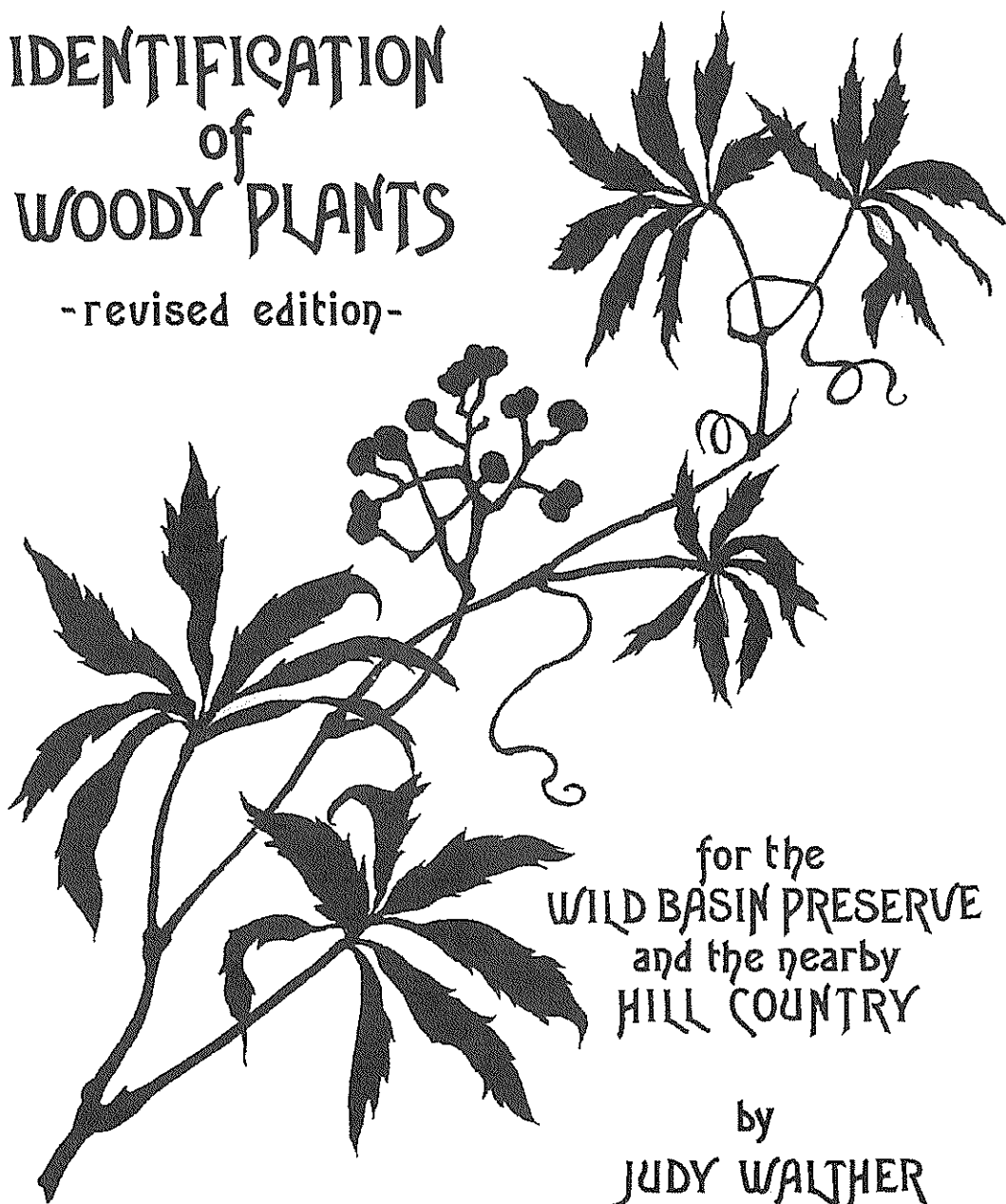


IDENTIFICATION of WOODY PLANTS

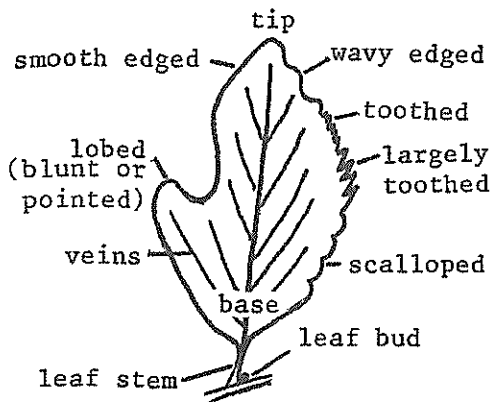
-revised edition-



for the
WILD BASIN PRESERVE
and the nearby
HILL COUNTRY

by
JUDY WALTHER

LEAF TERMINOLOGY



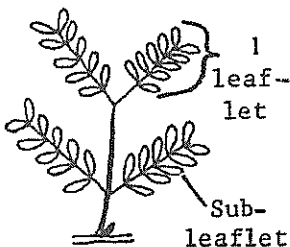
SIMPLE LEAF



COMPOUND LEAF
(ONCE PINNATE)



COMPOUND LEAF
(PALMATE)



COMPOUND LEAF
(TWICE-PINNATE)

IDENTIFICATION OF WOODY PLANTS FOR WILD BASIN AND THE NEARBY HILL COUNTRY

written and illustrated by
Judy Walther

published by Wild Basin Wilderness,
Incorporated

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revised edition 1983

cover by Lyova Rosanoff
(Seven-Leaf Creeper)

back cover map by Deborah McLouth

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This booklet has taken two years of writing and re-writing. I would like to thank the hundreds of teachers and students who tested out the key; thanks to the Wild Basin Wilderness Committee for providing an environment that offers a unique living educational laboratory; thanks to Janet Poage for her steady belief in and encouragement for this project; and more thanks than are possible to David Mahler for all his time, collaboration, ideas and energy.

INTRODUCTION

After beginning to develop an environmental education program for school groups and the general public, it became obvious that there was a real need to help people with no scientific background identify trees, shrubs and woody vines.

This booklet, therefore, is a beginner's field guide to the 87 woody plants of the Wild Basin Wilderness area. It is most useful in the limestone area of Travis County and the nearby hill country.

It is set up as a scientific key, which is a standard method for identifying plants. There is also a description of each plant's field identification, flower and fruit description, and preferred habitat.

The key, which is based almost entirely on leaf characteristics, is written in easy to understand language, and the few scientific terms used are defined in place, rather than in a glossary.

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FOLDING THE BOOKLET

This booklet has been designed as a handy guide for use in the field. After folding it down the middle, it will easily fit into a pocket.

fold booklet
lengthwise



VEGETATION OF WILD BASIN WILDERNESS

Wild Basin Wilderness is a 175 acre county park that has been designated a wilderness preserve. It is located in the Bee Creek drainage basin on the West Lake Peninsula, 6 miles from the capital. It is a prime example of the hill country environment with much of the typical original flora and fauna still in existence. Because it is at the juncture of several Texas habitats, it has a wide range of species found, including several rare trees, wildflowers and grasses.

At Wild Basin there are three main types of plant communities which have been identified and described.

Oak-Cedar Semi-Open Grassland

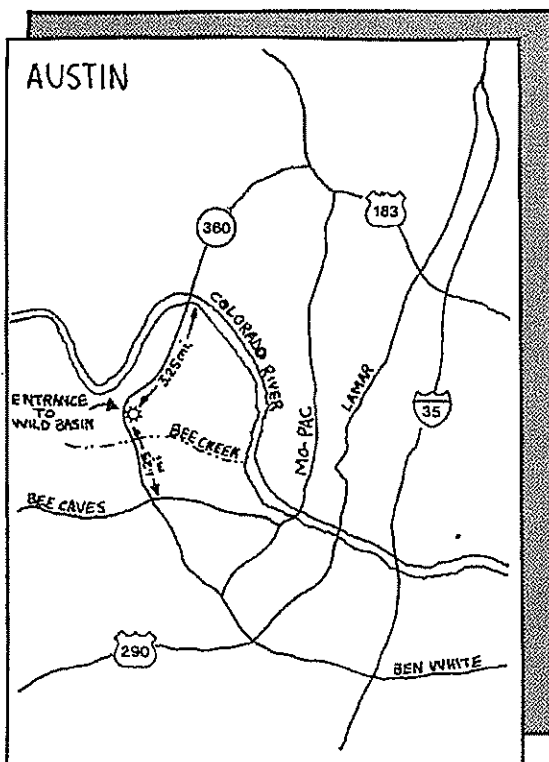
Trees and shrubs cover 10-25% of this area. The predominant trees are Cedar and Texas Oak, with lesser amounts of Live Oak, Silktassel, Evergreen and Lance-leaf Sumac, Mountain Laurel, Mimosa, Kidneywood, Madrone, Agarita, Redbud and Yaupon. This community is mostly found at elevations of 800'-900' and is controlled by dryness due to the porous limestone and exposure to the sun.

Oak-Cedar Woodland

This community is a thick woodland found mostly in the lower elevations of 700'-800'. It has most of the trees that are found in the grassland habitat. Due to shade and moisture there's more diversity, including: Black Cherry, Virginia Creeper, Cedar Elm, Elbow Bush, Grape, Greenbriar, Gum Elastic, Hackberry, Hoptree, Persimmon, Poison Ivy and Fragrant Sumac.

Streamside Community

This narrow community is found bordering Bee Creek. It has a rich soil and extra moisture which increases the variety in vegetation. Many of the trees found in the two other habitats extend all the way to the creek, but some are found almost exclusively by the creek, such as: Texas Ash, Red Buckeye, Dewberry, Sycamore, Walnut and Deciduous Yaupon.



HOW TO USE THIS BOOKLET

Most botanical keys are based on a plant's leaf, flower and fruit structure. In order to simplify the process of identification for people with little or no botanical background, this key is limited to the characteristics and shape of the leaves.

STEP 1: DEFINITION OF A WOODY PLANT

Make sure that the plant you are trying to identify is a woody plant. A woody plant is one whose stems live through the winter even though it may drop its leaves. An herbaceous plant is one whose stem dies or dies back to the ground during the winter.

STEP 2: PLANT CATEGORIES

Determine if the plant has a simple or a compound leaf. Look closely for the leaf bud, which is at the base of the leaf. Since the leaf bud is next year's new spring leaf, it will be easier or harder to locate depending upon the time of year. Once you have located the base of the leaf, look at its shape.

If you find a leaf that is one single, solid piece, it is called a simple leaf. If, however, the leaf is made up of many leaflets, it is called a compound leaf. You can tell the leaflets are not complete leaves because there are no buds at their bases. (See "Leaf Terminology," p.2)

STEP 3: LEAF GROWTH PATTERNS

Determine if the leaves (not the leaflets) grow opposite or alternate to each other on the stem.

STEP 4: FIND THE CORRECT KEY

There are 5 major leaf patterns in this booklet.

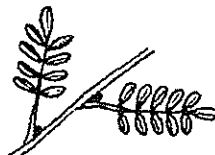
1. NEEDLE OR
SCALE-LIKE,
page 8



2. COMPOUND
OPPOSITE,
page 8



3. COMPOUND
ALTERNATE,
page 10



4. SIMPLE
OPPOSITE,
page 20



5. SIMPLE
ALTERNATE,
page 26



There is a separate key for each category listed above. After you determine the plant's category, turn to the indicated page for the beginning of that key.

HOW TO USE A KEY

A scientific key is a process of elimination. There are generally two choices for each question and you are to decide which is the correct one. Once you have made your choice, follow the dotted line across the page to find out which question to go to next.

Example: With a plant like this,



turn to the "Key to Simple Alternate Leaves." The key begins:

A. Vine B

A. Not a vine D

Your choice between the two A's would be "Vine." Then follow the dots to "B," which means you go to question B. If it had not been a vine, then you would have gone straight to question D. If there is a plant name instead of a letter, then you have finished keying out that plant.

For instance, continuing with the above drawn plant at question B:

B. Thorny Saw Greenbriar
(Smilax bonanox)

B. Not thorny C

Since the plant has thorns, you know it is Saw Greenbriar. If it was a vine without thorns, then you would have proceeded to question C.

PLANT DESCRIPTION

Once you have keyed the plant to its name, you will find its picture and a brief description of its field identification (fi), flowering dates and characteristics (fl), fruiting dates and characteristics (fr), and preferred habitat (hab).

Seventeen of the plants are listed as dioecious, which means that a single plant will have either male flowers or female flowers and fruit.

TROUBLE SPOTS

It is harder to determine leaf structure than one might think. Often leaves grow all bunched together or the leaf bud is miniscule. It takes a great deal of practice.

Hints: 1. Look for new growth. Sometimes a fast growing new branch is the place where growth pattern is easily visible.

2. Look all over the plant before making your decision. For instance, thorns may grow nearer to the ground or are scattered irregularly throughout the plant.

3. Leaves may be variable even on the same plant. Look at a number of leaves in order to get a general feeling for the shape.

4. The Ashes, Prickly Pears, some Grapes, Walnuts and Cherries have species that are so difficult to tell apart that they are not separated in the keys.

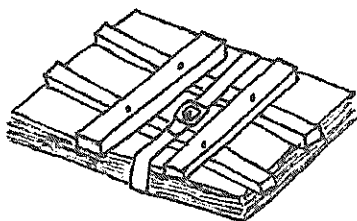
STARTING AN HERBARIUM

After learning how to identify plants, many people like to start an herbarium, which is a collection of pressed plants. The steps involve collecting, drying, pressing and mounting plant specimens.

Collecting: Use your discretion in choosing trees and plants for your collection. As a general rule, don't pick a flower unless there are 6 others within close proximity. Don't collect the root with a flower unless there are a dozen within close proximity. Pick enough of the plant so you can determine opposite or alternate leaf growth pattern.

CAUTION: COLLECTING PLANTS IN WILD BASIN IS NOT ALLOWED WITHOUT A PERMIT.

Pressing: Home-made presses can be made using layers of newspaper and cardboard. Nail slats of wood together for the outside and fasten it all together with a belt.



When placing the plant in its position for pressing, try to arrange it as naturally as possible. Place flower face up; place some leaves face up and some leaves face down. Spread the plant out so all its parts are visible. Include with each plant a dated slip of paper with plant location and habitat information.

Drying: The goal in pressing plants is to get the moisture out of the plant parts to prevent growth of mold or rot. Put the press near a light bulb or other mild heat source. The whole process should take three to ten days, unless the weather is unusually humid.

Mounting: Glue or tape the plants onto construction paper, thin cardboard, or herbarium mounting paper. Label the specimen with the scientific and common name, the plant family, where and when it was collected, name of collector, and ecological information (soil, slope, position, etc.).

PLANT LABEL:

SCIENTIFIC NAME: _____

COMMON NAME: _____

FAMILY: _____

DATE: _____

LOCATION: _____

COLLECTOR: _____

ECOLOGICAL INFORMATION: _____

KEY TO
NEEDLE OR SCALE-LIKE LEAVES

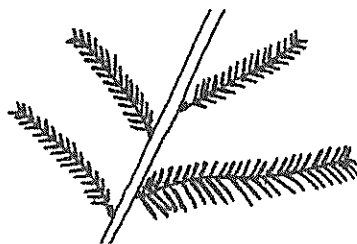
- A. Feather-like twigs with flat leaves,

BALD CYPRESS

- A. Scale-like leaves, evergreen, sharp spines on seedlings,

MOUNTAIN CEDAR

NEEDLE OR



BALD CYPRESS
(Taxodium distichum)

KEY TO
COMPOUND OPPOSITE LEAVES

- a. Leaves palmately compound . . .b

- a. Leaves pinnately compound . . .c

- b. Coarsely toothed, leaflets oval,
RED BUCKEYE

- b. Leaflets at least 3 times as long as wide, edges smooth or very slightly toothed,
LAVENDER CHASTE TREE

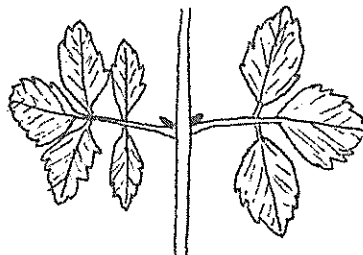
- c. Leaflets strongly toothed or lobed, hairy on underneath side, new branches green,
BOX ELDER

- c. Leaflets not lobed or strongly toothed,
RED ASH
or TEXAS ASH

COMPOUND



RED BUCKEYE
(Aesculus pavia)



BOX ELDER
(Acer negundo)

SCALE-LIKE

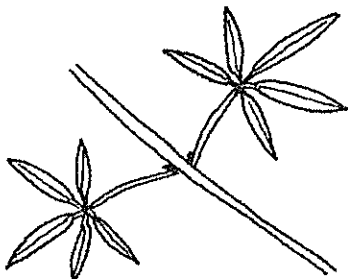


MOUNTAIN CEDAR
(Juniperus ashei)

BALD CYPRESS (Taxodium distichum)
Family: Taxodium (Taxodiaceae)
fi: deciduous cone-bearing tree to 130',
protruding "knees" grow up from roots
fl: Mar-Apr, small brown cones, 3-5" long
fr: Oct-Dec, rounded cone, 1" diameter
with thick scales
hab: near river banks

MOUNTAIN CEDAR (Juniperus ashei)
Family: Cypress (Cupressaceae)
fi: evergreen tree rarely to 30', mature
bark shaggy, scaled leaves, dioecious
fl: Dec-Jan, male: small, brown, at tips of
branches; female: inconspicuous
fr: Aug-Jan, female: blue berry-like fruit
hab: limestone hills

OPPOSITE



LAVENDER CHASTE TREE
(Vitex agnus-castus)

RED BUCKEYE (Aesculus pavia)
Family: Buckeye (Hippocastanaceae)
fi: small, rarely to 28', inclining stems
fl: Mar-May, red-orange tube-shaped clusters
fr: Sept-Oct, big leathery 1-3 seed capsule
hab: deep soils, shady areas on edge of
woods or near water

LAVENDER CHASTE TREE (Vitex agnus-castus)
Family: Verbena (Verbenaceae)
fi: scented tree to 30' with many trunks
fl: May-Sept, purple-white clusters at
ends of branches
fr: June-Sept, brown-black clusters
hab: dry sunny locations in various soils,
non-native



RED ASH
(Fraxinus pennsylvanica)

TEXAS ASH
or (Fraxinus texensis)

BOX ELDER (Acer negundo)
Family: Maple (Aceraceae)
fi: tree to 75', rounded crown, dioecious
fl: Mar-May, drooping, inconspicuous, green
fr: Aug-Oct, green, U-shaped, double winged
hab: riverbanks, floodplains, prefers half
shade, tolerates poor soil

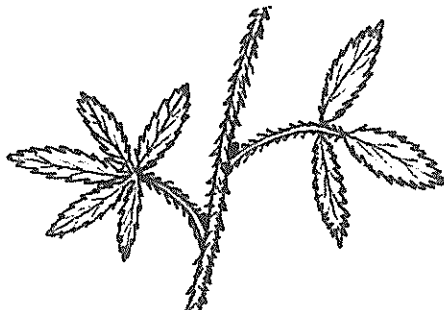
RED ASH (Fraxinus pennsylvanica)
or TEXAS ASH (Fraxinus texensis)
Family: Olive (Oleaceae)
fi: spreading round-topped tree to 50-70',
Red Ash: dioecious
fl: Mar-May, green-purple inconspicuous
clusters
fr: Aug-Sept, green single winged
hab: near water

KEY TO
COMPOUND ALTERNATE LEAVES

WARNING: USE CAUTION IN DETERMINING
POISON IVY

- A. Trifoliate (3 leaflets)B
A. More than 3 leaflets.H
B. Vine.C
B. Not a vine.E
C. Thorny, 3-5 leaflets,
 SOUTHERN DEWBERRY
C. Not thorny.D
D. Trifoliate or deeply lobed,
 fleshy leaflets,
 COW-ITCH VINE
D. End leaflet longer stem than
 side leaflets, edges toothed
 and often slightly lobed,
 POISON IVY
E. Leaflets lobed or toothed . . .F
E. Edges smooth or slightly wavy,
 all start at same point, some-
 times 5 leaflets,
 HOP TREE
F. Hard spines on tips of lobes,
 tough leaflets,
 AGARITA
F. Not spiny or tough.G
G. Wavy, scalloped edged leaflets,
 FRAGRANT SUMAC
G. End leaflet longer stem than
 side leaflets, edges toothed
 and often slightly lobed,
 POISON IVY

COMPOUND



SOUTHERN DEWBERRY
(Rubus trivialis)

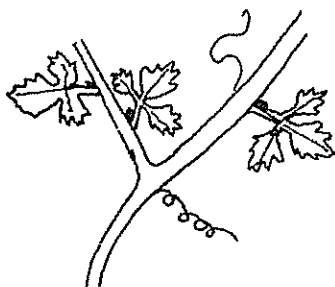


POISON IVY
(Rhus toxicodendron)



AGARITA
(Berberis trifoliolata)

ALTERNATE



COW-ITCH VINE
(Cissus incisa)



HOP TREE
(Ptelea trifoliata)



FRAGRANT SUMAC
(Rhus aromatica)

SOUTHERN DEWBERRY (Rubus trivialis)

Family: Rose (Rosaceae)

fi: trailing vine with hairs and prickles

fl: Mar-Apr, white broad flower

fr: June-July, black juicy edible fruit

hab: sandy, sunny moist locations

COW-ITCH VINE (Cissus incisa)

Family: Grape (Vitaceae)

fi: green vine, woody at base, strong odor

fl: May-Aug, greenish clusters

fr: June-Sept, shiny black berries

hab: prefers shade

POISON IVY (Rhus toxicodendron)

Family: Sumac (Anacardiaceae)

fi: poisonous erect shrub or vine

fl: Apr-May, fragrant, green-white clusters

fr: June-July, waxy white, clusters

hab: moist areas, partial sun

HOP TREE (Ptelea trifoliata)

Family: Citrus (Rutaceae)

fi: shrub or small tree to 25', pungent odor

fl: Mar-July, small green-white, clusters

fr: Aug-Sept, green-brown round wafer

with seed in the center

hab: edges of woods and streams, drought

resistant, along roads

AGARITA (Berberis trifoliolata)

Family: Barberry (Berberidaceae)

fi: dense evergreen shrub to 10', yellow wood

fl: Feb-Apr, small yellow flower in clusters

fr: June-July, flatish red berry

hab: dry hillsides, thickets and open woods

FRAGRANT SUMAC (Rhus aromatica)

Family: Sumac (Anacardiaceae)

fi: irregular shaped aromatic shrub to 8'

fl: Apr-June, yellow clusters at ends of branches

fr: July-Aug, red fuzzy fruit

hab: limestone hills, woods, full to partial

sun, dry or moist soil

NOTES:

COMPOUND ALTERNATE CONTINUED

H. Leaves palmately compound . . .I

H. Leaves pinnately compound . . .K

I. Thorny stem close to ground,
usually 5, sometimes 3 slender,
toothed leaflets,

SOUTHERN DEWBERRY

I. Not thorny.J

J. Vine, 5 leaflets, egg shaped or
oblong, less than twice as long
as wide,

VIRGINIA CREEPER

J. Vine, 5-8 slender, oblong leaf-
lets, at least twice as long
as wide,

SEVEN LEAF CREEPER

K. Twice pinnately compound. . . .L

K. Once pinnately compoundQ

L. Subleaflets smooth edged. . . .M

L. Subleaflets toothedO

M. Subleaflets 1" or more, only 2
leaflets off the main stem,
large spines at base of leaf,

HONEY MESQUITE

M. Small thorns on branches, sub-
leaflets less than $\frac{1}{2}$ " in
length.N

N. 6-12 leaflets, (remember: The
leaflets are composed of sub-
leaflets. See page 2.),

CAT'S CLAW

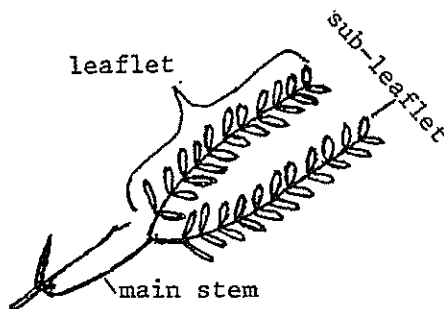
N. 2-6 leaflets, (remember: The
leaflets are composed of sub-
leaflets. See page 2.),

PINK MIMOSA

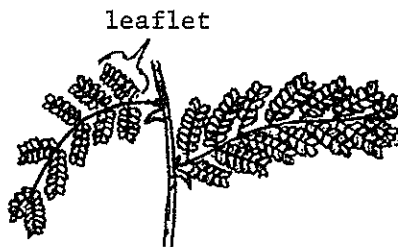
COMPOUND



SOUTHERN DEWBERRY
(Rubus trivialis)

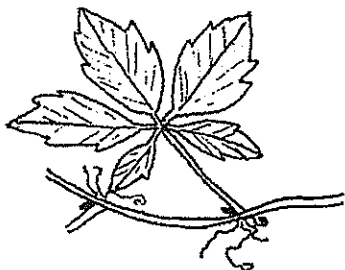


HONEY MESQUITE
(Prosopis glandulosa)



CAT'S CLAW
(Mimosa biuncifera)

ALTERNATE



VIRGINIA CREEPER
(Parthenocissus quinquefolia)



SEVEN LEAF CREEPER
(Parthenocissus heptaphylla)

leaflet



PINK MIMOSA
(Mimosa borealis)

SOUTHERN DEWBERRY (Rubus trivialis)

Family: Rose (Rosaceae)

fi: trailing vine with hairs and prickles

fl: Mar-Apr, white broad flower

fr: June-July, black juicy edible fruit

hab: sandy, sunny moist locations

VIRGINIA CREEPER(Parthenocissus quinquefolia)

Family: Grape (Vitaceae)

fi: climbing vine, sometimes dioecious

fl: June-July, greenish, inconspicuous clusters

fr: Sept-Oct, green-blue berries in clusters

hab: well-drained soil, sun, shade, woods, rocky banks

SEVEN LEAF CREEPER (Parthenocissus heptaphylla)

Family: Grape (Vitaceae)

fi: climbing vine to 30', sometimes dioecious

fl: June-July, greenish clusters

fr: Sept-Oct, blue-black berries in clusters

hab: rocky or sandy soil

HONEY MESQUITE (Prosopis glandulosa)

Family: Legume (Leguminosae)

fi: thorny tree to 30', branches hanging down

fl: May-Sept, small yellow-green, on spikes

fr: Aug-Sept, long flattened brown pod

hab: open pastures, sparsely wooded areas

CAT'S CLAW (Mimosa biuncifera)

Family: Legume (Leguminosae)

fi: spiny shrub to 8', drought resistant

fl: May-June, fragrant pink-white, round heads

fr: Aug-Sept, flat pod sometimes prickly, constricted between seeds

hab: sunny, dry hills, sandy soil

PINK MIMOSA (Mimosa borealis)

Family: Legume (Leguminosae)

fi: spiny shrub to 6'

fl: June-Aug, pink showy fragrant round heads

fr: June-Aug, flat pod, a few prickles, constricted between seeds

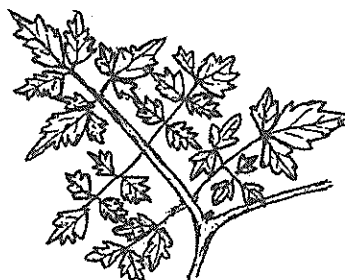
hab: limestone hills

NOTES:

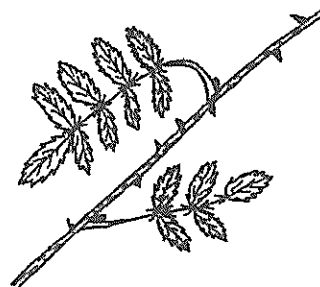
COMPOUND ALTERNATE CONTINUED

- O. Vine with tendrils, toothed on the upper half of the diamond shaped subleaflets,
PEPPERVINE
- O. Large leaves up to 1½' long, subleaflets toothed along entire edge,
CHINABERRY
- P. Spines of leaf stems, strong odor when leaves are crushed,
TOOTHACHE TREE
- P. No spines on the plant.Q
- Q. Toothed along entire edge of leafletR
- Q. Edge of leaflets smooth of somewhat toothed.T
- R. Leaves aromatic when crushedS
- R. Leaves not aromatic, leaflets egg shaped, with wide end at base, 3-9 leaflets, usually many trunks,
MEXICAN BUCKEYE
- S. 9-13 tapering, slender leaflets, often concave on 1 edge, convex on other, like a scythe, pith-center of twigs is chambered,
ARIZONA WALNUT
or LITTLE WALNUT
- S. Leaflets tapering to narrow point, coarsely toothed, 9-17 leaflets,
PECAN

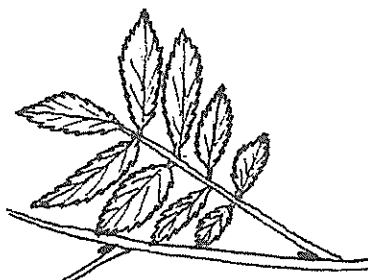
COMPOUND



PEPPERVINE
(Ampelopsis arborea)



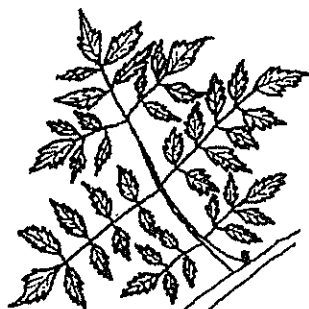
TOOTHACHE TREE
(Zanthoxylum hirsutum)



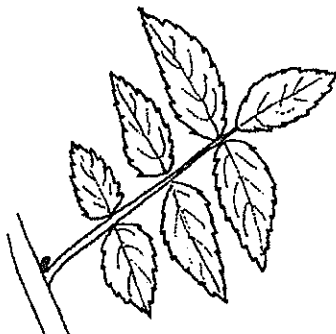
ARIZONA WALNUT
(Juglans major) or

LITTLE WALNUT
(Juglans microcarpa)

ALTERNATE



CHINABERRY
(Melia azedarach)



MEXICAN BUCKEYE
(Ungnadia speciosa)



PECAN
(Carya illinoensis)

PEPPERVINE (Ampelopsis arborea)

Family: Grape (Vitaceae)

fi: climbing shrub with tendrils

fl: June-Aug, inconspicuous green-white clusters

fr: Sept-Oct, blue-black flattish clusters

hab: wet areas, variety of soils

CHINABERRY (Melia azedarach)

Family: Mahogany (Meliaceae)

fi: tree to 45'

fl: Mar-May, purplish loose clumps

fr: Sept-Oct, yellow-white drooping clusters

hab: escape from cultivation, non-native

TOOTHACHE TREE (Zanthoxylum hirsutum)

Family: Citrus (Rutaceae)

fi: shrub to 15', dioecious

fl: Mar-May, yellow green in clusters at ends of branches

fr: Sept-Oct, brown capsules in clusters

hab: brushy areas, gravelly or sandy soil

MEXICAN BUCKEYE (Ungnadia speciosa)

Family: Soapberry (Sapindaceae)

fi: tree to 30', branches spreading up

fl: Mar-Apr, appear before or with leaves, pink fragrant clusters

fr: May-June, woody pod with three chambers

hab: rocky slopes, partial or full sun

ARIZONA WALNUT (Juglans major)

or LITTLE WALNUT (Juglans microcarpa)

Family: Walnut (Juglandaceae)

fi: tree to 50', wide spreading at top

fl: Mar-Apr, greenish hanging spikes

fr: Apr-May, brown nut (Arizona: 1-1½";

Little: ½-¾")

hab: near water, full or partial sun

PECAN (Carya illinoensis)

Family: Walnut (Juglandaceae)

fi: tree to 150', broad crown

fl: Mar-May, yellowish hanging spikes

fr: Sept-Oct, brown nut

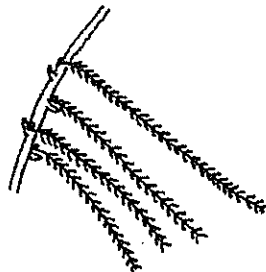
hab: along streams and bottomlands, rich soils

NOTES:

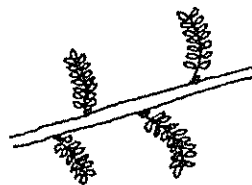
COMPOUND ALTERNATE CONTINUED

- T. Leaflets generally less than $\frac{1}{2}$ " long.U
- T. Leaflets generally more than $\frac{1}{2}$ " long.W
- U. Thorny, about 60 leaflets on a leaf, noticeable green bark,
JERUSALEM THORN
- U. Not thornyV
- V. Fragrant when crushed, 11-47 leaflets,
TEXAS KIDNEYWOOD
- V. Not fragrant, 11-17 leaflets,
BLACK DALEA
- W. Leaflets and leaf stalk very fuzzy, velvety, oval with small soft spine at tip, no end leaflet,
LINDHEIMER SENNA
- W. Leaflets and leaf stem not very fuzzyX
- X. Leaflets generally pointed at the tipsY
- X. Leaflets generally blunt tippedBB
- Y. Leaflets from $\frac{1}{2}$ to $1\frac{1}{2}$ " long. . Z
- Y. Leaflets from 1-4" long. . .AA

COMPOUND

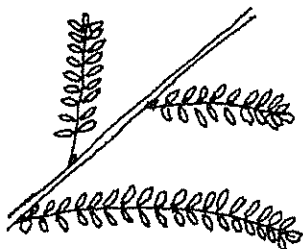


JERUSALEM THORN
(Parkinsonian aculeata)

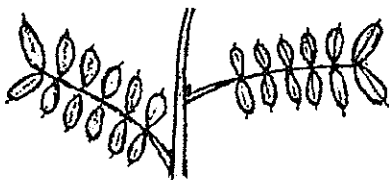


BLACK DALEA
(Dalea frutescens)

ALTERNATE



TEXAS KIDNEYWOOD
(Eysenhardtia texana)



LINDHEIMER SENNA
(Cassia lindheimeriana)

JERUSALEM THORN (Parkinsonian aculeata)

Family: Legume (Leguminosae)

fi: thorny tree to 36', green bark

fl: Apr-Aug, yellow, fragrant, one petal red

fr: May-Aug, drooping long pod, constricted between the seeds

hab: moist sandy soils, non-native

TEXAS KIDNEYWOOD (Eysenhardtia texana)

Family: Legume (Leguminosae)

fi: angular shrub to 8', pungent odor

fl: May through summer after rains,

whitish yellow on stalks at ends of branches

fr: Sept-Oct, green-brown pod growing upward

hab: well drained dry hills, full sun, tolerates partial shade

BLACK DALEA (Dalea frutescens)

Family: Legume (Leguminosae)

fi: shrub to 3', wide spreading branches

fl: Aug-Oct, violet clumps at branch ends

fr: Sept-Nov, brownish pod

hab: dry soil, full sun, rocky hills

LINDHEIMER SENNA (Cassia lindheimeriana)

Family: Legume (Leguminosae)

fi: velvety bush to 3'

fl: June-Sept, yellow clusters

fr: Sept-Nov, pod

hab: dry hillsides, limestone soils

NOTES:

COMPOUND ALTERNATE CONTINUED

- Z. Leaflets rounded at tip or sometimes abruptly pointed, 9-27 leaflets,

INDIGO-BUSH AMORPHA

- Z. Leaflets come to definite but not elongated point, 5-9 leathery leaflets,

EVERGREEN SUMAC

- AA. Often wings on leaf stem, leaflets always grow opposite each other, leaflets sometimes slightly toothed,

LANCE-LEAF SUMAC

- AA. Leaflets grow in a somewhat alternate pattern, never toothed, usually no end leaflet,

SOAPBERRY

- BB. Stems of leaflets 3/4-2" long, leaflets 1/3-4/5" wide, leaflets rounded at tip or sometimes abruptly pointed,

INDIGO-BUSH AMORPHA

- BB. Leaflets on short or no stem CC

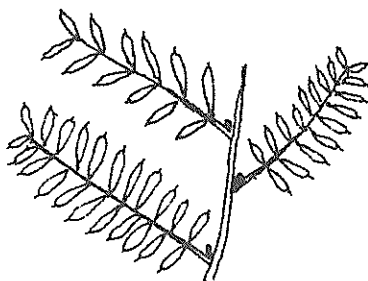
- CC. Stems of leaflets 1/8-1/4" long, leaflets thin, light green, not glossy, leaf stalk slightly hairy, leaf 3-9" long, 9-19 leaflets,

EVE'S NECKLACE

- CC. Leaflets on short or no stem, leaflets thick, dark, glossy leaf 4-6" long, 5-13 leaflets,

TEXAS MOUNTAIN LAUREL

COMPOUND



INDIGO-BUSH AMORPHA
(Amorpha fruticosa)

often wings



LANCE-LEAF SUMAC
(Rhus lanceolata)

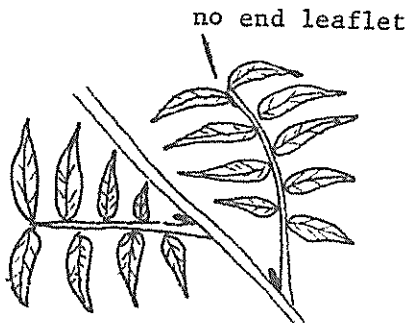


EVE'S NECKLACE
(Sophora affinis)

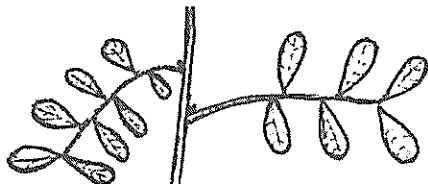
ALTERNATE



EVERGREEN SUMAC
(Rhus virens)



SOAPBERRY
(Sapindus saponaria)



TEXAS MOUNTAIN LAUREL
(Sophora secundiflora)

INDIGO-BUSH AMORPHA (Amorpha fruticosa)

Family: Legume (Leguminosae)

fi: shrub to 18', variable in shape

fl: May-June, purple hanging clusters

fr: Aug-Sept, small pod

hab: moist soils, calcareous soils, full to partial sun

EVERGREEN SUMAC (Rhus virens)

Family: Sumac (Anacardiaceae)

fi: evergreen shrub to 12'

fl: Aug-Sept, white-green clusters

fr: Sept-Dec, red hairy fruits in clusters

hab: rocky hills and cliffs

LANCE-LEAF SUMAC (Rhus lanceolata)

Family: Sumac (Anacardiaceae)

fi: shrub or tree to 30', often several trunks

fl: Aug-Sept, greenish yellow in clumps

fr: Sept-Nov, dark red clumps

hab: limestone, wood and road edges, full sun

SOAPBERRY (Sapindus saponaria)

Family: Soapberry (Sapindaceae)

fi: tree to 50', rounded crown

fl: May-June, white clusters

fr: Sept-Oct, yellow translucent berry

hab: moist rocky soils

EVE'S NECKLACE (Sophora affinis)

Family: Legume (Leguminosae)

fi: tree to 25', slender branches

fl: June, pinkish white loose clusters

fr: Aug, black hairy pod, very constricted between seeds

hab: limestone soils, hillsides or along streams, full or partial sun

TEXAS MOUNTAIN LAUREL (Sophora secundiflora)

Family: Legume (Leguminosae)

fi: evergreen tree to 35'

fl: Feb-Apr, purple fragrant clusters

fr: Sept, woody pod with bright red seed

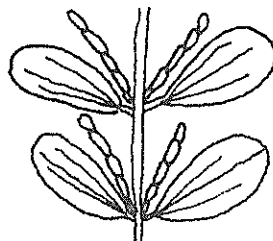
hab: rocky slopes, limestone soils, full sun

NOTES:

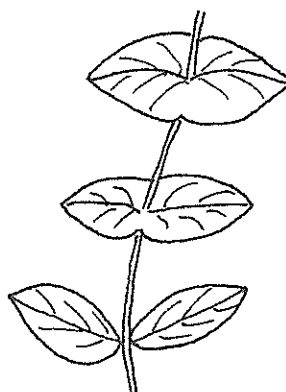
KEY TO
SIMPLE OPPOSITE LEAVES

- a. Plant without roots, grows as semi-parasite attached to tree branches,
MISTLETOE
- a. Plants with roots in the ground b
- b. Vine c
- b. Not a vine e
- c. End leaves usually joined together d
- c. End leaves never joined together, somewhat evergreen, base of leaf rounded, hairs sometimes on edge of leaf,
JAPANESE HONEYSUCKLE
- d. End 2 pairs of leaves joined together, leathery dark green shiny leaves slightly hairy underneath, stems green to red,
CORAL HONEYSUCKLE
- d. End pair of leaves usually joined together, olive green leaves, not hairy, stems grey-brown to white,
WHITE HONEYSUCKLE
- e. Edge always smooth f
- e. Edge of all or most leaves toothed j
- f. End pair of leaves usually joined, sometimes a vine,
WHITE HONEYSUCKLE
- f. Leaves not joined together . . g

SIMPLE

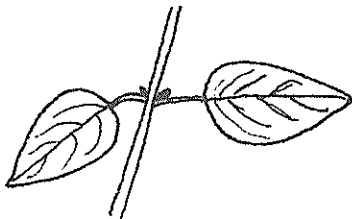


MISTLETOE
(Phoradendron tomentosum)

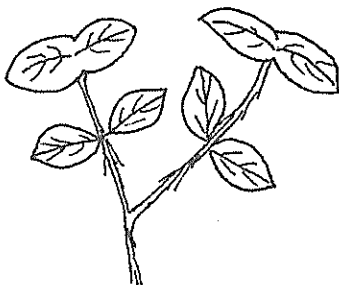


CORAL HONEYSUCKLE
(Lonicera sempervirens)

OPPOSITE



JAPANESE HONEYSUCKLE
(Lonicera japonica)



WHITE HONEYSUCKLE
(Lonicera albiflora)

MISTLETOE (Phoradendron tomentosum)

Family: Mistletoe (Viscaceae)

fi: semiparasitic shrub, dioecious

fl: May-July, 1-2" long fleshy jointed spikes

fr: Nov-Apr, white berry

hab: usually grows on oak trees

JAPANESE HONEYSUCKLE (Lonicera japonica)

Family: Honeysuckle (Caprifoliaceae)

fi: woody twining half-evergreen vine

often to 18' long

fl: June-Aug, long tubular white, pink or

later yellow

fr: Sept-Mar, black berries

hab: moist ground, streams, fences, wood

edge, non-native

CORAL HONEYSUCKLE (Lonicera sempervirens)

Family: Honeysuckle (Caprifoliaceae)

fi: evergreen shrubby vine to 18'

fl: Apr-May, red-yellow, trumpet shaped, 2"

fr: Sept-Oct, red-orange berry, clusters

hab: low, moist areas

WHITE HONEYSUCKLE (Lonicera albiflora)

Family: Honeysuckle (Caprifoliaceae)

fi: semi-evergreen shrub or vine to 9'

fl: Mar-May, white-yellow, tubular

fr: Sept-Nov, dark berries

hab: dry areas, drought resistant

NOTES:

SIMPLE OPPOSITE CONTINUED

- g. Often a third leaf grows at the same point as each pair of leaves (whorled), oblong leaf on short stem about $\frac{1}{4}$ " long,

BUTTON BUSH

- g. Only 2 leaves growing opposite each other h

- h. Leaves always end at very extended, narrow point, veins underneath usually prominent, almost parallel to the main center vein,

ROUGHLEAF DOGWOOD

- h. Leaves may be pointed but not extended to narrow point, veins noticeable but not prominent . . i

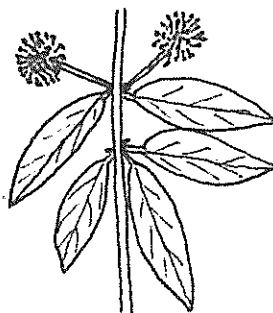
- i. Leaves fuzzy underneath, leaves variable in shape but often rounded at tip, 1-2 $\frac{1}{2}$ " long,

LINDHEIMER SILKTASSEL

- i. Leaves usually smooth underneath, tip of leaves always pointed, 2-4 $\frac{1}{2}$ " long,

LIGUSTRUM

SIMPLE



BUTTON BUSH

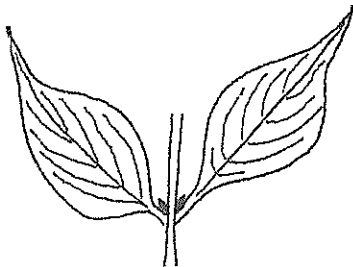
(Cephalanthus occidentalis)



LINDHEIMER SILKTASSEL

(Garrya lindheimeri)

OPPOSITE



ROUGHLEAF DOGWOOD
(Cornus drummondii)



LIGUSTRUM
(Ligustrum japonicum)

BUTTON BUSH (Cephalanthus occidentalis)
Family: Madder (Rubiaceae)
fi: shrub or tree to 18', often swollen at the base

fl: June-Sept, white rounded heads
fr: Sept-Oct, red-brown round cluster of nuts

hab: low-wet areas, prefers full sun

ROUGHLEAF DOGWOOD (Cornus drummondii)

Family: Dogwood (Cornaceae)

fi: irregularly branched shrub/tree to 15'

fl: May-Aug, yellow-white, 4 petals, clustered

fr: Aug-Oct, small, white berry-like, 1/4" round

hab: limestone hills

LINDHEIMER SILKTASSEL (Garrya lindheimeri)

Family: Dogwood (Cornaceae)

fi: evergreen shrub, 2-18' tall

fl: Mar-May, male: green or pink, resembles corn silk; female: inconspicuous

fr: Sept-Nov, blue-purple, berry-like

hab: limestone hills

LIGUSTRUM (Ligustrum japonicum)

Family: Olive (Oleaceae)

fi: shrub or small evergreen tree to 35'

tall, trunks often clumped

fl: June-Aug, many small white flowers in terminal branched clusters

fr: Sept-Nov, blue-black, oval, berry-like

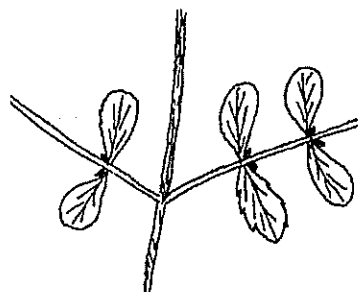
hab: escape from cultivation, non-native

NOTES:

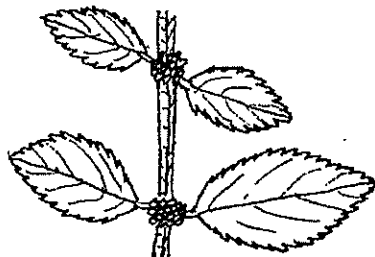
SIMPLE OPPOSITE CONTINUED

- j. Tips of leaves both rounded and pointed, toothed and smooth edged leaves on spindly bush, branches often at right angles,
ELBOW BUSH
- j. Leaves pointed at tip and always toothed k
- k. Leaves hairy to the touch . . . 1
- k. Leaves smooth on top side or very slightly hairy m
1. Leaves large toothed, new stems very rough, sometimes thorny, leaves $\frac{1}{2}$ -2 $\frac{1}{2}$ " long,
LANTANA
or PURPLE LANTANA
1. Stems smooth or somewhat matted with hair, leaves 2-9" long,
AMERICAN BEAUTYBERRY
- m. Three main veins from base of leaf,
SHRUBBY BONESET
- m. One main vein n
- n. Leaves finely toothed, teeth rough to the touch, oval or egg shaped,
VIBURNUM
- n. Leaves slender, teeth on leaves triangular shaped, flowers on stalks 4-12" above leaves,
WAND BUTTERFLY BUSH

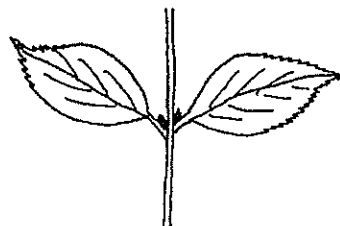
SIMPLE



ELBOW BUSH
(Forestiera pubescens)

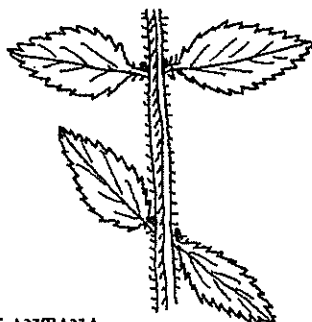


AMERICAN BEAUTYBERRY
(Callicarpa americana)



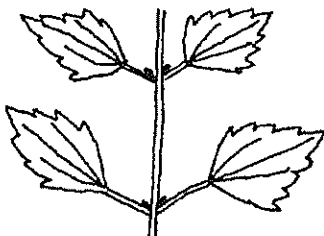
VIBURNUM
(Viburnum rufidulum)

OPPOSITE



LANTANA
(Lantana horrida)
or

PURPLE LANTANA
(Lantana montevidensis)



SHRUBBY BONESET
(Eupatorium havanense)



WAND BUTTERFLY BUSH
(Buddleja racemosa)

ELBOW BUSH (Forestiera pubescens)

Family: Olive (Oleaceae)

fi: irregularly shaped shrub or tree to 15', usually dioecious

fl: Feb-Apr, inconspicuous, green, before leaves

fr: June-Oct, fleshy, blue-black, clustered

hab: open, brushy prairies, edge of woods

LANTANA (Lantana horrida)

Family: Verbena (Verbenaceae)

fi: prickly, hairy, low herb or shrub to 6'

fl: Apr-Oct, clusters of red, orange or yellow rounded heads

fr: Aug-Sept, fleshy, blue, on hairy stalks

hab: sandy soil, scrub or gravelly hills

PURPLE LANTANA (Lantana montevidensis)

Family: Verbena (Verbenaceae)

fi: prickly, hairy, low herb or prostrate shrub to 3'

fl: Feb-June, clusters of purple rounded heads

fr: Mar-July, fleshy, blue

hab: roadsides, fencelines, mostly in east Tex

AMERICAN BEAUTYBERRY (Callicarpa americana)

Family: Verbena (Verbenaceae)

fi: hairy small shrub to 9' with gray bark

fl: June-Nov, inconspicuous green, white clumps at base of leaves

fr: Aug-Dec, fleshy bright purple clumps

hab: in thickets, underneath other plants, in poor but not arid soils

SHRUBBY BONESET (Eupatorium havanense)

Family: Sunflower (Compositae)

fi: slender spreading branches, to 6'

fl: Sept-Oct, white or pink fragrant clusters at ends of branches

fr: Oct-Nov, black five ribbed hard fruit

hab: limestone hills, rocky soils near water, full or partial sun

VIBURNUM (Viburnum rufidulum)

Family: Honeysuckle (Caprifoliaceae)

fi: irregularly branched shrub/tree to 40'

fl: Apr-June, flat, white, in clusters

fr: July-Oct, drooping clusters, blue/black

hab: variety of soils, wet or dry, grows best underneath other plants

WAND BUTTERFLY BUSH (Buddleja racemosa)

Family: Logania (Loganiaceae)

fi: loosely branched, to 3'

fl: June-Aug, fuzzy yellow-white on a stem up to 12" long, above the leaves

fr: Aug-Sept, hard brownish capsules

hab: on rocks and crevices

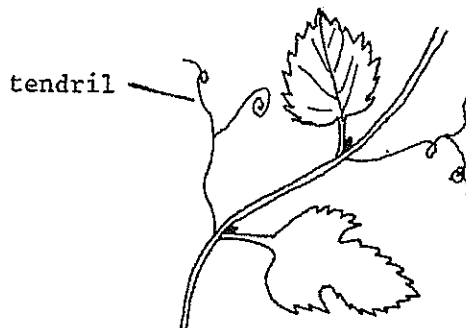
KEY TO
SIMPLE ALTERNATE LEAVES

- A. Woody vine B
- A. Not a vine G
- B. Thorny,
 SAW GREENBRIAR
- B. Not thorny C
- C. Tendrils (twisting projections
 used to holdfast) D
- C. No tendrils F
- D. Fleshy leaflets, trifoliate
 (3 leaflets) or deeply lobed,
 COW-ITCH VINE
- D. Leaves not fleshy E
- E. Underneath side of leaf thickly
 matted with hair,
 MUSTANG GRAPE
- E. Underneath side of leaf smooth
 or somewhat hairy,
 SAND GRAPE
 or WINTER GRAPE
- F. Prominent parallel veins on
 underside of oblong shaped leaf,
 RATTANVINE
- F. Hairy on underside of leaf,
 heart shaped or somewhat lobed,
 CAROLINA SNAILSEED
- G. Succulent (fleshy) cactus
 with spines H
- G. Not a succulent I

SIMPLE



SAW GREENBRIAR
(Smilax bonanox)

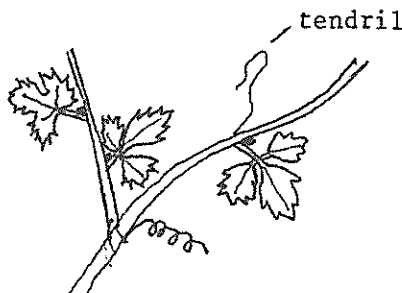


MUSTANG GRAPE
(Vitis mustangensis)

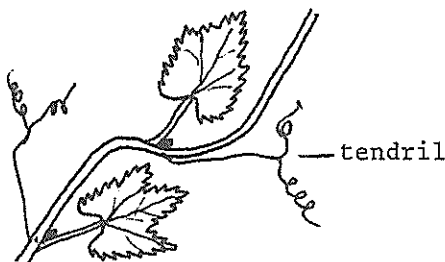


RATTANVINE
(Berchemia scandens)

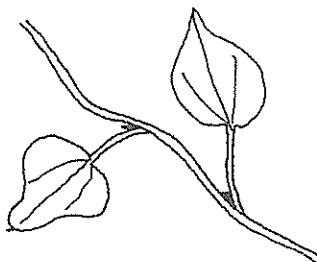
ALTERNATE



COW-ITCH VINE
(Cissus incisa)



SAND GRAPE
(Vitis repens)
or WINTER GRAPE
(Vitis berlandieri)



CAROLINA SNAILSEED
(Cocculus carolinus)

SAW GREENBRIAR (Smilax bonanox)

Family: Lily (Liliaceae)

fi: spiny woody vine

fl: Apr-June, inconspicuous, base of leaves

fr: Sept-Nov, black berries in clumps at base of leaves

hab: thickets, field, floodplains,

hillsides, prefers shade

COW-ITCH VINE (Cissus incisa)

Family: Grape (Vitaceae)

fi: green vine, woody at base, strong odor

fl: May-Aug, greenish clusters

fr: June-Sept, shiny black berries

hab: prefers shade

MUSTANG GRAPE (Vitis mustangensis)

Family: Grape (Vitaceae)

fi: high climbing vine to 40'

fl: May-June, small reddish-green

fragrant clusters

fr: June-Aug, dark purple to black grapes

hab: stream bottoms, fences, edges of woods, sands and limey slopes

SAND GRAPE (Vitis repens)

or WINTER GRAPE (Vitis berlandieri)

Family: Grape (Vitaceae)

fi: stocky vine to 8'

fl: May-July, small green-yellow clusters

fr: June-Oct, small black or purple grapes

hab: calcareous and sandy soils, full sun, limestone hills, creek bottoms

RATTANVINE (Berchemia scandens)

Family: Buckthorn (Rhamnaceae)

fi: twining green stemmed vine

fl: Mar-June, green-yellow loose clusters

fr: July-Oct, blue-black, oblong, clusters

hab: rich moist soil

CAROLINA SNAILSEED (Cocculus carolinus)

Family: Moonseed (Menispermaceae)

fi: slender vine with wire-like stems

fl: Aug-Sept, green-white clusters

fr: Sept-Nov, bright red, clusters

hab: fences, edges of roads and woods, well-drained moist soil, full sun

NOTES:

SIMPLE ALTERNATE CONTINUED

- H. Stems flattened into pear shaped joints,

PRICKLY PEAR CACTUS

- H. Stems cylindrical, about $\frac{1}{2}$ " in diameter, joints varying from 1" to 1',

PENCIL CACTUS

- I. Obvious smooth, peeling, reddish bark, stem of leaf about $\frac{1}{3}$ the length of the leaf,

TEXAS MADRONE

- CAUTION: This tree is sensitive and rare. Do not pick leaves or compact the soil around roots.

- I. Bark not reddish, smooth and peeling J

- J. Leaf 8 times as long as wide K

- J. Leaf less than 6 times as long as wide L

- K. Branches and leaves point up,
FALSE WILLOW

- K. Branches and leaves hang down,
BLACK WILLOW

- L. Leathery, irregular spiny edged leaves and/or smooth edged leaves (check entire plant), galls often attached to branches,

LIVE OAK

- L. Not as above M

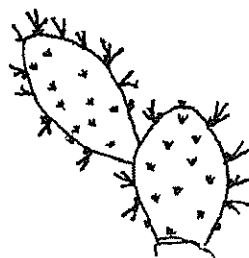
- M. Smooth edged leaves N

- M. Edges of leaves toothed, scalloped or lobed. X

- N. Usually spiny branches O

- N. No spiny branches Q

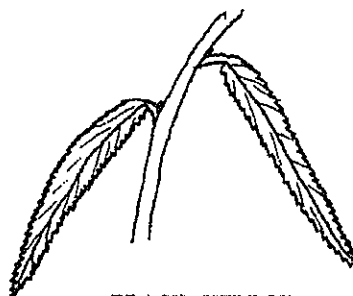
SIMPLE



PRICKLY PEAR CACTUS
(Opuntia lindheimeri)
or (Opuntia macrorhiza)



TEXAS MADRONE
(Arbutus xalapensis)



BLACK WILLOW
(Salix nigra)

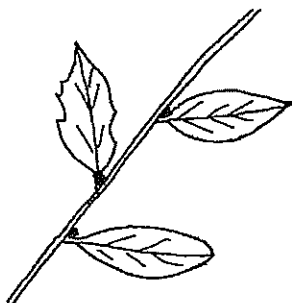
ALTERNATE



PENCIL CACTUS
(Opuntia leptocaulis)



FALSE WILLOW
(Baccharis neglecta)



LIVE OAK
(Quercus fusiformis)

PRICKLY PEAR CACTUS (Opuntia lindheimeri)
or PRICKLY PEAR CACTUS (Opuntia macrorhiza)
Family: Cactus (Cactaceae)
fi: cactus, erect or prostrate, 3-12'
fl: Apr-June, yellow or red flowers
fr: July-Sept, red to purple juicy berry
with tufts of hairs
hab: rocky dry areas

PENCIL CACTUS (Opuntia leptocaulis)
Family: Cactus (Cactaceae)
fi: thicket forming, erect or reclining
fl: July-Aug, green-yellow, inconspicuous
fr: Sept-Oct, small red pear-shaped berry
with tufts of hairs
hab: dry areas

TEXAS MADRONE (Arbutus xalapensis)
Family: Heath (Ericaceae)
fi: evergreen tree to 30', smooth red bark
fl: Feb-Mar, white clusters
fr: Oct-Dec, red-yellow clusters of berries
hab: limestone or igneous hills, full sun

FALSE WILLOW (Baccharis neglecta)
Family: Sunflower (Compositae)
fi: shrub to 9', dioecious
fl: Aug-Nov, green-white heads
fr: Nov-Dec, white fuzzy clumps
hab: disturbed sunny areas, well drained soil

BLACK WILLOW (Salix nigra)
Family: Willow (Salicaceae)
fi: tree to 200', dioecious
fl: Apr-May, yellow, clustered on spikes
fr: May-June, light brown fuzzy spikes
hab: wet soil, partial shading or full sun

LIVE OAK (Quercus fusiformis)
Family: Beech (Fagaceae)
fi: evergreen tree to 40'
fl: Mar-Apr, hairy yellow hanging spikes
fr: Sept-Nov, acorns
hab: rocky limestone hills

NOTES:

SIMPLE ALTERNATE CONTINUED

O. Leaves mostly less than 1" long,
small spine on tip of leaves,
smooth underneath,
BRASILWOOD

O. Leaves longer than 3/4" . . . P

P. Tip elongated,
OSAGE ORANGE

P. Tip rounded, fuzzy underneath,
GUM ELASTIC

Q. Milky sap,
CHINESE TALLOW TREE

Q. Sap not milky R

R. Leaves less than 2" long. . . S

R. Leaves more than 2" long. . . V

S. Noticeable leaf stems T

S. Leaves have extremely short of
no noticeable leaf stem . . . U

T. Branches zig-zag, leaf edges
have small teeth and hairs,
SNAKEWOOD

T. Leaves aromatic, taper to nar-
row point, some minutely toothed,
BUSH CROTON

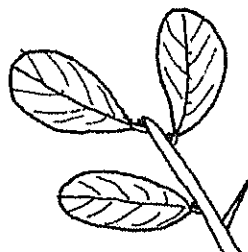
U. Edges tend to curl under,
dark green leaves,
TEXAS PERSIMMON

U. Leaves whitish grey, tips
rounded or slightly pointed,
CENIZO

SIMPLE



BRASILWOOD
(Condalia hookeri)



GUM ELASTIC
(Bumelia lanuginosa)

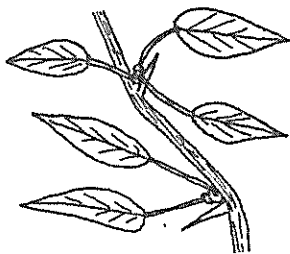


SNAKEWOOD
(Colubrina texensis)

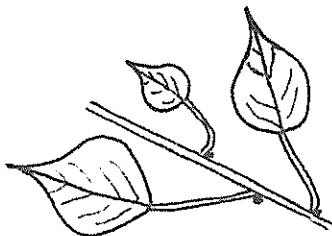


TEXAS PERSIMMON
(Diospyros texana)

ALTERNATE



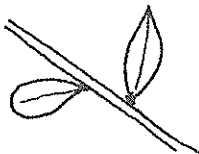
OSAGE ORANGE
(Maclura pomifera)



CHINESE TALLOW TREE
(Sapium sebiferum)



BUSH CROTON
(Croton fruticulosus)



CENIZO
(Leucophyllum frutescens)

BRASILWOOD (Condalia hookeri)
Family: Buckthorn (Rhamnaceae)
fi: spiny shrub to 30'
fl: Apr-May, green clusters
fr: June-Aug, shiny black fruit
hab: dry, well drained soil, full sun,
tolerates slopes and poor soil
OSAGE ORANGE (Maclura pomifera)
Family: Mulberry (Moraceae)
fi: spiny, dioecious tree to 60', milky sap
fl: April-June, small, green clusters
fr: Sept-Oct, large pocked sphere, 4-5" diam
hab: fields, fences, ravines, mostly east Tex

GUM ELASTIC (Bumelia lanuginosa)
Family: Sapodilla (Sapotaceae)
fi: shrub or tree to 60'
fl: June-July, white-yellow clusters
fr: Sept-Oct, blue-black berry
hab: various soils, sunny thickets, full or
partial sun, does best in low, moist areas

CHINESE TALLOW TREE (Sapium sebiferum)
Family: Spurge (Euphorbiaceae)
fi: tree to 30'
fl: May, yellow-green loose clusters
fr: June, three-lobed capsule
hab: various soils, non-native

SNAKEWOOD (Colubrina texensis)
fi: shrub to 15'
fl: Apr-May, inconspicuous green-yellow
clusters
fr: May-June, brown-black, slow growing,
persistent, hardening into 2-3 nutlets
hab: full sun, dry soils

BUSH CROTON (Croton fruticulosus)
Family: Spurge (Euphorbiaceae)
fi: aromatic shrub to 6', sometimes dioecious
fl: Mar-Oct, small green hairy spikes
fr: Apr-Nov, green hairy 3-lobed capsule
hab: limestone hills and canyons

TEXAS PERSIMMON (Diospyros texana)
Family: Ebony (Ebenaceae)
fi: smooth grey barked tree to 40', dioecious
fl: June-July, green-white inconspicuous
clusters
fr: Aug-Oct, black sweet berry-like
hab: rocky slopes, open area, prefers dry
soils, full sun, tolerates poor soils

CENIZO (Leucophyllum frutescens)
Family: Figwort (Scrophulariaceae)
fi: shrub to 10', semi-persistent in winter
fl: June-Sept, red-purple at base of leaves
fr: Oct-Nov, 2-valved capsule
hab: various soils and areas

SIMPLE ALTERNATE CONTINUED

V. Round heart-shape, shiny, main veins start at base of leaves,
REDBUD

V. Large oval leaves, pointed at tip W

W. Leaves taper to narrow point, often one side larger, sometimes a few teeth, corky projection on bark (hybridizes with Net-leaf Hackberry),
SUGAR HACKBERRY

W. Side veins off main vein prominent and parallel on underside, veins extend up sides of leaf,
BUCKTHORN

X. Large, usually lobed leaves . Y

X. Toothed or scalloped edged leaves, without lobes (except occasionally) BB

Y. Lobes sharply pointed Z

Y. Lobes bluntly pointed AA

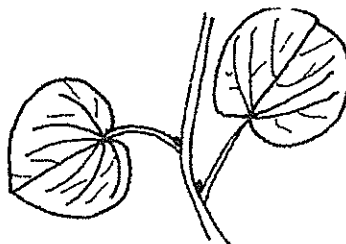
Z. Leaves star shaped, underside hairy along veins, peeling bark,
SYCAMORE

Z. Leaves longer than wide, extended bristles at tips of lobes,
TEXAS OAK

AA. Leaf stem very long, upper side of leaves hairy or rough,
FIG TREE

AA. Leaf stem short, upper side of leaves smooth,
WHITE SHIN OAK

SIMPLE



REDBUD
(Cercis canadensis)



FIG TREE
(Ficus carica)

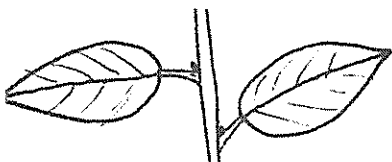


SYCAMORE
(Platanus occidentalis)

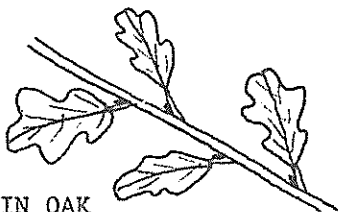
ALTERNATE



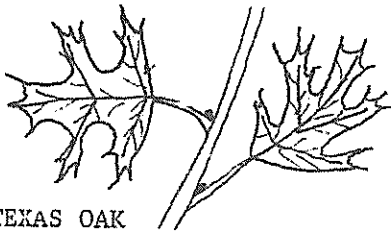
SUGAR HACKBERRY
(Celtis laevigata)



BUCKTHORN
(Rhamnus caroliniana)



WHITE SHIN OAK
(Quercus sinuata var. breviloba)



TEXAS OAK
(Quercus texana)

REDBUD (Cercis canadensis)
Family: Legume (Leguminosae)
fi: tree to 40', broadly rounded
fl: Mar-May, before leaves appear, pink clusters close to the stem
fr: Sept-Oct, red-brown flat pods
hab: limestone soil, prefers full sun, well drained site

SUGAR HACKBERRY (Celtis laevigata)
Family: Elm (Ulmaceae)
fi: tree to 100', round-topped
fl: Mar-Apr, inconspicuous green, appearing with new leaves
fr: July-Aug, orange red to black fruit
hab: sandy, rocky or alluvial soils, near moist areas

BUCKTHORN (Rhamnus caroliniana)
Family: Buckthorn (Rhamnaceae)
fi: tree to 35'
fl: May-June, inconspicuous green-yellow
fr: Aug-Oct, red to black juicy fruit
hab: acid or alkaline soils, full or partial sun, bottomlands

FIG TREE (Ficus carica)
Family: Mulberry (Moraceae)
fi: tree to 30' with milky sap, rounded top
fl: June, green-brown to purple, inside pear-shaped receptacle
fr: July, fig
hab: fields, along roadsides, non-native

SYCAMORE (Platanus occidentalis)
Family: Plane-Tree (Platanaceae)
fi: tree to 170' with patchy bark
fl: Apr-May, hanging red, green or brown round heads on long stems
fr: Sept-Oct hanging brown ball-shaped, 1½"
hab: near streams and bottomlands

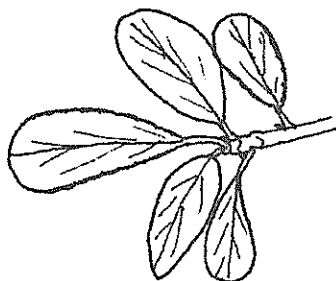
WHITE SHIN OAK (Quercus sinuata var. breviloba)
Family: Beech (Fagaceae)
fi: tree to 25'
fl: Aug-Sept, hairy, red-green hanging spike
fr: Sept-Nov, acorns, annual
hab: limestone hills, dry areas

TEXAS OAK (Quercus texana)
Family: Beech (Fagaceae)
fi: tree to 35', many trunks
fl: Apr, hairy red-green hanging spikes
fr: May, biennial, acorn
hab: rocky limestone slopes

SIMPLE ALTERNATE CONTINUED

- BB. Surface of leaves smooth . . CC
- BB. Surface of leaves rough or
fuzzy. HH
- CC. Edges of leaves scalloped. . DD
- CC. Edges of leaves toothed. . . EE
- DD. Leaves usually egg shaped, wide
end near tip, often grow clumped
on ends of short branches,
DECIDUOUS YAUPON
- DD. Thick, evergreen, oval leaves,
YAUPON
- EE. Edges of leaves irregularly
toothed, some smooth-edged,
SUGAR HACKBERRY
- EE. Edges of leaves regularly
toothed. FF
- FF. Three obvious veins starting
at base of leaf, CEANOTHUS
- FF. Only one main vein starting at
base of leaf GG
- GG. SEcondary veins uniformly par
allel and extended to tip of
large teeth, AMERICAN ELM
- GG. Leaves edged with small spiny
teeth, secondary veins barely
reach edge of leaves,
BLACK CHERRY
or CREEK PLUM
- HH. Teeth on leaves scalloped or
rounded, MOUSE-EARS
- HH. Teeth on leaves pointed. . . II

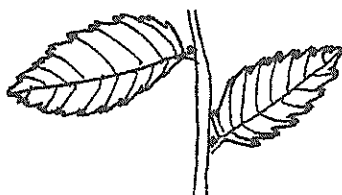
SIMPLE



DECIDUOUS YAUPON
(Ilex decidua)



SUGAR HACKBERRY
(Celtis laevigata)

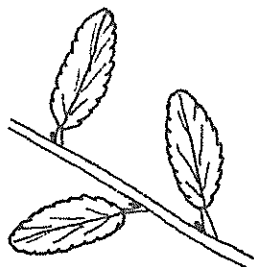


AMERICAN ELM
(Ulmus americana)

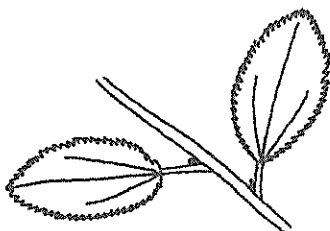


MOUSE-EARS
(Bernardia myricifolia)

ALTERNATE



YAUPON
(Ilex vomitoria)



CEANOTHUS
(Ceanothus herbaceus)



BLACK CHERRY
(Prunus serotina) or

CREEK PLUM
(Prunus rivularis)

DECIDUOUS YAUPON (Ilex decidua)

Family: Holly (Aquifoliaceae)

fi: tree to 30', usually dioecious

fl: Mar-May, white, at base of leaves

fr: Sept-Oct, female: bright red berries

hab: moist soils near streams, fences and roads, full or partial sun

YAUPON (Ilex vomitoria)

Family: Holly (Aquifoliaceae)

fi: evergreen, tree to 25', usually dioecious

fl: Apr-May, white cluster at base of leaves

fr: Sept-Dec, female: bright red berries

hab: moist soil, tolerates dryness

SUGAR HACKBERRY (Celtis laevigata)

Family: Elm (Ulmaceae)

fi: tree to 100', round-topped

fl: Mar-Apr, inconspicuous green, appearing with new leaves

fr: July-Aug, orange red to black fruit

hab: sandy, rocky or alluvial soils, moist areas

CEANOTHUS (Ceanothus herbaceus)

Family: Buckthorn (Rhamnaceae)

fi: shrub to 3'

fl: Apr-July, white clusters

fr: Sept-Nov, 3-lobed small capsules

hab: sandy or rocky calcareous soils

AMERICAN ELM (Ulmus americana)

Family: Elm (Ulmaceae)

fi: tree to 70-120'

fl: Feb-Apr, before leaves, drooping red to green clusters

fr: Mar-June, red to green, winged flat, round

hab: woodlands, ravines and bottomlands

BLACK CHERRY (Prunus serotina)

Family: Rose (Rosaceae)

fi: tree to 100', grey and white horizontal stripes on bark

fl: Mar-June, white loose clusters, numerous, on stalks

fr: June-Oct, black cherries

hab: woodlands, floodplains, canyons, slopes

CREEK PLUM (Prunus rivularis)

Family: Rose (Rosaceae)

fi: shrub to 8'

fl: Mar-Apr, before leaves, white, 3-5" cluster

fr: May-June, bright red

hab: along streams, sunny areas

MOUSE-EARS (Bernardia myricifolia)

Family: Spurge (Euphorbiaceae)

fi: shrub to 10', usually dioecious

fl: May-Aug, inconspicuous hairy green

fr: June-Oct, 3 lobed capsule

hab: dry rocky slopes

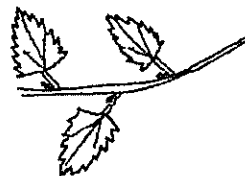
SIMPLE ALTERNATE CONTINUED

- II. Leaves fuzzy JJ
- II. Leaves rough MM
- JJ. Leaves smooth edged or irregularly minutely toothed . . . KK
- JJ. Leaves consistently toothed. LL
- KK. Aromatic leaves, leaves taper to narrow point, BUSH CROTON
- KK. Leaves blunt tipped or somewhat pointed, SNAKEWOOD
- LL. Large teeth, three prominent veins start at base of leaves, long leaf stalk, PAVONIA
- LL. Small, somewhat spiny teeth, MEXICAN PLUM
- MM. Most leaves 2" or longer, secondary veins uniformly parallel and extended to tip of large teeth, AMERICAN ELM
- MM. Leaves mostly less than 2" long NN
- NN. Edges smooth or a bit toothed, NETLEAF HACKBERRY
- NN. Leaf-edge uniformly toothed. OO
- OO. Leaf tips elongated, obvious leaf stem, TEXAS MULBERRY
- OO. Leaf tips somewhat blunt or slightly pointed, leaf stem very short, CEDAR ELM

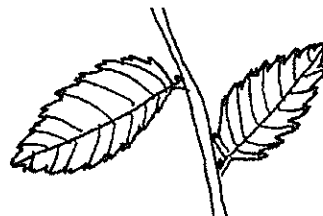
SIMPLE



BUSH CROTON
(Croton fruticulosus)



PAVONIA
(Pavonia lasiopetala)



AMERICAN ELM
(Ulmus americana)

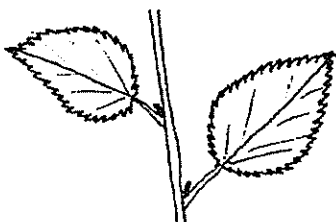


TEXAS MULBERRY
(Morus microphylla)

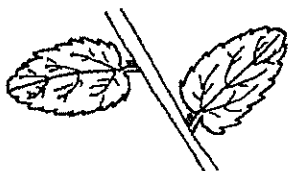
ALTERNATE



SNAKEWOOD
(Colubrina texensis)



MEXICAN PLUM
(Prunus mexicana)



NETLEAF HACKBERRY
(Celtis reticulata)



CEDAR ELM
(Ulmus crassifolia)

BUSH CROTON (Croton fruticosus)

Family: Spurge (Euphorbiaceae)

fi: aromatic shrub to 6'

fl: Mar-Oct, small green hairy spikes

fr: Apr-Nov, green hairy 3-lobed capsule

hab: limestone hills and canyons

SNAKEWOOD (Colubrina texensis)

Family: Buckthorn (Rhamnaceae)

fi: shrub to 15'

fl: Apr-May, inconspicuous green-yellow clusters

fr: May-June, brown-black, slow growing, persistent, hardening into 2-3 nutlets

hab: full sun, dry soils

PAVONIA (Pavonia lasiopetala)

Family: Mallow (Malvaceae)

fi: herbaceous above, barely woody below, to 4'

fl: May-Aug, red-pink flower at base of leaf

fr: May-Aug, 5-lobed capsule

hab: rocky areas, dry soil, on rare species list

MEXICAN PLUM (Prunus mexicana)

Family: Rose (Rosaceae)

fi: tree to 25', irregular shaped crown

fl: Apr-May, white flower

fr: July-Aug, purple

hab: river bottoms, slopes and prairies, drought resistant

AMERICAN ELM (Ulmus americana)

Family: Elm (Ulmaceae)

fi: tree to 70-120'

fl: Feb-Apr, before leaves, drooping red to green clusters

fr: Mar-June, red to green, winged flat, round

hab: woodlands, ravines and bottomlands

NETLEAF HACKBERRY (Celtis reticulata)

Family: Elm (Ulmaceae)

fi: tree to 100', round-topped

fl: Mar-Apr, inconspicuous green, appearing with new leaves

fr: July-Aug, orange red to black fruit

hab: sandy, rocky or alluvial soil, moist areas

TEXAS MULBERRY (Morus microphylla)

Family: Mulberry (Moraceae)

fi: tree to 20', dioecious

fl: Mar-Apr, green inconspicuous hanging clumps

fr: May, red to black mulberry

hab: limestone hills, along streams, in woods

CEDAR ELM (Ulmus crassifolia)

Family: Elm (Ulmaceae)

fi: tree to 90', branches hang down somewhat

fl: Sept-Oct, red to green drooping clusters

fr: Sept-Nov, green winged flat oblong fruit

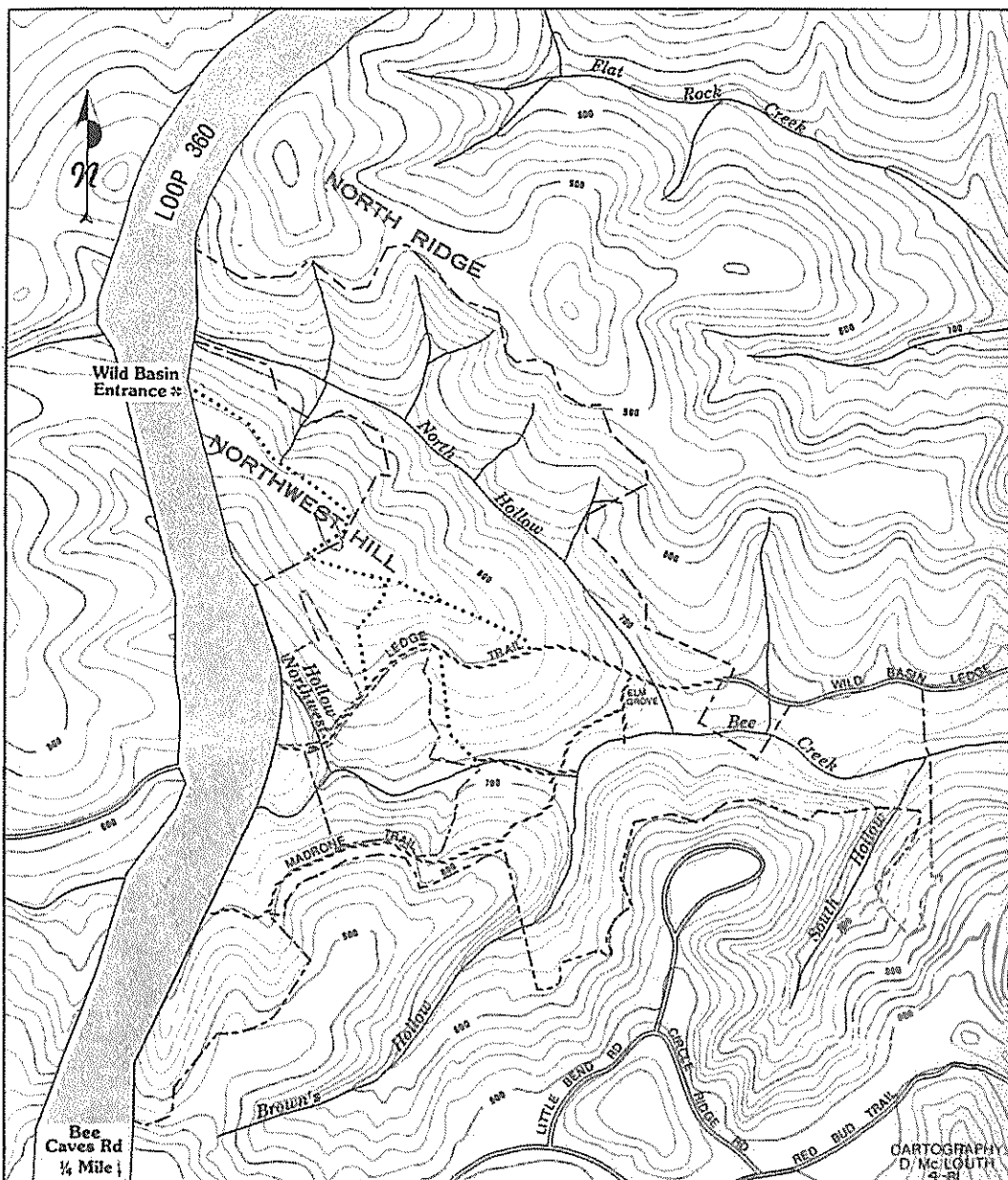
hab: limestone soils in ravines and slopes

CHECKLIST OF WOODY PLANTS - WILD BASIN AREA

i= introduced species; r=rare; d=dioecious (separate ♂+♀ plants); (d)=sometimes dioecious; fl=months bloom; fr=months mature

- 1 *Azarcia*, p. 11 (*Berberis trifoliolata*) Fam: *Berberis* (Berberidaceae) fl: 2-4; fr: 6-7
- 2 *Amorpha*, Indigo-Bush, p. 19 (*Amorpha fruticosa*) Fam: Legume (Leguminosae) fl: 5-6; fr: 8-9
- 3 *Ash*, Red, p. 9 (*Fraxinus pennsylvanica*) Fam: Olive (Oleaceae) fl: 3-5; fr: 8-9
- 4 *Ash*, Texas, p. 9 (*Fraxinus texensis*) Fam: Olive (Oleaceae) fl: 3-5; fr: 8-9
- 5 *Beautyberry*, American, p. 25 (*Callicarpa americana*) Fam: Verberna (Verbenaceae) fl: 6-11; fr: 8-12
- 6 *Boneset*, Shrubby, p. 25 (*Eupatorium havanense*) Fam: Sunflower (Compositae) fl: 9-10; fr: 10-11
- 7 *Box Elder*, p. 9 (*Acer negundo*) Fam: Maple (Aceraceae) fl: 3-5; fr: 8-10
- 8 *Brasiliwood*, p. 31 (*Condalia hookeri*) Fam: Buckthorn (Rhamnaceae) fl: 4-5; fr: 6-8
- 9 *Buckeye*, Mexican, p. 15 (*Ungadia speciosa*) Fam: Soapberry (Sapindaceae) fl: 3-4; fr: 5-6
- 10 *Buckeye*, Red, p. 9 (*Aesculus pavia*) Fam: Buckeye (Hippocastanaceae) fl: 3-5; fr: 9-10
- 11 *Buckthorn*, p. 23 (*Rhamnus caroliniana*) Fam: Buckthorn (Rhamnaceae) fl: 5-6; fr: 8-10
- 12 *Button Bush*, p. 23 (*Cephalanthus occidentalis*) Fam: Madder (Rubiaceae) fl: 6-9; fr: 9-10
- 13 *Cat's Claw*, p. 13 (*Himosa biuncifera*) Fam: Legume (Leguminosae) fl: 5-6; fr: 8-9
- 14 *Ceanothus*, p. 35 (*Ceanothus herbaceus*) Fam: Buckthorn (Rhamnaceae) fl: 4-7; fr: 9-11
- 15 *Cedar*, Mountain, p. 9 (*Juniperus ashei*) Fam: Cypress (Cupressaceae) fl: 12-1; fr: 8-1
- 16 *Cenizo*, p. 31 (*Leucophyllum frutescens*) Fam: Figwort (Scrophulariaceae) fl: 6-9; fr: 10-11
- 17 *Cherry*, Black, p. 35 (*Prunus serotina*) Fam: Rose (Rosaceae) fl: 3-6; fr: 6-10
- 18 *Chinaberry*, p. 15 (*Melia azedarach*) Fam: Mahogany (Meliaceae) fl: 3-5; fr: 9-10
- 19 *Chinese Tallow Tree*, p. 31 (*Sapium sebiferum*) Fam: Spurge (Euphorbiaceae) fl: 5; fr: 6
- 20 *Cow-Itch Vine*, p. 11, 27 (*Cissus incisa*) Fam: Grape (Vitaceae) fl: 5-8; fr: 6-9
- (d) 21 *Creeping*, Seven Leaf, p. 13 (*Parthenocissus heptaphylla*) Fam: Grape (Vitaceae) fl: 6-7; fr: 9-10
- (d) 22 *Grepper*, Virginia, p. 13 (*Parthenocissus quinquefolia*) Fam: Grape (Vitaceae) fl: 6-7; fr: 9-10
- (d) 23 *Croton*, Bush, p. 31, 37 (*Croton fruticulosus*) Fam: Spurge (Euphorbiaceae) fl: 3-10; fr: 4-11
- 24 *Cypress*, Bald, p. 9 (*Taxodium distichum*) Fam: Taxodium (Taxodiaceae) fl: 3-4; fr: 10-12
- 25 *Dalea*, Black, p. 17 (*Dalea frutescens*) Fam: Legume (Leguminosae) fl: 8-10; fr: 9-11
- 26 *Dewberry*, Southern, p. 11, 13 (*Rubus trivialis*) Fam: Rose (Rosaceae) fl: 3-4; fr: 6-7
- 27 *Dogwood*, Roughleaf, p. 23 (*Cornus drummondii*) Fam: Dogwood (Cornaceae) fl: 5-8; fr: 8-10
- d 28 *Elbow Bush*, p. 25 (*Forestiera pubescens*) Fam: Olive (Oleaceae) fl: 2-4; fr: 6-10
- 29 *Elm*, American, p. 37 (*Ulmus americana*) Fam: Elm (Ulmaceae) fl: 2-4; fr: 3-6
- 30 *Elm*, Cedar, p. 37 (*Ulmus crassifolia*) Fam: Elm (Ulmaceae) fl: 9-10; fr: 9-11
- 31 *Eve's Necklace*, p. 19 (*Sophora affinis*) Fam: Legume (Leguminosae) fl: 6; fr: 8
- 32 *Fig Tree*, p. 33 (*Ficus carica*) Fam: Mulberry (Moraceae) fl: 6; fr: 7
- 33 *Grape*, Mustang, p. 27 (*Vitis mustangensis*) Fam: Grape (Vitaceae) fl: 5-6; fr: 6-8
- 34 *Grape*, Sand, p. 27 (*Vitis rotundifolia*) Fam: Grape (Vitaceae) fl: 5-7; fr: 6-10
- 35 *Grape*, Winter, p. 27 (*Vitis berlandieri*) Fam: Grape (Vitaceae) fl: 5-7; fr: 6-10
- 36 *Greenbriar*, Saw, p. 27 (*Smilax bonann*) Fam: Lily (Liliaceae) fl: 4-6; fr: 9-11
- 37 *Gum Elastic*, p. 31 (*Bumelia lanuginosa*) Fam: Sapodilla (Sapotaceae) fl: 6-7; fr: 9-10
- 38 *Hackberry*, Netleaf, p. 37 (*Celtis reticulata*) Fam: Elm (Ulmaceae) fl: 3-4; fr: 7-8
- 39 *Hackberry*, Sugar, p. 33, 35 (*Celtis laevigata*) Fam: Elm (Ulmaceae) fl: 3-4; fr: 7-8
- 40 *Honeysuckle*, Coral, p. 21 (*Lonicera sempervirens*) Fam: Honeysuckle (Caprifoliaceae) fl: 3-5; fr: 9-10
- 41 *Honeysuckle*, Japanese, p. 21 (*Lonicera japonica*) Fam: Honeysuckle (Caprifoliaceae) fl: 6-8; fr: 9-3

- 42 Honeysuckle, White, p.21(Lonicera albiflora)Fam: Honeysuckle (Caprifoliaceae)fl:3-5;fr:9-11
- 43 Hoptree, p.11(Ptelea trifoliata)Fam: Citrus (Rutaceae)fl:3-7;fr:8-9
- i44 Jerusalem Thorn, p.17(Echinocarpus aculeata)Fam: Legume (Leguminosae)fl:4-8;fr:5-8
- 45 Kidneywood, Texas, p.17(Echinocarpus texana)Fam: Legume (Leguminosae)fl:5-8;fr:9-10
- 46 Lantana, p.25(Lantana horrida)Fam: Verbena (Verbenaceae)fl:4-10;fr:6-10
- i47 Lantana, Purple, p.25(Lantana montevidensis)Fam: Verbena (Verbenaceae)fl:2-6;fr:3-7
- i48 Lavender Chaste Tree, p.9(Vitex agnus-castus)Fam: Verbena (Verbenaceae)fl:5-9;fr:6-9
- i49 Ligustrum, p.23(Ligustrum japonicum)Fam: Olive (Oleaceae)fl:6-8;fr:9-11
- 50 Madrone, Texas, p.29(Arbutus xalapensis)Fam: Heath (Ericaceae)fl:2-3;fr:10-12
- 51 Mesquite, Honey, p.13(Prosopis glandulosa)Fam: Legume (Leguminosae)fl:5-9;fr:8-9
- 52 Mimosa, Pink, p.13(Mimosa borealis)Fam: Legume (Leguminosae)fl:6-8;fr:6-8
- d53 Mistletoe, p.21(Phoradendron tomentosum)Fam: Mistletoe (Viscaceae)fl:5-7;fr:11-4
- 54 Mountain Laurel, Texas, p.19(Sophora secundiflora)Fam: Legume (Leguminosae)fl:2-4;fr:9
- d55 Mouse-Ears, p.37(Bernardia myricifolia)Fam: Spurge (Euphorbiaceae)fl:5-8;fr:6-10
- d56 Mulberry, Texas, p.37(Morus microphylla)Fam: Mulberry (Moraceae)fl:3-4;fr:5
- 57 Oak, Live, p.29(Quercus fusiformis)Fam: Beech (Fagaceae)fl:3-4;fr:9-11
- 58 Oak, Texas, p.33(Quercus texana)Fam: Beech (Fagaceae)fl:4;fr:5
- 59 Oak, White Shin, p.33(Quercus sinuata var. breviloba)Fam: Beech (Fagaceae)fl:8-9;fr:9-11
- d60 Osage Orange, p.31(Maclura pomifera)Fam: Mulberry (Moraceae)fl:4-6;fr:9-10
- x61 Pavonia, p.35(Pavonia lasiopetala)Fam: Mallow (Malvaceae)fl:5-8;fr:5-8
- 62 Pecan, p.15(Carya illinoensis)Fam: Walnut (Juglandaceae)fl:3-5;fr:9-10
- 63 Pencil Cactus, p.29(Opuntia leptocaulis)Fam: Cactus (Cactaceae)fl:7-8;fr:9-10
- 64 Peppervine, p.15(Ampelopsis arborea)Fam: Grape (Vitaceae)fl:6-8;fr:9-10
- d65 Persimmon, Texas, p.31(Diospyros texana)Fam: Ebony (Ebenaceae)fl:6-7;fr:8-10
- 66 Plum, Greek, p.35(Prunus rivularis)Fam: Rose (Rosaceae)fl:3-4;fr:5-6
- 67 Plum, Mexican, p.37(Prunus mexicana)Fam: Rose (Rosaceae)fl:4-5;fr:7-8
- 68 Poison Ivy, p.11(Rhus toxicodendron)Fam: Sumac (Anacardiaceae)fl:4-5;fr:6-7
- 69 Prickly Pear Cactus, p.29(Opuntia lindheimeri or O. macrohiza)Fam: Cactus (Cactaceae)fl:4-6;fr:7-9
- 70 Rattanvine, p.27(Berchemia scandens)Fam: Buckthorn (Rhamnaceae)fl:3-6;fr:7-10
- 71 Redbud, p.33(Cercis canadensis)Fam: Legume (Leguminosae)fl:3-5;fr:9-10
- 72 Senna, Lindheimer, p.17(Cassia lindheimeriana)Fam: Legume (Leguminosae)fl:6-9;fr:9-11
- 73 Silktassel, Lindheimer, p.23(Garrya lindheimeri)Fam: Dogwood (Cornaceae)fl:3-5;fr:9-11
- 74 Snailseed, Carolina, p.27(Cocculus carolinus)Fam: Moonseed (Menispermaceae)fl:8-9;fr:9-11
- 75 Snakewood, p.31,35(Colubrina texensis)Fam: Buckthorn (Rhamnaceae)fl:4-5;fr:5-6
- 76 Soapberry, p.19(Sapindus saponaria)Fam: Soapberry (Sapindaceae)fl:5-6;fr:9-10
- 77 Sumac, Evergreen, p.19(Rhus virens)Fam: Sumac (Anacardiaceae)fl:8-9;fr:9-12
- 78 Sumac, Fragrant, p.11(Rhus aromatica)Fam: Sumac (Anacardiaceae)fl:4-6;fr:7-8
- 79 Sumac, Lance-Leaf, p.19(Rhus lanceolata)Fam: Sumac (Anacardiaceae)fl:8-9;fr:9-11
- 80 Sycamore, p.33(Platanus occidentalis)Fam: Plane-Tree (Platanaceae)fl:4-5;fr:9-10
- 81 Toothache Tree, p.15(Zanthoxylum hirsutum)Fam: Citrus (Rutaceae)fl:3-5;fr:9-10
- 82 Viburnum, p.25(Viburnum rufidulum)Fam: Honeysuckle (Caprifoliaceae)fl:4-6;fr:7-10
- 83 Walnut, Arizona, p.15(Juglans major)Fam: Walnut (Juglandaceae)fl:3-4;fr:4-5
- 84 Walnut, Little, p.15(Juglans microcarpa)Fam: Walnut (Juglandaceae)fl:3-4;fr:4-5
- 85 Wand Butterfly Bush, p.25(Buddleja racemosa)Fam: Logania (Loganiaceae)fl:6-8;fr:8-9
- d86 Willow, Black, p.29(Salix nigra)Fam: Willow (Salicaceae)fl:4-5;fr:5-6
- d87 Willow, False, p.29(Baccharis neglecta)Fam: Sunflower (Compositae)fl:8-11;fr:11-12
- d88 Yaupon, p.35(Ilex vomitoria)Fam: Holly (Aquifoliaceae)fl:4-5;fr:9-12
- d89 Yaupon, Deciduous, p.35(Ilex decidua)Fam: Holly (Aquifoliaceae)fl:3-5;fr:9-10



Wild Basin Wilderness Preserve

Scale 1:9600

1000 0 1000 FEET

STREAM

PRESERVE
BOUNDARY

FOOT TRAIL

THE COMMITTEE FOR WILD BASIN WILDERNESS

P.O. BOX 13455, AUSTIN, TEXAS 78711