficial arthropods are often specialists of native plants found in their geographic area; therefore, planting native species can help support their populations. Native plant species are often hardier and better adapted to the local climate. Table 1 provides a list of native and ornamental trees and shrubs and examples of the pollinators and natural enemies that they can benefit. By providing nesting habitat and floral resources in the landscape throughout the seasons, you can encourage beneficial insect populations in your home or greenspace and help to support their populations.

Miranda L. Kersten is the Program Manager with the urban integrated pest management (IPM) program at NMSU's Agricultural Science Center in Los Lunas. Her work focuses on pollinator and beneficial insect conservation, monitoring beneficial insects across urban landscapes, and managing IPM research projects.

For more information on plants and beneficial insects, check out these resources:

Donkersley, P. 2019. Trees for bees. *Agriculture, Ecosystems & Environment,* 270–271, 79–83. Available online at https://doi.org/10.1016/j.agee.2018.10.024

Dreesen, D.D., and T.R. Grasswitz. 2015. Pollinator plant recommendations for New Mexico [NRCS Plant Materials Center Technical Note No. 71]. Available online at https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/nmpmctn12632.pdf

Holm, H. 2017. *Bees: An identification and native plant forage guide*. Minnetonka, MN: Pollination Press, LLC.

Mach, B.M., and D.A. Potter. 2018, December 26. Quantifying bee assemblages and attractiveness of flowering woody landscape plants for urban pollinator conservation. *PLOS ONE.* Available online at https://doi.org/10.1371/journal.pone.0208428

Pollinator Partnership. n.d. Selecting plants for pollinators: A regional guide for farmers, land managers, and gardeners in the intermountain semidesert province. Available online at https://www.pollinator.org/PDFs/IntermtSemidesrt342.rx2.pdf

St. Hilaire, R. 2018. *Landscape plants for the lower Rio Grande Basin.* Austin: Sentia Publishing.

Table 1. Examples of Trees and Shrubs for Beneficial Insects

Name	Family	Status	Plant Height	Flower Color	Flower Shape	Flowering Season	Benefits
Apache plume (*Fallugia paradoxa*)	Rosaceae (Rose Family)	Native	2–6 ft (0.6–2 m)	White	Disk	Summer	Small bees, green bees, large bees, large wasps
Apples, including crabapples (*Malus* spp.)	Rosaceae (Rose Family)	Ornamental	15–25 ft (4.5–7.6 m)	White to red	Bowl	Late spring	Honey bees, small bees, large bees, green bees, bumble bees
Apricots, cherries, peaches, plums (*Prunus* spp.)	Rosaceae (Rose Family)	Native/Fruit	10–20 ft (3–6 m)	White, pink	Bowl	Spring	Bumble bees, small bees, large bees, honey bees, syrphid flies, wasps, butterflies
Baccharis (*Baccharis* spp.)	Asteraceae (Aster Family)	Native	Up to 10 ft (3 m)	White, yellow	Disk	Fall	Honey bees, small bees, large bees, large wasps, syrphid flies, butterflies

Name	Family	Status	Plant Height	Flower Color	Flower Shape	Flowering Season	Benefits
Catalpa (*Catalpa speciosa*)	Bignoniaceae (Catalpa Family)	Native	Up to 40 ft (12 m)	White	Funnel	Spring	Bumble bees, large bees, honey bees
Chaste tree (*Vitex agnus-castus*)	Verbenaceae (Verbena Family)	Ornamental	8–10 ft (2.4–3 m)	White, pink, lilac	Funnel	Summer to early fall	Large bees, bumble bees, honey bees, butterflies
Crape myrtle (*Lagerstroemia indica*)	Lythraceae (Loosestrife Family)	Ornamental	8–30 ft (2.4–9 m)	White, pink, red, purple	Cruciate (four-petaled, cross-like)	Summer	Honey bees, green bees, large wasps
Desert willow (*Chilopsis linearis*)	Bignoniaceae (Catalpa Family)	Native	12–40 ft (3.6–12 m)	White, pink, purple	Trumpet	Summer to fall	Large bees, small bees, bumble bees, small wasps, large wasps, hummingbirds

Name	Family	Status	Plant Height	Flower Color	Flower Shape	Flowering Season	Benefits
Eastern redbud (*Cercis canadensis*)	Fabaceae (Legume Family)	Native	Up to 13 ft (4 m)	Magenta, purple-pink	Papilionaceous (resembling a butterfly; characteristic of the legume family)	Spring	Bumble bees, small bees, large bees, butterflies, syrphid flies, wasps
False indigo (*Amorpha fruticosa*)	Fabaceae (Legume Family)	Native	Up to 6 ft (2 m)	Purple	Tubular	Late spring to early summer	Small bees, butterflies
Golden currant (*Ribes aureum*)	Grossulariaceae (Gooseberry Family)	Native	Up to 6 ft (2 m)	Yellow	Tubular	Spring	Bumble bees, large bees, small bees, honey bees, butterflies, hummingbirds
Goldenrain tree (*Koelreuteria paniculata*)	Sapindaceae (Soapberry Family)	Ornamental	Up to 30 ft (9 m)	Yellow	Rotate (wheel-like, with separate, unfused petals)	Late spring to summer	Bumble bees, honey bees, small bees, large bees

Name	Family	Status	Plant Height	Flower Color	Flower Shape	Flowering Season	Benefits
Honey mesquite (*Prosopis glandulosa*)	Fabaceae (Legume Family)	Native	Up to 10 ft (3 m)	Yellow	Bowl	Spring to fall	Small bees, honey bees, butterflies
Jujube (*Ziziphus jujuba*)	Rhamnaceae (Buckthorn Family)	Fruit	15–30 ft (4.5–9 m)	White to light green	Rotate	Summer	Syrphid flies, large wasps
Littleleaf sumac (*Rhus microphylla*)	Anacardiaceae (Sumac Family)	Native	6–12 ft (2–3.6 m)	White	Rotate	Spring	Small bees
Mexican elder (*Sambucus mexicana*)	Caprifoliaceae (Honeysuckle Family)	Native	Up to 26 ft (8 m)	White	Rotate	Spring to fall	Small bees, butterflies

Name	Family	Status	Plant Height	Flower Color	Flower Shape	Flowering Season	Benefits
New Mexican locust (*Robinia neomexicana*)	Fabaceae (Legume Family)	Native	Up to 26 ft (8 m)	Pink, purple	Papili-onaceous	Summer	Bumble bees, hummingbirds, butterflies
New Mexico olive (*Forestiera neomexicana*)	Oleaceae (Olive Family)	Native	3–10 ft (1–3 m)	Green	Bowl	Spring	Honey bees, native bees, lady beetles
Texas mountain laurel (*Sophora secundiflora*)	Fabaceae (Legume Family)	Native	10–20 ft (3–6 m)	Blue, purple	Papili-onaceous	Spring	Honey bees, small bees, butterflies
Texas red yucca (*Hesperaloe parviflora*)	Asparagaceae (Asparagus Family)	Native	Up to 5 ft (1.5 m)	Red	Bell	Summer	Hummingbirds, butterflies, honey bees
Yellow rabbitbrush (*Chrysothamnus viscidiflorus*)	Asteraceae (Aster Family)	Native	Up to 5 ft (1.5 m)	Yellow	Disk	Late summer to fall	Bumble bees, small bees, large bees, lady bugs, green bees

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