

A photograph of a forest stream. In the foreground, a large, weathered tree trunk lies horizontally across the stream, its roots exposed. The water is shallow and clear, reflecting the sky and the surrounding greenery. The stream is bordered by a rocky bank with patches of grass and small plants. In the background, a dense forest of tall, thin pine trees stretches towards the horizon under a bright blue sky with some light clouds.

Pocket Guide to Invasive Plant Species

of the

Prescott National Forest

Compiled by Carley Weideman

Bermuda Grass

Cynodon dactylon

- Other Common Names:
 - devil grass, crab grass
- General Description:
 - Perennial, forms extensive mats.
 - 12-24 inches tall upon maturity (with seed head).
 - Grows below elevations of 6,000 ft.
- Identifying Characteristics:
 - Seed head branched/windmill-like



Bull Thistle

Cirsium vulgare

- Other Common Names:
 - Spear thistle
- General Description:
 - Annual, biennial, or short-lived perennial forb.
 - 2 to 6.5 ft tall at maturity.
 - Grows within elevations of 4,500 to 9,100 ft.
- Identifying Characteristics:
 - Flowers June to October with “wine-glass” shaped purple to purple-pink flowers $\frac{3}{4}$ to 1 $\frac{1}{2}$ inches in diameter.
 - Prickly-winged stems.
 - Leaves are irregularly lobed, with end lobe being longer than sides. Leaves generally a darkish green, unlike the gray-green Scotch thistle.
 - **ATTENTION:** Invasive thistles have prickles on their stems while natives do not.



• Bull Thistle

Cheatgrass

Bromus tectorum

- Other Common Names:
 - cheat brome, downy brome, downy chess, early chess, military grass
- General Description:
 - Cool season annual bunchgrass.
 - 4 to 36 inches tall at maturity.
 - Grows below elevations of 8,500 ft.
- Identifying Characteristics:
 - Flowers May to June, usually casting seeds by mid-June.
 - Grass is overall fuzzy and slender, covered with soft hairs.
 - Mature seed heads have a reddish-purple color.



Common Mullein

Verbascum thapsus

- Other Common Names:
 - flannel mullein, blanketweed, woolly mullein, velvet plant, donkey ears
- General Description:
 - Biennial forb consisting of a basal rosette the first year and an unbranched flowering stalk the second year.
 - Basal rosette about 1 to 2 ft across and flower stalk 3 to 7 ft tall at maturity.
 - Grows within elevations of 3,500 to 10,000 ft.
- Identifying Characteristics:
 - Flowers June to August with 5-petalled yellow flowers at the end of a stalk.
 - Leaves are thick, up to 12 inches long, and covered with fine downy hairs that provide a white-green or grey-green foliage color.



Crossflower

Chorispora tenella

- Other Common Names: blue mustard, purple mustard, musk-mustard, beanpodded mustard
- General Description:
 - Annual plant with large taproot.
 - Can grow up to 18 inches in height.
 - Grows in disturbed areas at elevations between 3,200-7,500 feet.
- Identifying Characteristics:
 - Flowers are small, pale purple, and have four petals that resemble a windmill.
 - Leaves are narrow with a toothed leaf margin.
 - Seed pods are numerous, green and curve upward into a sharp point.



Dalmation Toadflax

Linaria dalmatica

- Other Common Names:
 - butter and eggs, wild snapdragon
- General Description:
 - Perennial forb that grows in clumps.
 - 1 to 3 ft tall at maturity.
 - Grows within elevations of 4,400 to 10,000 ft.
- Identifying Characteristics:
 - Flowers May to September with showy yellow, snapdragon-like flowers.
 - Leaves appear whorled and are about 1-1.5 inches long and $\frac{1}{2}$ to $\frac{3}{4}$ inches wide.
 - May hybridize with Yellow Toadflax (also an invasive).



Diffuse Knapweed

Centaurea diffusa

- Other Common Names:
 - white knapweed, tumble knapweed
- General Description:
 - Annual or perennial forb.
 - 4 to 31.5 inches tall at maturity.
 - Grows below elevations of 7,200 ft.
- Identifying Characteristics:
 - Flowers June to September with many white/pink/purple flowers under ½ inch in diameter.
 - Highly branched flowering stems with flowers that resemble small thistle flowers.
 - Foliage may be covered in small gray hairs.



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Photo credit (right):
K. George Beck & James Sebastian,
Colorado State University,
Bugwood.org



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Field Bindweed

Convolvulus arvensis

- Other Common Names:
 - wild morning glory, creeping jenny, Moring glory
- General Description:
 - Perennial forb with vine-like growth.
 - 1 to 4 ft long at maturity.
 - Grows within elevations of 3,500 to 10,000 ft.
- Identifying Characteristics:
 - Flowers April to October with solitary white or pinkish blooms about one inch in width. Petals are fused into a funnel-shape and last for one day.
 - Spreads by seed and extensive rhizome (root) system. Stems may twist around other plants and form a dense tangle.



Flowers may be any variation of white to light pink.



Giant Reed

Arundo donax

- Other Common Names:
 - Spanish reed
- General Description:
 - Perennial grass that resembles bamboo.
 - May reach 30 ft in height at maturity.
 - Grows below elevations of 4,000 ft.
- Identifying Characteristics:
 - Flowers May to October.
 - Usually found near bodies of water.



Japanese Brome

Bromus japonicus

- Other Common Names:
 - Japanese chess, Thunberg's brome
- General Description:
 - Annual
 - Height
 - elevation
- Identifying Characteristics:
 - Flowers



Photo credit: Matt Lavin from Bozeman, Montana, USA

Johnson Grass

Sorghum halepense

- Other Common Names:
 - Johnsongrass, Aleppo grass, Aleppo milletgrass
- General Description:
 - Large, warm season, perennial bunchgrass.
 - Can reach 6.5 ft tall at maturity.
 - Grows below elevations of 6,000 ft.
- Identifying Characteristics:
 - Flowers May to October.
 - Young plants resemble corn seedlings.
 - White midvein on leaves.



White midvein



Flowering

Jointed Goatgrass

Aegilops cylindrica

- Other Common Names:
 - cylindrical hard-grass
- General Description:
 - Annual, cool season grass.
 - 5.5 to 19.5 inches tall at maturity.
 - Grows within elevations of 5,300 to 7,000 ft.
- Identifying Characteristics:
 - Flowers May to June.
 - Cylindrical seed heads with blunt ends easily break apart at joints.
 - Awns are stiff and minutely barbed.
 - Resembles winter wheat and may hybridize.



Photo credit: Max Licher, swbiodiversity.org/seinet



Kochia

Kochia scoparia

- Other Common Names:
 - mock cypress, Mexican fire weed, koshia, Mirabel
- General Description:
 - Annual herbaceous plant that tolerates poor soil and drought conditions.
 - Can grow 1 to 6 feet tall.
 - Grows between elevations of 2,500 to 8,000 feet.
- Identifying Characteristics:
 - Flowers July through October with small green, petalless flowers.
 - Pyramid-shaped herbaceous plant with silvery-green, soft leaves.



Maltese Star-thistle

Centaurea melitensis

- Other Common Names:
 - Malta starthistle, Maltese cockspur, Maltese thistle, Napa starthistle, Napa thistle
- General Description:
 - Annual or biennial forb.
 - 3 ft tall at maturity.
 - Grows below elevations of 7,200 ft.
- Identifying Characteristics:
 - Flowers April to December with yellow flowers under ½ inch in diameter.
 - Flower head bracts palmately spined
 - Foliage is gray-green and covered with stiff and cottony hairs. Wavy leaf margins.
 - Looks very similar to yellow star-thistle.



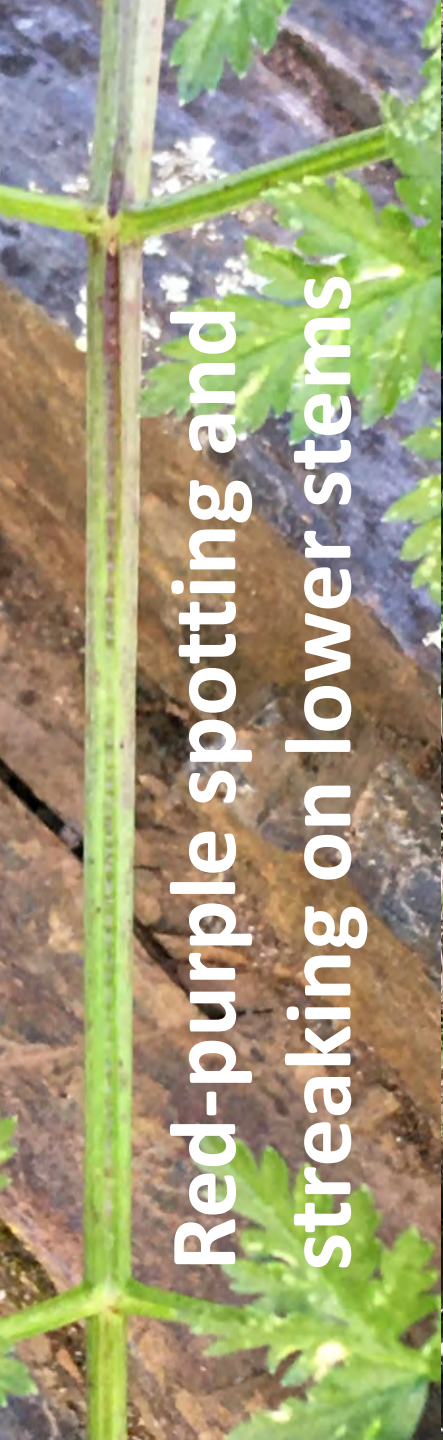
Photo credit: *Max Licher* @<http://swbiodiversity.org>

Poison Hemlock

Conium maculatum

- Other Common Names:
 - hemlock, carrot-fern, fool's parsley, poison parsley, spotted hemlock, spotted parsley
- General Description:
 - Warm season, biennial forb.
 - 5-8 ft tall at maturity.
 - Grows within elevations of 4000 to 10,000 ft.
 - Usually found near streams and other sources of water.
- Identifying Characteristics:
 - Flowers May to August with white/yellow flowers in clustered umbels (think umbrella shaped).
 - Red-purple spotting and/or streaking on lower stems.
 - Leaves are shiny green and pinnately compound.

CAUTION!!! Every part of this plant is extremely poisonous!



Red-purple spotting and
streaking on lower stems



Red Brome

Bromus rubens

- Other Common Names:
 - foxtail brome, foxtail chess
- General Description:
 - Annual, cool season, tufted bunchgrass.
 - 4-28 inches tall at maturity.
 - Grows below elevations 7200 ft.
- Identifying Characteristics:
 - Flowers March to May with dense, reddish-brown “seedheads” $\frac{3}{4}$ to 4 inches long and $\frac{3}{4}$ to 2 inches wide.



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Photo credit: John M. Randall,
The Nature Conservancy, Bugwood.org

Russian Knapweed

Acroptilon repens

- Other Common Names:
 - hardheads, creeping knapweed, hardhead thistle, Turkestan thistle
- General Description:
 - Perennial forb with many stems.
 - 9 to 39 inches tall at maturity.
 - Grows within elevations of 3,000 to 8,000 ft.
- Identifying Characteristics:
 - Flowers June to September with small pink to purplish flowers that resemble thistle flowers without the spines.



Russian Olive

Elaeagnus angustifolia

- Other Common Names:
 - autumn olive, Bohemian olive, narrow leaved oleaster
- General Description:
 - Deciduous, thorny shrub or small tree.
 - Up to 35 ft tall at maturity.
 - Grows within elevations of 4,000 to 7,500 ft.
 - Plants dioecious (male and female on separate individuals).
- Identifying Characteristics:
 - Flowers June to July with fragrant, silvery/pale yellow flowers.
 - Leaves are long and slender with smooth margins. They are bright green above and silvery/scaly beneath.
 - Fruit is yellow-silvery, oval shaped, and about a ½ inch long.



Mature Bark

Photo credit: T. Davis Sydnor,
Ohio State University, Bugwood.org



Russian Thistle

Salsola tragus

- Other Common Names:
 - prickly Russian thistle, tumbleweed
- General Description:
 - Annual herb with spherical shape.
 - 1/2 to 4 ft tall and 1 to 5 feet wide at maturity.
 - Grows below elevations of 8,500 ft.
- Identifying Characteristics:
 - Flowers June to October with inconspicuous greenish flowers in the leaf axils.
 - Flowers have no petals, just 5 papery sepals.
 - Purple-red striping in stems.
 - Plant is rigid and spiny.



Purple-red striping in stems →

Salt Cedar

Tamarix spp.

- Other Common Names:
 - Tamarisk
- General Description:
 - Deciduous shrubs or small trees that form dense thickets.
 - 5-20 ft tall at maturity
 - Grows below elevations of 7,000 ft.
 - Usually found near bodies of water.
- Identifying Characteristics:
 - Many long, slender, reddish-brown or purple-brown branches.
 - Small, scale-like, gray-green leaves.
 - Flowers March to September with countless, tiny, pink-white flowers that occur in masses on branch tips.



Scotch Cotton Thistle

Onopordum acanthium

- Other Common Names:
 - Scotch thistle, cotton thistle, heraldic thistle, woolly thistle
- General Description:
 - Biennial, or short-lived perennial forb.
 - 1.5 to 12 ft tall at maturity.
 - Grows below elevations of 7,500 ft.
- Identifying Characteristics:
 - Flowers June to September with clusters of 2-3 flowers. Flowers are dark pink to lavender and globe-shaped.
 - Leaves have triangular lobes. Spiny, heavily winged stems and leaves.
 - Many tiny hairs covering leaves and stem resulting in an overall gray-green color.
 - **ATTENTION:** Invasive thistles have prickles on their stems while natives do not.

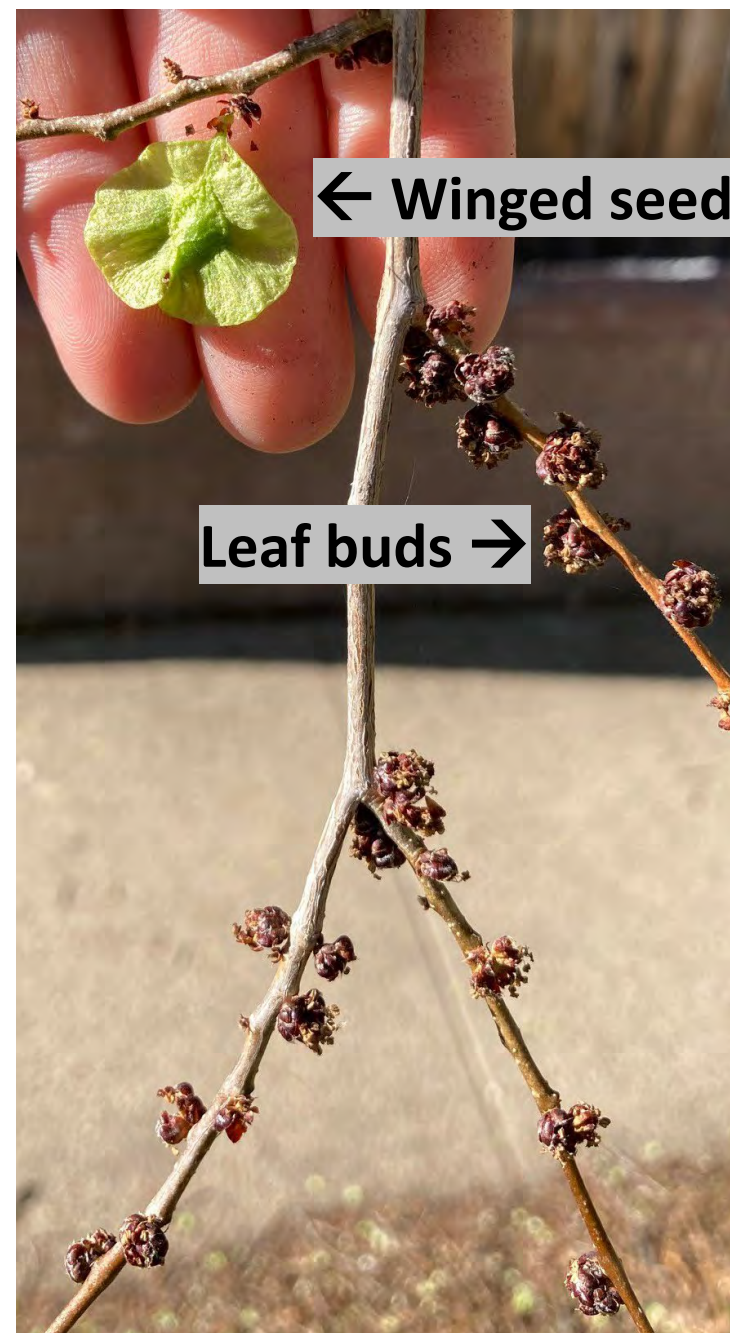
**Scotch
thistle**



Siberian Elm

Ulmus pumila

- Other Common Names:
 - Asiatic elm, dwarf elm, hybrid elm, Chinese elm
- General Description:
 - Deciduous, bushy tree. May be evergreen in warmer climates.
 - Usually between 30 to 70 ft tall at maturity. Trunks may reach up to 32 inches in diameter.
 - Grows below elevations of 7,500 ft.
- Identifying Characteristics:
 - Flowers March to April with tiny greenish flowers in clusters. Flowers appear before the leaves.
 - Bark is gray to brown with shallow furrows once mature.
 - Leaves are simple with toothed margins and less than 2 $\frac{3}{4}$ inches long. Leaves change from dark green to yellow in the fall.



← Winged seed

Leaf buds →



Mature bark

Spotted Knapweed

Centaurea biebersteinii

- Other Common Names:
 - N/A
- General Description:
 - Biennial or short-lived perennial forb.
 - Up to 39 inches tall at maturity.
 - Grows below elevations of 7,000 ft.
- Identifying Characteristics:
 - Flowers June to October with white/pink/purple flowers $\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter.
 - Flowers resemble thistle without spines.
 - Leaves are pinnately divided.
 - Highly branched with foliage covered in tiny bristly hairs.



Photo credit: *Max Licher*
@<http://swbiodiversity.org>

Photo credit: *Leslie J. Mehrhoff*,
University of Connecticut, Invasive.org

Tree-of-Heaven

Ailanthus altissima

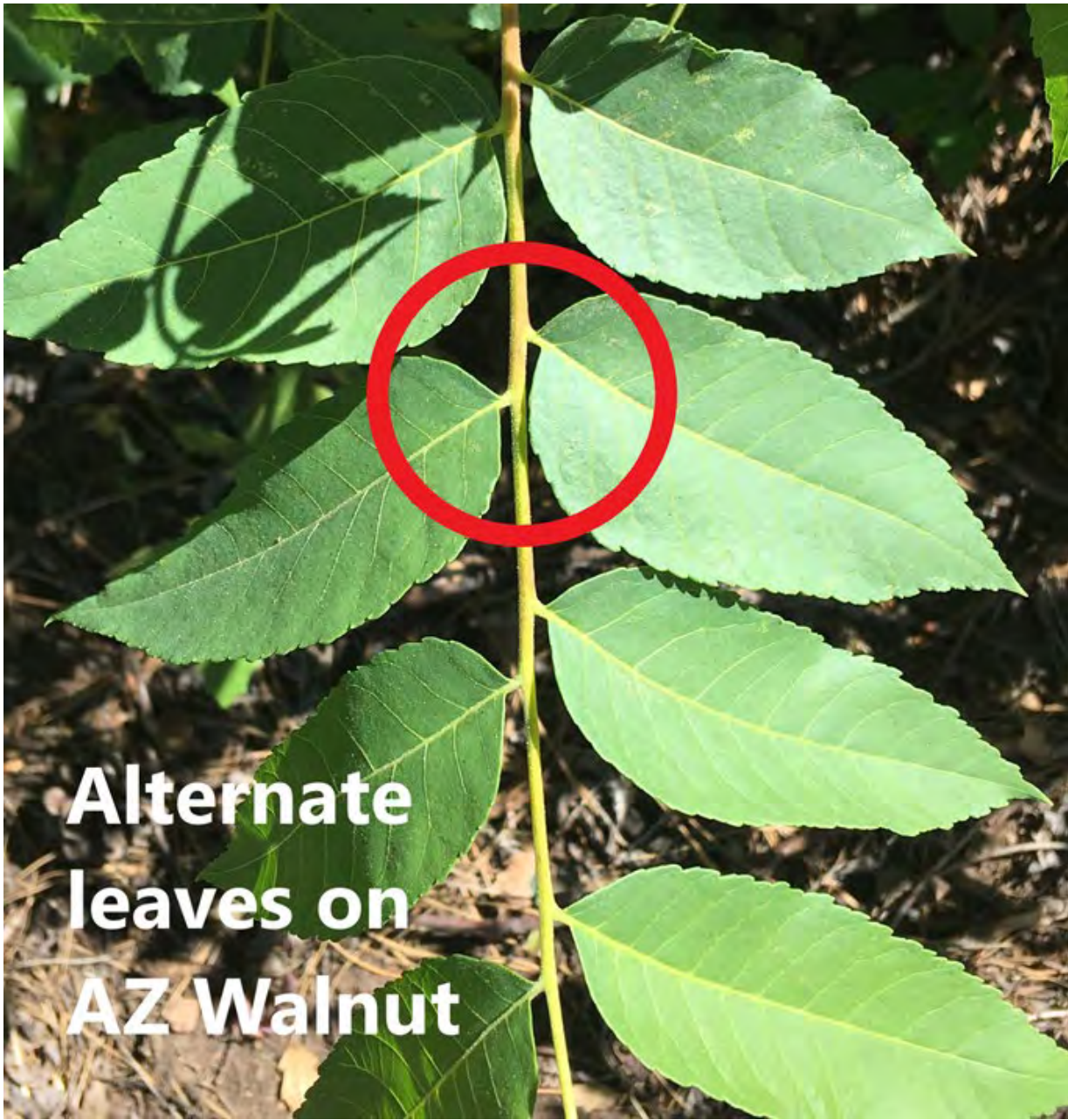
- Other Common Names:
 - stinkweed, copal tree, Chinese sumac
- General Description:
 - Deciduous tree with smooth bark on young plants that become fissured and darker with age.
 - 40-90 ft tall with a canopy 35-50 ft wide at maturity. Trunks up to 3 ft in diameter possible.
 - Grows below elevations of 6200 ft.
 - Plants dioecious (male and female on separate plants).
- Identifying Characteristics:
 - Flowers April to June in large terminal clusters. Flowers start as green-yellow and turn bright red-brown when ripe. Fruits are samaras (like a maple).
 - Leaves alternate pinnately compound and dark green on top with light green below. Leaflets are opposite, have toothed margins at base, and have deep venation.
 - Tends to have reddish stalks on young leaves. Young leaves may also be reddish.
 - "Karate chop" method = leaves easily removed from branches when karate chopping them.
 - Smell! The plant has an unpleasant odor when touched or rubbed (like stale corn nuts or tortilla chips).
- **ATTENTION: May confuse with Arizona Black Walnut!**
 - deciduous tree with large fissures in bark
 - alternate, odd-pinnate leaves with finely toothed margins
 - Flowers in catkins and produces a hard fruit



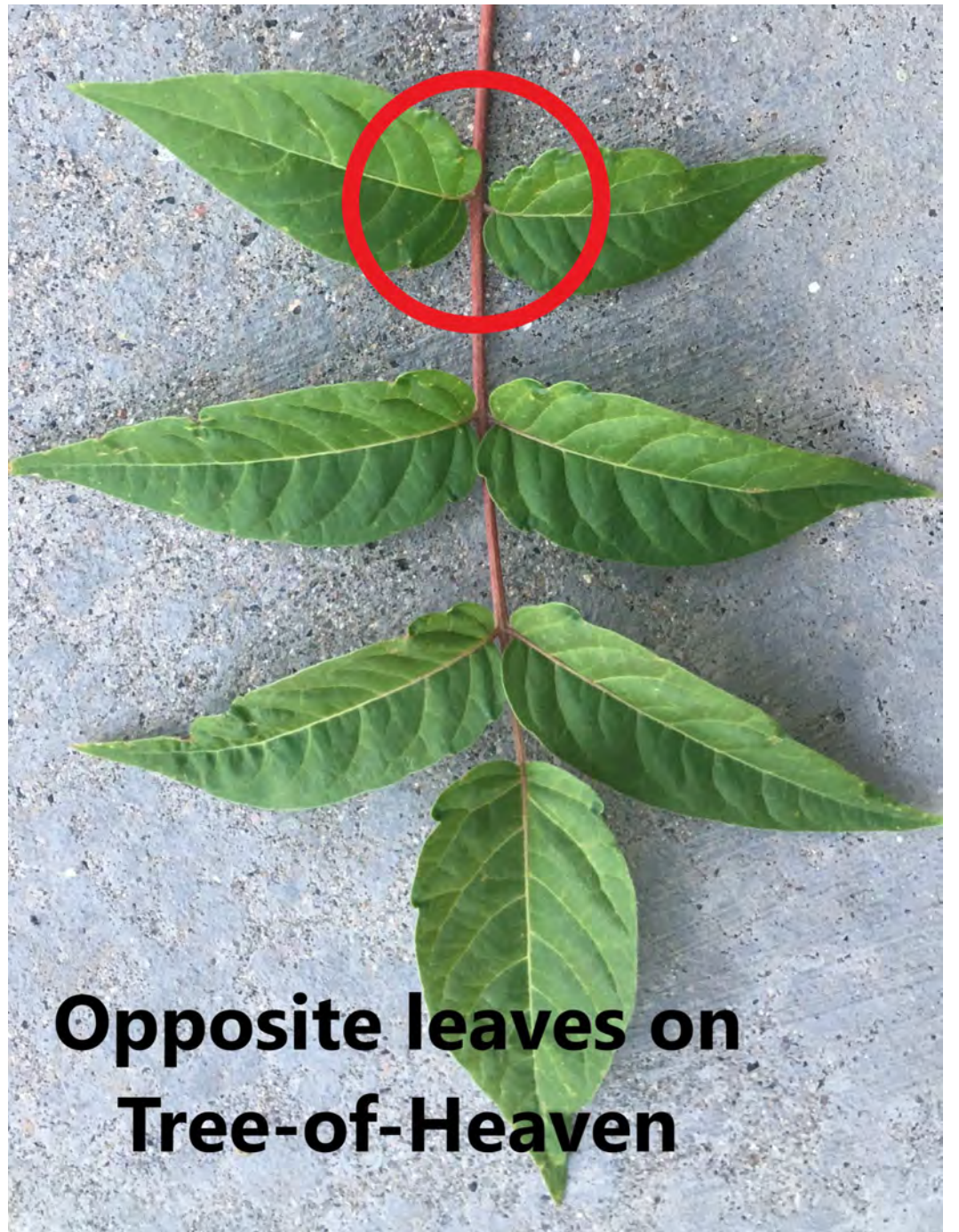
New Growth AZ Black Walnut



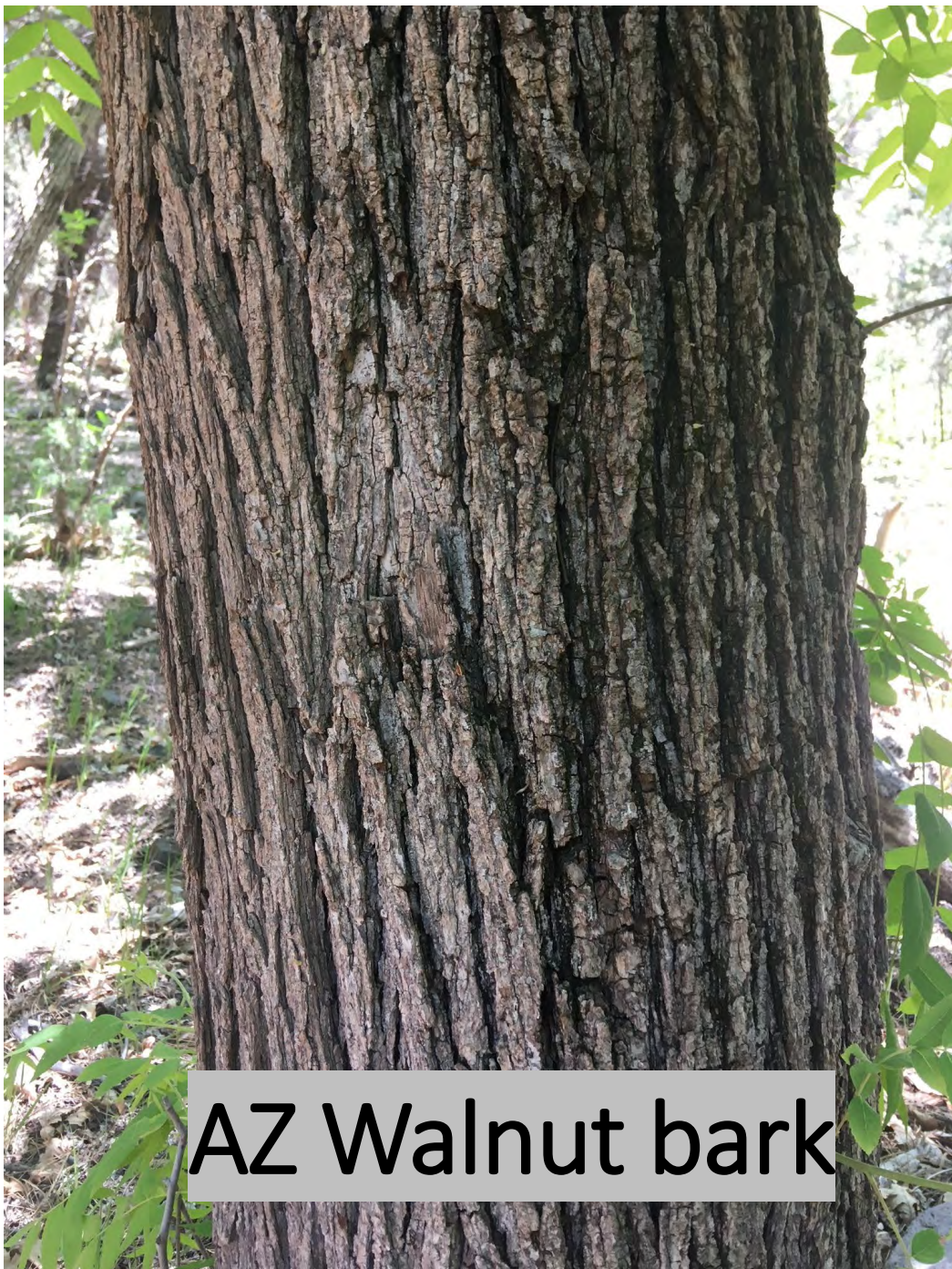
Tree-of-Heaven



**Alternate
leaves on
AZ Walnut**



**Opposite leaves on
Tree-of-Heaven**



AZ Walnut bark



Tree-of-Heaven bark

Uruguayan Pampas Grass

Cortaderia selloana

- Other Common Names: pampas grass
- General Description:
 - Very large, warm season, perennial bunchgrass.
 - Plant can reach heights of 6.5 to 23 feet.
 - Grows in moist places below elevations of 7,000 feet.
- Identifying Characteristics:
 - Flowers July to August with large white or white-pink plume-like panicle.
 - Super large grass with flowers/seed heads from 1 to 4 feet long.
 - Leaf blades are blue-green, mostly smooth surfaced, and v-shaped in cross section.



Photo credit: *Max Licher* @<http://swbiodiversity.org>



Photo credit: *Joy Viola*,
Northeastern University, Bugwood.org

Wild Oat

Avena fatua

- Other Common Names: common wild oat, wild oats
- General Description:
 - Cool season annual that grows quickly.
 - Reaches heights of 2-3 feet with seed heads.
 - Grows between 4,000-7,200 feet in elevation.
- Identifying Characteristics:
 - Flowers March to August.
 - Tall grass with drooping seed heads.
 - Awns are large (1-1.5 inches long) and twisted.



Photo credit: Francisco Anaya, Prescott N.F.

Yellow Bluestem

Bothriochloa ischaemum

- Other Common Names: king ranch bluestem, Texas yellow beardgrass, Turkestan bluestem
 - General Description:
 - Warm season, perennial, clump-forming yellow-green grass.
 - Can grow up to 4 feet tall
 - Identifying Characteristics:
 - Flowers June through July with silvery, red-purple inflorescence that mature from the bottom upwards.
 - Flower clusters are palmate and taller than central stem.
- *** May be confused with Little bluestem (*Schizachyrium scoparium*) and Cane beard grass (*Bothriochloa barbinodis*).



Photo credit: *Max Licher* @<http://swbiodiversity.org>

Yellow Starthistle

Centaurea solstitialis

- Other Common Names: golden starthistle, yellow cockspur, St. Barnaby's thistle
- General Description:
 - Annual, sometimes biennial, forb that resembles dandelion or knapweed.
 - Can grow up to 6 feet tall.
 - Grows in disturbed areas or prairie between 3,000-7,000 ft elevation.
- Identifying Characteristics:
 - Stems and leaves are gray-green with winged appearance.
 - Flowers May to December. Flowers are bright yellow with sharp thorns up to 1 inch long on bracts below flowerhead.



Photo credit: *Max Licher* @<http://swbiodiversity.org>

References

- CABI. “Invasive Species Compendium”. 2020. Wallingford, UK: CAB International. www.cabi.org/isc.
- Phillips, Kirstin Olmon. “A Northern Arizona Homeowner’s Guide to Identifying and Managing Invasive Plants”. 2016. The University of Arizona Cooperative Extension, Coconino County.
- Schalau, Jeff. “Yavapai County Native and Naturalized Plants”. Version 8.0. 2020. The University of Arizona Cooperative Extension, Yavapai County. <https://cals.arizona.edu/yavapaiplants/index.php>
- White, Mitchel R. “Invasive Plants and Weeds of the National Forests and Grasslands of the Southwestern Region”. 2011. USDA Forest Service, Southwestern Region, Apache-Sitgreaves National Forest.
- <https://www.nazinvasiveplants.org/>