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How to Know & Grow TEXAS WILDFLOWERS

When and where to find, identify and grow more than 250 species of native Texas plants — excluding trees, shrubs, vines, ferns and cactus — with each botanical name phonetically pronounced for you.



Texas Bluebonnet



Texas Paintbrush



Firewheel



Winecup

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by

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Especially for

Dorothy Holmes

Grow good!
Sanall Abbott
4/11/80

Acknowledgements

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HOW TO HUNT FOR WILDFLOWERS

Wildflowers are abundant, but immobile. They are everywhere, but they do not fly, swim, gallop or wiggle. To find them, you have to go after them. They can not come to you. Hunting for them can be full of both fun and frustration. To make your explorations more enjoyable and to find more plants more easily, follow some of these pointers:

PLAY IT BY EYE! If you are just seeking to see, that's fine. Texas offers more (5,500 different species of native plants) to see than any other state. But you can add new dimensions to your wildflower wanderlust by developing a simple habit: follow the same route, year after year, in different seasons. Nature is an unending pageantry of ceaseless change. By keeping careful notes of all the plants which interest you — what, when and where — you will see the many faces of change as the miles and years drift by. Note-keeping is most important; memory is the worst liar in the world. Such road logs of your travels become an invaluable source in recapturing and comparing plant sites. If you travel alone, get an inexpensive tape recorder and a power adapter which fits into the cigarette lighter of your car and dictate your impressions as you drive.

GO RIGHT! Plan the direction of your travels properly. Drive north or west in the mornings, east or south in the afternoons. Why? Because then the sun will be out of your eyes and you can see more with less eye strain.

STOP! No matter how sharp your perception or keen your knowledge, you still can't see all the wildflowers available to your eye while you are in motion. No matter how uninviting the terrain, stop occasionally and carefully examine all the plants around you. You'll be surprised at what you can find.

SEEK AND YE SHALL FIND! When you have found only one of the plants you are seeking, and want others, do this: carefully examine the leaf structure and use this to find plants which are not yet in bloom. Go uphill or upstream to find older plants; downhill and downstream to find younger ones.

KNOW WHAT YOU WANT! If you are searching for just one particular plant, learn everything you can about it before you ever leave home: where it grows, what it likes (sun or shade, soil preferences, wet or dry conditions, etc.), and when it blooms. A time-saver, for a long trip, is to call someone in the area beforehand and ask for information. Try the county agent, the home demonstration agent, soil conservationist or garden editor of the newspaper in the area you plan to visit. If they don't

know, they usually will tell you the name of someone who does. Wildflower enthusiasts, generally, have a strong urge to share their knowledge. Sometimes, you'll get more help than you need.

NEVER LEAVE HOME! There are more opportunities for plant collecting in your own neighborhood, regardless of where you live, than you probably realize. I've heard of one amateur botanist who astounded his friends by collecting more than 100 different wildflowers within walking distance of his home.

HOW TO HARVEST WILDFLOWER SEEDS

The easiest way to accumulate a large collection of wildflowers for your home garden is to collect the seed in the wilds. Wildflowers produce an enormous amount of seed, generally, to assure their survival. A single Bluebonnet plant sometimes matures as much as 1,000 seeds; a Bluebell is even more prodigious, producing up to 20,000 tiny seeds. A seed is a package of life; handle it with care and unwrap it gently.

WHAT YOU NEED. Most of the seed-collecting and threshing equipment you need is right around the house: large and small paper bags; a collander, tea strainer or flour sifter to separate the seed from the larger chaff; a hair-dryer to blow away the smaller debris. A pair of thick gloves is helpful in picking spiny seed heads. You'll also need a roll of bright plastic flagging tape (available at home builder centers or blueprint companies for about \$1 for a roll) to tag your seed-plants. And you'll need a quantity of small packages — such as Number 1 coin envelopes from your bank — to pick and store small amounts of seed.

WHEN TO START. You start your collecting trips when the plants are in flower so that you'll know what you are harvesting later. A wildflower often looks drastically different in seed than in flower. Select the most outstanding specimen in the field as your seed source.

HOW TO TAG A MOTHER PLANT. Take a piece of flagging tape about 30 inches long. Fold it once. Put the looped end around the base of the plant and draw the two loose ends through it. If you put the flagging tape on the upper parts of the plant, it can be blown loose or broken off. A highly-visible tagged plant also invites poaching. Next, tag an easily-seen landmark — a fence post, broken tree, etc. — to help you locate your hidden tag when you return. Then, make exact notes of the plant's characteristics, the date and the location. If you fail to make these important notes, and you can't find your plant later, then you deserve to lose it.

WHEN TO GO BACK. Annuals generally ripen their seed within 30 days of flowering. Perennials often take longer; Penstemon species, for instance, will hold onto their seeds for four or five months. Wet weather hastens seed production; drought extends it. You can safely pick the seed stalks before the seed are fully dried on the plant. This is important in collecting pod-bearing plants — notably Bluebonnets — because the seed are scattered when the pod ripens and splits.

HARVESTING. Collect seeds after the dew has dried. If the plant is an annual, put up the entire plant, shake the soil from the roots, and put the entire plant — upside down — in a paper bag. Do not use plastic bags. They tend to collect condensation and the moisture will mold and ruin your seed. If the plant is perennial, gently cut the stalk and turn it upside down in a paper bag. Do not pull up a perennial plant; you will destroy it. Spray with insecticide if seeds show signs of infestation. As the seed heads dry, they will discharge their seed into the bottom of the sack. Keep your seed-sacks dry and dark while your treasures finish ripening.

THRESHING. Shake your seed sack vigorously and pull out the debris. Pour what's left in the bottom of the sack through a collander or sifter. If seed are large, use a piece of hardware cloth or wire mesh as a screen. The resulting seed mass may be stored as is — the extra debris is not harmful. If you want a cleaner product, put the seed mass in a shallow bowl. Put your hair-dryer at its lowest and coolest setting. Rotate the bowl rapidly and bring the air flow of the dryer slowly down to the edge of the bowl. The chaff, being lighter, will be blown away. Warning: this is a messy operation!

STORING. Wildflower seeds have an incredible life-span — up to 35 years for Bluebonnets — if they are kept cool, dry and dark. A closed drawer in an air-conditioned house usually is sufficient protection.

HOW TO COLLECT PLANTS FROM THE WILD

YOUR EQUIPMENT. The best digging tool for seedlings and medium-sized plants is a sturdy dandelion-weeder with a strong shank, a notched point and a cushioned handle. You'll need a light grubbing hoe or an extra-sharp sharpshooter for the larger specimens, plus a file to keep your tools in shape. Seedlings can be easily carried wrapped in moist newspapers and placed in a covered box. Large plants should be placed in plastic bags with a small amount of water or moist moss with the tops of the bags tied. Always keep your collected plants out of direct sunlight and away from heat. If properly collected, plants will maintain their viability for a week.

SEEDLINGS. Pick a cool day, best a few days after a rain, for gathering seedlings. Pry them gently from the soil and wrap them in bundles of 10 or 25 in damp newspaper. Do not let them get wind-burned. When you are home, transplant to a bed which has been prepared beforehand. Keep the seedlings close together — a foot apart is fine. Most wildflowers look better in masses and they seem to grow better when they are close neighbors. Water gently and well. Cover the transplants with the wet newspaper — anchored down with rocks or soil to keep them from blowing away — for three or four days. After uncovering, mulch the plants with dried grass clippings, shredded leaves, very old hay, bark chips or even rocks. Most all wildflowers need a mulch to succeed.

OLDER PLANTS. The technique for moving mature plants is similar, but you need to cut off at least two-thirds of the upper plant to allow the roots to survive. Pare off the foliage before you pack the dug plant. In extremely dry weather, cut into the soil all around the plant and fill with water before taking the plant out of the ground. After putting in your home garden, place a box over the plant for a few days to keep it cool and help it get established quicker.

BULBS. Bulbous plants can be dug when in flower and transplanted successfully by cutting off all the blooming stalk, but leaving at least half of the leaves to allow the bulb to finish maturing. Most bulbs are deeper in the ground than you think; so, dig twice as deep.

CACTI. Never transplant cacti immediately after digging and do not wrap in wet paper. Keep them dry and cool for a few weeks to allow the roots and injured places to callus. Then, plant and mulch with sand or gravel.

VINES. Cut off the upper part of the vine, leaving two leaf nodes, before you dig. Otherwise, the resulting tangle will break the plant off at the ground and its chances of survival are slim. Vines dug in this manner respond quickly in their new homes.

HOW TO SOW WILDFLOWERS SEEDS

Raising wildflowers is like rearing children: time and love are the key factors. Time is essential because it allows for unhurried and sturdy growth; love is necessary because it breeds patience and saves the passing pains of inescapable heartbreak. Instant success is rarely — if ever — possible with wildflower plantings. If you are not prepared to devote time and love to starting wildflowers, then prepare yourself for failure. For better chances of success, follow these general guidelines.

PREPARE THE SOIL BEFOREHAND. You'll get a higher rate of germination and healthier plants by sowing seed in a prepared seedbed. Till the soil, but not too deeply — three or four inches is sufficient — because most all species like a firm underbed. Soak the seedbed several times before planting. Avoid fertilizing the seedbed.

THE RIGHT TIME. By and large, all wildflowers in Texas do best when the seed are planted in the Fall. Even Summer-bloomers, such as Sunflowers and Morning Glories, seem to benefit from the freezing and thawing action of Winter. For all Spring-bloomers, Fall seeding is essential, especially Bluebonnets. Plants which bloom in the Summer and Autumn can be planted later, up to the middle of March, with good success.

THE RIGHT PLACE. Sun-loving plants will not thrive in the shade; shade-dwelling natives, however, often will grow in full sunlight if a heavy mulch is used and moisture levels in the ground are kept high. Obviously, aquatic plants need water and desert plants need arid conditions.

THE RIGHT SOIL. Most wildflowers have a wider tolerance of acid/alkaline conditions than you think, but the key is good drainage. Elevating your seedbeds, using compost for extra tilth and adding sand or even pea-gravel for better drainage helps. Consult your county agent or county horticulturist (they generally office in the courthouse) for the best methods in your area to make your soil more acid or more alkaline, if you have wildflowers which need those conditions.

BE FIRM. After sowing the seed — either by broadcasting or in rows — cover them with a thin film of good soil mix. Some seeds do not need to be covered and these exceptions are noted in the individual treatment of wildflowers in later pages. But don't just throw out the seed and expect them to flourish. Birds and insects will feast on most of them and the rest will just wait until they find a niche underground before they germinate. After sowing, firm up the seedbed. You can use a roller as is used in sowing grass seed. Or you can just firmly, but carefully, walk all over the seedbed.

WATERING. Water gently, but thoroughly, after sowing. A heavy hosing will wash your seed away. Keep the seedbed moist, but not saturated, to avoid soil-cracking. If your area has an abundance of drying winds, cover the bed lightly with a mulch.

BE PATIENT. Germination will occur in as few as four days or as long as a year or 18 months. Annuals generally sprout quickest; perennials

often take a month or longer; trees will sprout according to the hardness of their seed coats or shells. Black Walnuts sometimes take two years to germinate.

TRANSPLANTING. You can move your home-sown seedlings when they have four true leaves or more. Pick a cool and cloudy day. After watering, put a layer or tent of damp newspapers over them for a few days.

ARACEAE (aa-RAY-see-ee): Arum Family

ARISAEMA triphyllum (airy-SEE-mah try-FILL-um): Jack-in-the-Pulpit, Indian Turnip. Perennial, from a tuber, with three-fingered leaves, hood striped with red or purple, up to 20 inches; blooming May and June in moist woods, mostly in E Texas. **USES:** Accent clumps in shady, damp areas; house plant; unique cut flower. **CULTURE:** Sow seed in Fall after washing off pulp from red berries; transplant tuber from tagged specimens after seed ripens. **A. Dracontium** (dray-KAHN-tee-um): Green Dragon. Leaf has several segments; light-green hood has long, twisting tail; ranges westward to the Edwards Plateau.

COMMELINACEAE (coe-me-lye-NAY-see-ee): Spiderwort Family

COMMELINA erecta (coe-me-LYE-nah ee-WRECK-tah): Day Flower, Widow's Tears. Perennial, from tuberous roots; stems juicy and sprawling up to 18 inches, with two bright blue petals overshadowing the third one, which is white and inconspicuous. Flowers shrivel and disappear by noon on sunny days; blooming from May to October on rocky sandy lands in eastern two-thirds of Texas. **USES:** Mowable, mixed with grasses, provides bright morning color in sun or shade; can become a pest in beds; useful for hanging baskets. **CULTURE:** Fall-sown seeds; stem cuttings in Summer; transplant wild plants any time, but cut back foliage. **C. dianthifolia** (dye-ann-thee-FOLE-ee-uh) is found only in the Trans-Pecos. **C. virginica** (vur-GIN-ee-cah) has reddish hairs on leaves; found in low woods in E and NC Texas.

COMMELINANTIA anomala (coe-me-lye-NAN-tee-uh ann-OM-uh-lah): False Day Flower. Annual, with tufted, pale leaves and showy lavender

flowers on branched stems up to 30 inches, abundantly from May through July; endemic to gravelly ravines and open woods of the Edwards Plateau. Similar to Commelina, but larger flowers. **USES:** Spectacular in masses in light to heavy shade; self-seeds well. **CULTURE:** Fall-sown seeds; transplant tufts in Winter; requires loose, rich soil and some moisture.

TRADESCANTIA (trad-is-CAN-tee-uh): Spiderwort, Spider Lily. Perennials, from fleshy roots, usually with long, tapering, low-lying leaves which wrap around the stems. Three-petaled blossoms last but a day, but are produced in abundance. **USES:** Accent clumps in sun or shade; border plants; use low-growing species in mowable grasslands; Western species in desert and rock gardens; pot plants. **CULTURE:** Sow seed when fresh or in Fall at latest; try Spring stem cuttings; divide clumps any time, cut back leaves to 2 inches. **T. edwardsiana** (ed-ward-see-ANN-nuh): White to mauve, rarely pink, up to 18 inches; leaf is broader than the point where it wraps around the stem; blooms February to May; endemic to the rich woods of SC Texas. **T. gigantea** (ji-gan-TEE-uh): Bright pink to blue, up to 20 inches, with bract beneath flowers and buds muchly inflated; March to May; endemic to limestone pastures in C Texas. **T. hirsutiflora** (her-suit-tah-FLOOR-uh): Bright blue, sometimes pink, on straight, hairy stems up to 30 inches; deep-green leaves have a slight bloom; from March to June on sandy, open woods and prairies in eastern half of Texas. **T. humilis** (HUE-muh-lis): Bright blue, occasionally pink, on muchly-branched stems up to 5 inches; leaves are tinged with rose or purple and are curled; March to June; endemic to sandy, rocky soils in eastern half of the state. **T. micrantha** (my-KRAN-tha): Tiny bright pink or rose flowers on creeping stems, up to 12 inches, which sometimes root at the nodes; May to September; endemic to open woods in S Texas along coast. **T. occidentalis** (ox-sigh-den-TAL-is): Bright blue to rose flowers on straight, branching stems up to 2 feet; broad, stiff leaves up to 1-inch wide; March to July; on open lands all over Texas. **T. ohioensis** (oh-high-oh-INN-sis): Blue to rose to magenta flowers on stems up to 3 feet; petal bases are 1-inch wide; February to May; eastern two-thirds of state. **T. pedicellata** (pea-dik-el-LAY-tah): Pink to dark blue; muchly-branched stems up to 20 inches; individual flowers on stems 1 to 2 inches long; one bract beneath flowers longer than the other; March to May; endemic to rocky soils on the Edwards Plateau. **T. Reverchonii** (rev-er-SHONE-ee-eye): Bright blue flowers on straight stems, up to 30 inches; roots are stout, fleshy and rust-colored; March to July; in open woods of the eastern half of Texas. **T. subacaulis** (sub-aa-KAWL-is): Bright blue, big flowers on 1 to 3-inch stems; leaves are deep-green and cobwebby; March to May; endemic to sandy soils of SE and C Texas. **T. Tharpia** (THOR-pea-eye): Deep rose to purple, sometimes blue, flowers on 6-inch stems; leaves have clear or rose edges, widely spreading to 12 inches; March and April; in clayey soils of

NC Texas. *T. Wrightii* (RIGHT-ee-eye): Rose to magenta to purple flowers on short stems, up to 12 inches; grass-like leaves; May to September; endemic to moist stream banks in Trans-Pecos canyons.

PONTEDERIACEAE (pon-tee-dair-re-AA-see-ee): Pickerel Weed Family

PONTEDERIA cordata (pon-tee-DAIR-ee-uh core-DAY-tah): Pickerel Weed. Perennial, from creeping rhizomes; leaves are erect and heart-shaped or lance-like; spikes of lavender-blue, up to 3 feet; June to September; in marshes and ditches of E Texas. **USES:** Borders for ponds; outstanding in moist places, sun or light shade. **CULTURE:** Transplant any time, but best in Winter; cut back foliage; keep wet.

LILIACEAE (lil-ee-AA-see-ee): Lily Family

ALLIUM (AL-lee-um): Wild Onion, Wild Garlic. Perennial, from a bulb which wears a fibrous coat, with clusters of six-petaled flowers; usually in Spring; leaves have onion odor when crushed. **USES:** Mowable, massed in grasslands; accent clumps in borders; rock gardens; pot plants. **CULTURE:** Fall-sown seed; division of bulb clumps in Summer; transplant any time, but snip foliage. **A. canadense** (can-a-DENZ-see): Clusters of bulblets instead of flowers, up to 20 inches; in eastern two-thirds of Texas. **A. cernuum** (SIR-numb): Nodding clusters of pink stars, up to 20 inches; Summer; Trans-Pecos. **A. Coryi** (CORE-ee-eye): Only yellow onion in Texas, up to 12 inches; Spring; endemic to Trans-Pecos. **A. Drummondii** (dru-MUN-dee-eye): White, rose to red, many flowers in clusters on 12-inch stems; Spring; all over Texas. **A. Kunthii** (COON-tee-eye): White and pink flowers; stems to 12 inches; Fall; Trans-Pecos. **A. stellatum** (stel-LAY-tum): Deep-pink flowers on 20 inch stems; Fall; prairies of NE Texas.

ANTHERICUM Chandleri (ann-THEAR-re-come chand-LEER-ee): Amber Lily, Chandler Lily. Perennial, from fleshy root-clumps; spikes to 4 feet with pale amber to orange blossoms; May to November; along coast in S Texas and in Rio Grande Valley. **USES:** Accent clumps; backs of borders. **CULTURE:** Easy from Fall-sown seed; easier by dividing root-clumps in Winter or early Spring; self-seeds well in soft soils.

ANDROSTEPHIUM coeruleum (an-dro-STEEF-ee-um suh-RUE-lee-um): Blue Funnel Lily. Perennial, from fibrous-coated, flat corm; fragrant, violet-purple, funnel-shaped flowers on 6 inch stems; early Spring; on grassy slopes and sandy soils of C and NC Texas. **USES:** Massed for accent clumps; beds and borders. **CULTURE:** Slow from seed; better to gather marked bulbs from native stands after seeds ripen.

CAMASSIA angustata (kuh-MASS-see-uh an-gus-TAH-tah): Wild Hyacinth. Perennial, from coated, edible bulb; V-shaped leaves; spikes, up to 30 inches, filled with lavender or pale-blue, fragrant flowers; Spring; prairies and open woods from C Texas northward. **USES:** Massed in accent clumps; ditches; backgrounds. **CULTURE:** Easy, but slow, from Fall-sown seed; better to gather bulbs from wild after seeds ripen.

DASYLIRION texanum (day-see-LEER-ee-on tex-AN-um): Sotol. Perennial, forming evergreen clumps; straight, long leaves armed with barbs and with spoon bases; trunk 2 to 7 feet, flowering stalk up to 14 feet, crowded with tiny male or female blossoms; June and July; on Edwards Plateau and in Trans-Pecos. **USES:** Specimen plants; desert gardens; erosion control. **CULTURE:** Transplant any time, best in Winter.

HESPERALOE parviflora (hes-per-AL-oh-ee par-vee-FLOOR-uh): Red Yucca. Perennial, suckering, evergreen; stiff, arching leaves have thread-like fibers curling from edges; spikes up to 7 feet with many, tubular, rosy-red flowers; March to July; on rocky slopes, mostly in C Texas. **USES:** Accent clumps; massed in background; desert gardens. **CULTURE:** Easy, but very slow, from Fall-sown seed; clumps are easily divided in Fall or Winter; give good drainage.

NOLINA texana (know-LINE-uh tex-AN-uh): Bunch Grass, Bear Grass, Sacahuista. Perennial, evergreen; flexible, grass-like, smooth leaves in neat clumps; many densely-flowered spikes, up to 2 feet; Spring; NC Texas, on Edwards Plateau and in Trans-Pecos. **USES:** Excellent for soil erosion control on banks; desert gardens; huge borders; pot plants. **CULTURE:** Fall-sown seed germinate readily, but specimen clumps take years to flower; transplant from wild any time, trim foliage.

NOTHOSCORDUM BIVALVE (know-tho-SCORE-dum bye-VAL-vee): Crow Poison, False Garlic. Perennial, from globular, coated bulb; long, flat, odorless leaves; stems to 15 inches with clusters of white flowers, all with prominent red, purple or green rib; blooms throughout year, mainly in Spring; all over Texas. **USES:** Massed in mowable grasslands; rock gardens; low borders. **CULTURE:** Easy from Fall-sown seed; dig bulbs any time; withstands adverse growing conditions; self-seeds well.

SCHOENOCALON texanum (shone-oh-CAWL-un tex-AN-um): Snake Lily, Green Lily. Perennial, from thickened rootstock; narrow, finely-toothed, dark green leaves in tight clusters; stalks, often twisting, up to 2 feet, crowded with tiny green to yellowish-white blossoms; March to July; S Texas Plains through Edwards Plateau to Trans-Pecos. **USES:** Borders; desert and rock gardens; interesting pot plants. **CULTURE:** Divide root-clumps in Fall; transplant any time, best in Winter.

YUCCA (YUK-uh): Spanish Dagger, Spanish Bayonet, Giant Dagger. Evergreen perennials, sometimes forming clumps or tree-like trunks from 1 to 20 feet; white flowers on spikes; blooms mostly in Spring; in rocky or sandy soil throughout the state. **USES:** Low-growing, tall-flowering species are outstanding massed, especially in foregrounds, or used as barrier hedge; tall species are spectacular as specimens. **CULTURE:** Fall-sown seed; trunk-cuttings, which are dried for a month before inserting in moist sand; transplants, large or small, any time from wild, but best in cool weather. All Yuccas demand good drainage; in wet areas, elevate beds and mix gravel with the soil. **Y. baccata** (buh-COT-uh): Banana Yucca. Clump forming, sweet-fruited, with flowers hidden in foliage; Trans-Pecos. **Y. campestris** (camp-PES-tris). Low, wiry-leaved clumps found only in the sand dunes of four W Texas counties. **Y. elata** (ee-LATE-uh): Soap-tree Yucca. Tree-like, branching; leaves have whitish margins; Trans-Pecos. **Y. faxoniana** (facts-on-ee-AN-uh): Giant Dagger. Up to 20 feet; flowers partially hidden in foliage; W Texas. **Y. louisianensis** (lou-ee-see-an-INN-sis). Limber-leaved; low-growing; NE Texas. **Y. pallida** (PAL-lid-uh). Low-growing; pale blue or sage-green leaves; found only in C Texas. **Y. reverchonii** (rev-er-SHONE-ee-eye). Low-growing; nodding white or greenish, globular flowers; only on Edwards Plateau. **Y. rupicola** (rue-PICK-oh-la). Low-growing, twisted leaves with reddish margins; only on Edwards Plateau. **Y. thompsoniana** (tom-sown-ee-AN-uh). Tree-like, branched; leaves have yellow or brownish margins; Trans-Pecos. **Y. torreyi** (TORE-ee-eye). Giant Dagger. Tree-like, to 12 feet; flowers inside foliage; from Edwards Plateau westward. **Y. treculeana** (tree-cool-lee-AN-uh): Spanish Dagger. Multiple-trunked; stiff leaves, dark green; S Texas.

AMARYLLIDACEAE (am-uh-rill-uh-DAY-see-ee): Amaryllis Family

AGAVE americana (uh-GAY-vee uh-mere-uh-CAN-uh): Century Plant. Long-lived, thick, grayish-green, barbed leaves with stiff spine at ends; rosette-forming from thickened roots; suckering; tall, thick flowering

spikes; June and July; S Texas. **USES:** As specimen plants; desert gardens; massed on banks; dried seed stalks impressive in arrangements. **CULTURE:** From offsets any time around parent plant; transplant any time; good drainage helpful; blooms every 8 to 30 years. **A. havardiana** (huh-vahr-dee-AN-uh). Broad, green leaves in handsome rosettes; Trans-Pecos. **A. lecheguilla** (lay-chee-GHEE-yuh). Lop-sided, upright and sometimes inward-arching, spotted leaves; clump forming and freely suckering; W Texas.

COOPERIA Drummondii (coo-PEER-ree-uh druh-MUN-dee-eye): Rain Lily. Perennial, from long-necked, dark bulb; single, sweet-scented, upright white flowers on 12-inch stems open late in the day or early evening, mainly after rains; from Spring into Summer and Fall; widespread throughout Texas. **USES:** Mowable, in grasslands; borders; rock gardens; pot plants. **CULTURE:** Sow fresh seed when available, blooms in 2 or 3 years; transplant any time, cut back foliage; good drainage essential. **C. Jonesii** (JAWNS-see-eye). Light-yellow; Summer and Fall; endemic mostly to San Patricio and Refugio counties. **C. Smallii** (SMALL-lee-eye). Lemon-yellow; after heavy autumn rains; only in Cameron County.

CRINUM americanum (CRY-numb uh-mere-uh-CA-numb): Swamp Lily. Perennial, from large, stoloniferous bulbs; white flowers, in clusters up to 6, have pink stripes; May to November; damp sites in SE and Coastal Texas. **USES:** Marshy plantings; ditches; pot plant. **CULTURE:** Easy from big seeds planted when ripe; better from transplanted bulbs any time.

HABRANTHUS texanus (haw-BRAN-thus tex-AE-nus): Copper Lily. Perennial, from oval bulb; single, reddish-orange flower, bent horizontally on 12 inch stem; June to November; endemic in moist sites along Coast, up to Edwards Plateau and over to E Texas. Uses and Culture same as *Cooperia*.

HYMENOCALLIS Liriosme (hie-me-know-CAL-is leer-ree-OHS-me): Spider Lily. Perennial, from huge bulbs; many, white, cup-flowers surrounded by 6 slender, finger-petals; on 2 foot stalks; Spring; wet places in E and S Texas. Uses and culture same as *Crinum*. **H. Eulae** (YOU-lay-ee) blooms after leaves die; July to September; SE Texas wet spots.

HYPOXIS hirsuta (hip-OX-sis her-SUIT-uh): Yellow Star Grass. Perennial, from a corm; many hairy leaves; yellow, 6-petaled flowers on stems not as tall as leaves; late February into May; sandy soils of E and C Texas. **USES:** Border accents; pot plant; rock gardens. **CULTURE:** Sow shiny-black seed when ripe; collect from wild any time.

POLIANTHES virginica (pole-lee-ANN-thez vur-GIN-ee-cah): False Aloe, Rattlesnake Master. Perennial, from thick roots; rosette of soft, fleshy green leaves, sometimes mottled; spikes up to 30 inches, with greenish flowers; June to August; E Texas. **USES:** Desert gardens; rock gardens; borders; pot plants. **CULTURE:** Rather easy from fresh seed; transplants well at any time. **P. lata** (LAY-tuh). Yellowish, red-tipped flowers; stems to 40 inches; blue-gray-green leaves; June and July; oak woods and prairies of NC Texas. **P. maculosa** (mac-uh-LOW-suh). Blotched leaves; stems up to 2 feet; crowded with purple or greenish flowers; April to July; endemic, but frequent, in S Texas thickets.

ZEPHYRANTHES pulchella (zeff-ear-RAN-thez pull-KELL-uh): Zephyr Lily, Rain Lily. Perennial, from dark-brown, globular bulb; few leaves appear with flower; upfacing, buttercup-yellow flowers with short tubes; stems to 14 inches; May to October; endemic to swales and ditches of S Texas Coastal Prairie. Uses and culture same as *Cooperia*. **Z. longifolia** (lawn-gee-FOLE-ee-uh). Grassy, thin leaves; flowers bright-yellow with short tubes; stems to 12 inches; April to July; alkaline soils of Trans-Pecos and High Plains of W Texas. **Z. refugiensis** (re-few-gee-INN-sis). Dark lemon-yellow flowers, without any orangish tint, fragrant; stems to 10 inches; July to November; endemic mostly to swales and prairies of Refugio County.

IRIDACEAE (eye-re-dee-AA-see-ee): Iris Family

ALOPHIA Drummondii (uh-LOW-fee-uh druh-MUN-dee-eye): Pinewoods Lily. Until late 1975, this plant was known as *Eustylis purpurea*. Perennial, from bulb with black scales; plaited leaves with distinct veins; alluring flowers on 30-inch stems last only until early afternoon, but several are produced in succession; outer three, cup-shaped segments are pale to deep purple and broad; inner three are crimped; white throat is spotted with brown or gold; from May often into October; cool, sandy Pinelands of E Texas. **USES:** Massed, in woodlands; clumped, in shady borders. **CULTURE:** Fall-sown seed, but Spring sowing often produces flowers in 90 days; collect bulbs from tagged plants after seed are ripe; guard against gophers, which treasure bulbs.

IRIS (EYE-riz). Perennial, from creeping rhizomes; leaves wide, thin and long; in wet sites of E Texas. **USES:** Ideal ditch plant; massed in moist woodlands; border for ponds. **CULTURE:** Seed must be sown when ripe; rhizomes may be divided in Fall; dust cut places of roots with sulphur, let dry before replanting. **I. brevicaulis** (brev-eye-CAWL-is). Dark violet

flowers along zig-zag stems; up to 2 feet; April to June. **I. hexagona** (hex-AG-oh-nuh). Bright violet; on erect stems; six-sided pod with corky seed; March to May. **I. virginica** (vur-GIN-uh-cah). White to blue flowers with distinct yellow blotch on lower three segments; weak stems to 36 inches; three-angled seed pod; April to June.

NEMASTYLIS geminiflora (knee-mass-STYLE-lis jim-eye-knee-FLOOR-uh): Celestial. Perennial, from deeply-buried bulb, new ones growing up through old ones; pleated leaves; sky-blue flowers, usually two, often 3 inches wide, with white eye; stems to 2 feet; March to May; on prairies from NC Texas to Edwards Plateau to SC Texas. **USES:** Clumped in border. **CULTURE:** Same as *Alophia*, but remember that bulbs are deeper than you think.

SISYRINCHIUM (sissy-RINK-kee-um): Blue-eyed Grass. Perennial, from wiry, yellow roots; leaves grass-like, jointed, in tidy clumps; multitudes of nickel-sized, blue flowers with yellow eyes; March to May. **USES:** Mowable, in grasslands; low borders; rock gardens. **CULTURE:** Fall-sown seed; division of clumps when leaves wither; transplant from wild any time; will not survive wet Summers, so keep on dry side. **S. ensigerum** (inn-CIG-er-um). Most widely spread in C and W Texas, with branched stems from 6 to 20 inches. **S. Langloisii** (lang-LOW-EE-see-eye). Numerous stems, up to 14 inches; E Texas. **S. pruinsum** (prew-ee-NOSE-um). Eastern half of Texas, up to 12 inches.

TRIFURCIA caerulea (try-FOOR-key-uh suh-RUE-lee-uh). This, until 1975, was known as *Alophia Drummondii*; before that, it was *Herbertia caerulea*. Perennial, from cone-shaped bulb; stiff-ribbed leaves; perky, short-lived flowers face flatly upward; the three outer segments pale blue-violet, about an inch long; inner segments smaller and darker; stems to 12 inches; March to May; endemic to prairies of S Texas. **USES:** Mowable, in grasslands; rock gardens; clumped in low borders. **CULTURE:** Fall-sown seed; dig bulbs in wild while flowering or else they seem to disappear forever.

NYCTAGINACEAE (knick-tadge-ee-NAY-see-ee): Four O'clock Family.

ABRONIA fragrans (uh-BROUN-ee-uh FRAY-granz): Sand Verbena, Heart's Delight. Perennial, from woody root; sprawling stems with gluey-hairs; white to pink to lavender flowers in globular clusters; stems to 12 inches; March to August; endemic to sandy soils of W Texas,

especially on Rio Grande prairies. **USES:** Massed plantings; single specimen in border; desert gardens. **CULTURE:** Fall-sown seed after overnight soaking; collect roots any time, but dig very deep to get all of roots and cut back foliage drastically; must have soft, sandy soil.

MIRABILIS linearis (me-RAB-ee-lis lynn-ee-AIR-is): Wild Four O'clock. Perennial, from long taproot; clusters of tubular flowers, pinkish-violet to reddish-purple, which open in the afternoon; up to 2 feet; from Spring through Summer into Fall; in open, well-drained sites throughout C Texas. **USES:** Borders; hillsides. **CULTURE:** Fall-sown, soaked seed; collect tagged plants in Autumn; requires good drainage.

NYCTAGINIA capitata (knick-tah-GIN-ee-uh cap-ee-TAH-tah): Devil's Bouquet. Perennial, from deep, woody root; spreading stems; clusters of brilliant, orange-red flowers which smell like carrion; from Spring on into Fall; S Texas Coastal Plains up into Trans-Pecos. **USES:** Striking hillside and dry-ditch plant; somewhat mowable; needs room to sprawl. **CULTURE:** Fall-sown, soaked seed bloom in two years; difficult to transplant from wild because of extremely deep root.

PORTULACACEAE (pour-two-lah-KAY-see-ee): Purslane Family

CLAYTONIA virginica (clay-TONE-ee-uh vur-GIN-ee-cah): Spring Beauty. Perennial, from brownish corm, just underground; fleshy, grass-like leaves; clusters of five-petaled white or pink flowers with veins; Springtime; sandy, loose soil of N and E Texas. **USES:** Mowable, in grasslands; low borders; clumped in open woodlands. **CULTURE:** Fall-sown seed rather easy; collect corms while plant is flowering as they disappear quickly from view; good drainage, soft soil are necessities.

RANUNCULACEAE (ruh-nung-cue-LAY-see-ee): Crowfoot Family

ANEMONE carolinana (uh-NEM-oh-knee cow-row-lynn-ee-AN-uh): Wind Flower. Perennial, from a corm which produces rhizomes; cleft leaves clustered at base, except for a leaf-ring at the middle, or above, the foot-tall stem; flowers of 10 or more sepals, from white to rose to blue to deep violet; early Spring; sandy soils of eastern fourth of Texas. **USES:** Border

plants for early bloom; pot plants; rock gardens. **CULTURE:** Fall-sown seed germinate erratically; corms are easily collected when plant is in its fluffy stage of seeding. **A. heterophylla** (het-er-oh-FILL-uh) has fewer sepals, white with bluish backings, and the leaf-ring is below the middle of the flowering stem; found over most of Texas.

AQUILEGIA canadensis (ack-wee-LEE-gee-uh can-a-DENZ-see): Columbine. Perennial, almost evergreen, from woody root-base; attractive, compound foliage; nodding yellow flowers with upright red spurs; stems to 3 feet; March to May; found in Texas only on the Edwards Plateau, but native to a wide area of the United States. **USES:** Mixed with Maiden-hair fern, makes attractive, year-around shady border plant; massed in shady woodlands; pot plant. **CULTURE:** Sow seed as soon as ripe; divide root-clumps in Fall. **A. Chaplinei** (chap-PLINE-ee-uh), **A. chrysantha** (chris-SAN-tha), **A. Hinckleyana** (hink-lee-AN-uh) and **A. longissima** (lawn-JISS-ee-muh) are all found in the Trans-Pecos and all are yellow.

DELPHINIUM carolinianum (dell-FIN-ee-um cow-row-lynn-ee-AN-um): Wild Larkspur. Perennial, from shallow, tuber-like roots; clusters of leaves at base of slender, 36-inch stem, crowded with bright blue to violet, spurred flowers; late Spring; Edwards Plateau. **USES:** Open, sunny sites; massed in borders; roadsides and hillsides. **CULTURE:** Sow seed in early Fall or Spring; some will bloom within a year; divide root-clumps in Summer; transplant any time, best when flowering finished or when new leaves emerge in December. **D. virescens** (vuh-RES-inns): White or Plains Larkspur. Found over wide range of state; white to lightish-blue flowers.

RANUNCULUS macranthus (ruh-NUNG-cue-lus ma-KRAN-thus): Showy Buttercup. Perennial, with stout roots; leaves rather three-parted; flowers bright-yellow, five petaled cups; stems to 2 feet; March to June; moist woods of N, C and S Texas. **USES:** Massed in shady, damp woodlands; edging for ponds or streams; shady borders. **CULTURE:** Fall-sown seed often bloom next Spring; division of root clumps after blooming; collect after flowering.

PAPAVERACEAE (poppa-vur-RAY-see-ee): Poppy Family

ARGEMONE albiflora (or-JIM-oh-knee al-be-FLOOR-uh): White Prickly Poppy. Annual or biennial; spine-tipped leaves; sticky, branched stems to 3 feet; flowers usually have six white, papery petals with centers of

golden stamens; March to June, sometimes later; over most of Texas. Juice of stem is yellow-orange and irritates tender skin. **USES:** Massed along roadsides; middle of borders; attractive barrier hedge plant; pods are interesting dried material, but handle gingerly. **CULTURE:** Fall-sown seed where it is to grow; transplantable only in very young stages. Species readily hybridize with each other and must be kept far apart to preserve color strains. *A. sanguinea* (sang-GWIN-ee-uh) of S Texas has rose and lavender flowers. *A. mexicana* (mex-ee-CAN-uh) and *A. aenea* (ee-KNEE-uh), with prominent blue leaf-veins, are golden flowered species from S and W Texas.

CORYDALIS aurea (coe-RID-uh-lis AWE-ree-uh): Scrambled Eggs. Annual; leaves muchly divided, often with bluish tints; yellow, spurred flowers twist around the foot-high stem; February on into Summer and sometimes early Fall; western half of Texas. **USES:** Winter growth of spreading stems provides attractive ground cover; foreground of borders; massed along roadsides. **CULTURE:** Fall-sown seed; transplant from wild in November and December.

CRUCIFERAE (crew-see-FER-uh): Mustard Family

LESQUERELLA gracilis (les-quee-RELL-uh GRAZ-ee-lis): Bladderpod. Annual; several erect, branched, 15-inch stems; the tops covered with four-petaled flowers in abundance; followed by inflated seed pods; March to May; throughout S and C Texas. **USES:** Spectacular massed along roadsides; accent clumps in sunny border. **CULTURE:** Fall-sown seed; self-seeds well.

CAPPARIDACEAE (cap-par-ee-DAY-see-ee): Caper Family

POLANISIA dodecandra (pole-lah-KNEE-see-uh dotty-CAN-dra): Clammy weed. Annual; sparsely branched, with rank-smelling leaves and stems; up to 2 feet; topped with pink, long-stamened, spidery flowers; May to October; throughout Texas. **USES:** Quick cover for waste places; not desirable for foot-traffic areas because of offensive odor of crushed stems. **CULTURE:** Blooms in six weeks from Spring or Summer-sown seed.

LEGUMINOSAE (lay-goo-me-KNOW-see-ee): Pea Family

BAPTISIA australis (bap-TISS-ee-uh AWES-tral-is): Wild Blue Indigo. Perennial, from deep rootstock; bushy-branched, up to 4 feet; clusters of blue, upright flowers; March to May; in NC Texas. Flowers followed by inflated, dark seed pods; entire plant turns black when dead. **USES:** Specimen plants; border backgrounds; dried in arrangements. **CULTURE:** Fall-sown seed after treatment with legume innoculant; dig deep and transplant rootstocks in Winter. *B. leucantha* (lou-CAN-tha) has tall spikes of white flowers with purple spots; sandy E Texas woods. *B. leucophaea* (lou-coe-FAY-ee-uh) has nodding, yellow flowers beneath foliage; eastern half of state. *B. Nuttalliana* (nut-tall-lee-AN-uh) has symmetrical bushes with upright stems of yellow flowers; E and NC Texas. *B. sphaerocarpa* (suh-fear-oh-CAR-puh) is loosely branched with yellow flowers; E, SE and NC Texas.

CASSIA fasciculata (KAZ-ee-uh faw-sick-you-LAY-tah): Partridge Pea. Annual; compound leaves have 8 to 15 pairs of leaflets; erect stems, to 40 inches; open, yellow, red-dotted flowers, which wilt in afternoon; July to October; mainly on sandy soils in E and C Texas. **USES:** Showy roadside masses for Summer color; good bird food; nitrogen-nodules on roots improve soil, but young plants may be toxic to pasture animals. **CULTURE:** Fall or Winter-sown seed.

DALEA aurea (DAY-lee-uh AWE-ree-uh): Golden Dalea. Perennial, from slightly woody rootstock; silvery, compound leaves; stems to 2 feet; tiny flowers clustered in golden thimbles; May to July; western two-thirds of Texas. **USES:** Border plant. **CULTURE:** Fall-sown seed; transplant tagged plants in Autumn.

LUPINUS texensis (lou-PINE-us tex-INN-sis): Texas Bluebonnet. Annual, from nodule-festooned roots; five-fingered leaves with sharp points; up to 15 inches; blue spikes appear to be silver-tipped; Spring; endemic naturally in a belt from NC Texas south to San Antonio, from Brenham westward to San Angelo. By edict of a 1971 law, this and all other native Lupine species are the state flower of Texas. **USES:** massed, along roadsides and hillsides; attractive in large pots grown outside in full sun as accent plants. **CULTURE:** Gather seed-stems when pods start turning brown and before they split; dry in large paper bag until pods split and seeds fall loose. Sow seed in late Summer or early Fall after soaking seed for several days in warm water, which must be changed daily. Using an

innoculant especially prepared for Lupines is helpful, but not absolutely necessary. If seed are planted late, germination may be hastened by freezing for two days and then pouring boiling water over them; soak for two or three days, draining and adding more hot water daily. Seed must be covered to germinate. Bluebonnets are hardy and form ground-hugging rosettes during the Fall and Winter, erupting into bloom when Spring's heat arrives. Seed, if kept dry, cool and dark, have extraordinary viability, up to 35 years. *L. concinnus* (con-SIN-nus) is short, up to 6 inches, with blunt leaves and reddish-purple flowers; found infrequently in the Trans-Pecos. *L. Havardii* (huh-VAHR-dee-eye) is tall, up to 3 feet, with bluish-purple flowers on stiff spikes; leaves often have seven segments; found in alluvial soils of the Big Bend. *L. plattensis* (plat-TEN-sis) is an erect perennial, up to 20 inches, with leaves which usually have more than six leaflets; found rarely on sand dunes in Hartley County. *L. subcarnosus* (sub-car-KNOW-sus) was named the original state flower in 1901; flowers are light blue; leaflets have blunt or notched tips; endemic to sandy soils of S Texas.

PETALOSTEMUM candidum (pet-tah-low-STEM-um CAN-dee-dum): White Prairie Clover. Perennial, from a woody base; slender stems up to 30 inches; leaflets five to nine; clusters of many, tiny, white flowers in neat thimbles; late Spring and Summer; scattered in parts of E, SE and NC Texas. **USES:** Refreshing color in Summer border; outstanding hillside plant to combat erosion; makes neat mounds in rock gardens. **CULTURE:** Fall-sown seed after treating with legume inoculant; transplant tagged plants in Fall. **P. purpureum** (pure-PURE-ee-um): Purple Prairie Clover. Taller, up to 36 inches, with purple clusters in Summer and early Fall; found in counties bordering the Red River and south through C Texas to the Hill Country.

PSORALEA cuspidata (so-RAIL-ee-uh cuss-pee-DAY-tah): Scurvy Pea. Perennial, from a husky root which is thickest in the middle; five-fingered leaves; stems sprawling, but erect and branched in flower; up to 2 feet; dense clusters of violet-purple flowers: April and May; NC Texas, the Plains and Edwards Plateau. Pods have only one seed and do not split open. **USES:** Accent clumps; mixed borders; on hillsides. **CULTURE:** Fall-sown seed, treat with inoculant; had to transplant unless plant is tagged.

OXALIDACEAE (ox-al-eye-DAY-see-ee):

Wood Sorrel Family

OXALIS violacea (ox-AL-is vie-oh-LAY-see-uh). Perennial, from a scaly

bulb; three-parted leaves go to sleep and fold downward at night or in cloudy weather; stems to 12 inches; violet flowers, in clusters; Spring, with leaves, and in Fall, without leaves; sandy woodlands in eastern fourth of Texas. **USES:** Winter window-sill pot plants; massed in low borders; rock gardens. **CULTURE:** Summer or Fall-sown seed; collect bulbs from wild while in flower. **O. Drummondii** (druh-MUN-dee-eye) has larger, darker leaves which sometimes have maroon bands; Fall blooming mostly; apparently endemic to Edwards Plateau and Rio Grande Plains.

LINACEAE (lye-NAY-see-ee):

Flax Family

LINUM Lewisii (LYE-numb lou-WEESE-ee-eye): Blue Flax, Prairie Flax. Perennial; branching at base; slender leaves crowded on stems, up to 30 inches; bright blue, five-petaled flowers, which drop off in the heat of the day or when disturbed; seed are flat, shiny and oily in 10-parted pods; March to June; on open prairies and roadsides in N, C and W Texas. **USES:** Roadsides and hillsides; massed in mixed borders; rock gardens. **CULTURE:** Fall-sown seed; transplant from wild any time, but best in Fall when new growth starts. **L. pratense** (pray-TEN-see): Meadow Flax. Annual; up to 15 inches; blue; leaves mostly crowded at the base; March to July; N and W Texas. **L. rigidum** (RE-jid-um): Yellow Flax. Annual; branching, stiff stems; broad, yellow flowers often banded with copper or reddish-brown at base; May to September; western two-thirds of Texas.

POLYGALACEAE (poe-lee-guh-LAY-see-ee):

Milkwort Family

POLYGALA alba (poe-LEE-guh-luh AL-buh): White Milkwort. Perennial; much-branched base; stems to 15 inches; spikes of creamy-white flowers in slender, conical clusters; fruit a distinct two-celled pod; March to October; all over Texas, except extreme E Texas. **USES:** Charming in low borders; rock gardens; massed on hillsides. **CULTURE:** Fall-sown seed; transplant tagged plants in Fall. **P. longa** (LAWN-guh): Blue Milkwort. Flowers spaced along 20-inch stems; April to November; W Texas. **P. polygama** (poe-LYE-guh-muh): Pink Milkwort. From one to many stems, from a rhizomatous rootstock; stems to 12 inches; open, pink, infertile flowers; April to June; open woodlands in E Texas. The whitish, fertile flowers are produced inconspicuously at the base or, later

in the season, in the axils of the leaves. Milkworts do not have milky sap, but were so-named because the plant was supposed to produce abundant milk in nursing mothers.

EUPHORBIACEAE (you-four-be-AA-see-ee): Spurge Family

EUPHORBIA bicolor (you-FOUR-be-uh BYE-color): Snow-on-the-Mountain. Annual; stems to 2 feet, branching into three stems midway; long, white-margined leaves, especially at the tips of the stem; insignificant flowers followed by three-celled pod; late Summer and Fall; over uplands in western half of Texas. Milky sap can irritate tender skins. **USES:** For massed effects along roadsides and hills; in borders. **CULTURE:** Fall-sown seed may be broadcast and left uncovered; pinching of young plants in late Spring will produce unusual and attractive bushy form. **E. cyathophora** (sigh-uh-THOFF-oh-ruh): Painted Leaf, Wild Poinsetta. Several branches; bright green leaves are spotted with splashes of red at tips of growth beneath flower cluster; throughout the state sparingly, mostly on Coastal Plain along river. **E. marginata** (mar-gee-NAY-tuh): Snow-on-the-Prairie. White-margined leaves are egg-shaped; stems to 3 feet; on Coastal Plain and C Texas.

MALVACEAE (mal-VAY-see-ee): Mallow Family

CALLIRHOE (callie-ROY): Wine Cup, Poppy Mallow. Mainly perennials (two are annuals), from a fleshy tuber; mostly sprawling stems, some to 10 feet; segmented leaves; early Spring into Summer; over most of Texas. Seeds are tiny spokes in a wagon-wheel capsule. **USES:** Mowable, in grasslands; massed along roadsides and on hillsides; in accent patches; hanging basket plant if kept pinched and given room for root growth. **CULTURE:** Sow seed when ripe or in Fall; transplant tubers any time, best in October when new growth starts. **C. alcaeoides** (al-kay-AWE-EE-dees). Perennial; small, bractless, pink or white flowers in clusters on erect stems; March to May; limestone soils of C and N Texas. **C. digitata** (dij-uh-TAH-tah). Perennial; leaves five to seven-parted; bractless, red or purple flowers with petals irregularly notched on erect, single stems; March to June; C and NC Texas. **C. involucreta** (inn-vol-lou-CRAY-tuh). Perennial; leaves five to seven-parted; reddish-purple, hairy-tipped

flowers have inch-long, slender bracts beneath them; February to June; throughout Texas, except the Trans-Pecos. **C. leiocarpa** (lee-eye-oh-CAR-puh). Annual, with slender taproot; leaves three to six-parted; slender, erect stems to 30 inches with bractless, red-purple to light pink flowers, which have notched petals; March to August; open woods of C and S Texas. **C. Papaver** (pa-PA-vur). Perennial, from long, narrow root; leaves three to five-parted; red flowers, with tiny bracts beneath, are borne well above the leaves; March to August; E Texas woods. **C. scabriuscula** (scay-bre-US-cue-lah). Rare, endemic annual; three to five-parted leaves; erect stems to 18 inches; red to purple flowers with tiny bracts; March to July; found only along Colorado River in C Texas.

COCHLOSPERMACEAE (cock-low-sperm-MAY-see-ee): Cochlospermum Family

AMOREUXIA Wrightii (ammo-RUSE-ee-uh RIGHT-tee-eye): Yellow Show. Endangered perennial, from a thick, brownish tuber; gray-green, five-fingered, succulent-like leaves; flowers have five golden petals of unequal width, splotched with vermilion at the base; flowers open at dawn, gone by noon; seed encased in papery, elliptic balloon; May through September; found naturally only in isolated spots along Upper Rio Grande River. **USES:** Border plants; pot plants; Summer tub plant for patio; desert garden; rock garden. **CULTURE:** Seed germinate best — maybe only — when soil temperature is 75 degrees or more. Fall-sown seed await the Spring to germinate. Will bloom within six weeks from June-sown seed. Hardiness of tubers not fully known north of Austin.

VIOLACEAE (vie-oh-LAY-see-ee): Violet Family

VIOLA (vie-OH-lah): Violet. Perennial mostly (only one annual), from a varied crown; low-growing leaves; mainly blue or violet flowers; early to late Spring; mostly in the eastern half of the state. Most of the species have showy, infertile flowers, which are followed by inconspicuous fertile (cleistogamous) flowers which never open, but produce spikes with viable seed in Summer and early Fall. **USES:** For masses as a carpet in shady, moist woodlands; for foregrounds of shady borders with ferns. **CULTURE:** Fall-sown seed is erratic in germination; best to transplant

from wild; most species demand a soil on the acid side. *V. lanceolata* (lance-oh-LAY-tah): Lance-leaf Violet. Perennial, producing mats from stolons during growing season; lance-shaped leaves; flowers white, blue-veined; March and April; open, wet sites of E Texas. *V. Langloisii* (lang-LOW-EE-see-eye), Perennial, with conspicuous rhizomes; triangular leaves up to 3 inches long; pale blue flowers borne above leaves; March to May; moist, hardwood forests of E Texas. *V. Missouriensis* (miz-zoor-re-INN-sis). Perennial, most common, from rhizome; leaves often have up to six rounded indentations on margins; up to 30 leaves in a clump; flowers blue to purple, the lowest petal bent back in a spur; March to May; E, C and N Texas, westward to the ravines of the Edwards Plateau. *V. pedata* (puh-DAY-tah): Birds-foot Violet. Perennial, from thick, short rhizomes which do not spread; leaves divided into several segments, suggesting a birds' footprint; big flowers, up to 1½ inches wide, with violet petals, the upper two usually darker in contrasting color; March and April; E Texas pinelands; definitely requires shade and acid soil. *V. primulifolia* (prim-you-lee-FOLE-ee-uh). Perennial, with stiff, white stolons, forming masses of united plants; small, lance-shaped leaves; white flowers with lower petals usually blue-veined; March to May; in ditches and marshy fields of E Texas; withstands full sun if moisture is abundant and makes good lakeside plant. *V. pubescens* (pew-BES-cenz): Yellow Violet. Perennial; distinct, branching stems; four to eight leaves at base; small, yellow flowers; March to May; in rich moist woodlands and along streams in NE Texas. *V. Rafinesquii* (ray-fee-NES-cue-eye): Field Pansy. Annual; leafy branches; tiny, half-inch, tri-colored flowers produced in abundance; February to April; along roadsides and in open fields of E Texas; wait for second (cleistogamous) seed crop to harvest fertile seeds. *V. sororia* (sore-OR-ee-uh). Perennial, from thick rhizome; leaves broadly spreading, oval to kidney-shaped, hairy, smooth margins; flowers range from light lilac through reddish-purple to dark violet-purple; March and April; in woodlands of all sorts in the eastern half of Texas.

ONAGRACEAE (ahn-nuh-GRAY-see-ee): Evening Primrose Family

CALYLOPHUS Drummondianus (kuh-LILL-oh-fuss druh-mun-dee-AN-us): Day Primrose. Members of this group were formerly classified in *Oenothera*. Perennial, nearly evergreen; erect, up to 15 inches; alternate, saw-toothed leaves which turn reddish in Winter; four-petaled yellow flowers, with stigma and petal bases sometimes black, open in morning and remain open during the day; March to October; on gravelly soils in C, N and S Texas. **USES:** Tidy border plant; pot plant; rock and desert

gardens. **CULTURE:** Fall-sown seed; best to transplant in Winter, cut back stems. Two other species are similar: *C. australis* (AWES-tral-is) is on the Coastal Plains and *C. serrulatus* (cere-uh-LAY-tus) is in NC Texas, but neither have black spots. *C. Hartwegii* (heart-WEE-gee-eye) sprawls in growth; grayish leaves; flowers open just before nightfall and remain open during the night; western part of Texas.

OENOTHERA (ee-know-THEER-uh). A widely variable group, with species all over the state, from 6 inches to 6 feet, with flowers of white, pink or yellow. **O. Drummondii** (druh-MUN-dee-eye): Beach Primrose. Perennial; sprawling stems make yard-wide clumps; huge, four-inch, yellow flowers open as evening nears; March to November; all along Coastal beaches. **USES:** Excellent sand binder; foregrounds of beach cabins; roadsides and dune-sides in Coastal areas; withstands salty breezes. **CULTURE:** Needs loose soil, moisture if grown away from the beach; transplant in Winter, prune severely. **O. Jamesii** (JAMS-ee-eye). Biennial or perennial; up to 6 feet; in wet places from the Edwards Plateau west to Trans-Pecos, with yellow flowers which fade to red. Blooms July to October, followed by handsome seed-stalks which are useful in arrangements. **USES:** Good for water edges, marshy sites. **CULTURE:** Scatter tiny seed on moist sites in Fall; transplant yearling rosettes in Fall. **O. missouriensis** (muz-zoor-re-IN-sis): Ozark Sun Drops, Fluttermills. Perennial, with reddish stems; four-inch or more butter-yellow flowers, with long tubes, are borne above foliage from May to August on limestone soils from Edwards Plateau to NC Texas. Four-winged, huge seed pods are distinctive. **USES:** Borders; hillsides; foundation plant. **CULTURE:** Fall-sown seed in individual peat pots or where it is to grow; difficult to transplant from the wild. **O. primiveris** (prim-uh-VER-is). Desert Primrose. Annual, with basal rosettes of leaves and perky, yellow, two-inch flowers from the center; March and April on desert floor of the Trans-Pecos. **USES:** Roadsides; foreground of border. **CULTURE:** Fall-sown seed. **O. speciosa** (spee-cee-OH-suh): Pink Evening Primrose. Perennial, sprawling from slender, spreading rhizomes; white to pink flowers veined with pink or red; March to July; throughout the state. Flowers are largest in Springtime, dwindling to half-dollar size in Summer heat. Northern populations are more upright, most often white. Seed are pink, tiny, enclosed in tough capsule. **USES:** Roadsides; bedding plant if given room; long-lived and colony-forming. **CULTURE:** Fall-sown seed; Summer cuttings; transplants any time. **O. triloba** (try-LOBE-uh): Evening Buttercup. Annual, forming Winter rosettes; producing numerous, three-inch yellow flowers during late afternoons from February to May on Edwards Plateau and NC Texas in moist grasslands. **USES:** Movable, in grasslands; low borders. Big, often fist-sized, clusters of seed capsules are produced almost underground and are unique decorations. **CULTURE:** Fall-sown seed.

STENOSIPHON linifolius (sten-no-SIGH-fon lynn-ee-FOLE-ee-us). Perennial, with tall spikes up to 6 feet; crowded with tiny, white flowers; June to October; on limestone soils of Edwards Plateau to NC Texas. **USES:** Excellent background plant. **CULTURE:** Fall-sown seed; difficult to transplant.

UMBELLIFERAE (umm-bu-LIFF-er-ree): **Parsley Family**

AMMI majus (AM-ee MAY-jus): Queen Anne's Lace. Annual, introduced and widely naturalized throughout E, NC and S Texas, with clusters of white, tiny flowers on 3-foot multi-stems from March to June. **USES:** Roadsides and ditches; border backgrounds. **CULTURE:** Fall-sown seed.

DAUCUS carota (DAW-cus cow-RAH-tuh): Wild Carrot. Biennial, with fine-cut foliage which smells like carrots when crushed; white flowers in flat clusters; April and May; on Blackland prairies. **USES:** Massed; roadsides and ditches. **CULTURE:** Fall-sown seed.

ERYNGIUM Leavenworthii (ee-RIN-gee-um lev-inn-WUR-the-eye): Eryngo. Annual; with sharp-pointed leaves which turn metallic purple when thistle-like, purple flower heads come into bloom from July to October; all over Texas, except Rio Grande Plains and Trans-Pecos. **USES:** Massed along roadsides, hillsides; flower-heads do not retain the color when dried, but may be sprayed when bone-dry. **CULTURE:** Fall-sown seed; resents transplanting when young.

GENTIANACEAE (gee-inn-cha-NAY-see-ee): **Gentian Family**

CENTAURIUM Beyrichii (sinn-TAR-ree-um bay-RICK-ee-eye): Mountain Pink. Annual, with grayish-green basal leaves, forming tidy mounds of many frosty-pink stars on limestone soils of C and NC Texas from May to August. **USES:** Hillsides; excellent for rock gardens. **CULTURE:** Fall-sown seed (very tiny) where they are to grow; transplant in Winter from wild; give plants a gravel-mulch.

EUSTOMA grandiflorum (YOU-stow-muh grandee-FLOOR-um): Texas Bluebell, Purple Prairie Gentian. Annual, but sometimes short-lived

perennial if flower stems are cut before seed matures, from white root; up to 30 inches; saucer-shaped flowers from June to September; moist locations over much of Texas. Flowers may be pink, blue, white or yellow, but generally are glowing purple and are often 4 inches wide with a white throat. **USES:** So good as a cut flower that it is nearly extinct in many places; ditches; moist, sunny sites. **CULTURE:** Seed are minute, dust-like. The best way to germinate them is this: Get two containers, one smaller than the other; the larger one water-proof. Punch holes in small can, in the bottom and along the lower third of side. Fill bottom with gravel, upper half with loamy soil. Pour boiling water over soil; let cool. Sprinkle seed on top of soil; do not cover. Put small can into larger one. Half-fill outer can with water. Put pane of glass over seed-can or cover with plastic. Transplant gingerly when very small. Or transplant from wild.

SABATIA campestris (suh-BAT-ee-uh cam-PEST-tris): Rose Gentian, Pink Texas Star. Annual; with winged stems and smooth leaves; flowers are broad, pink stars, the white throat circled with yellow; eastern half of state; blooming from April to July. **USES:** Mowable, in grasslands; roadsides; perky plant in borders. **CULTURE:** Same as Eustoma.

APOCYNACEAE (uh-pos-uh-NAY-see-ee): **Dogbane Family**

AMSONIA ciliata (AM-sone-ee-uh sill-ee-A-tah): Blue Texas Star. Perennial, from woody stolons which make colonies of slender-stemmed bushes, usually 20 inches high, clusters of lead-blue flowers; March to May; limestone and chalky hills on the Edwards Plateau and in NC and SC Texas. Corky, cinammon-stick seed in long tubes. **USES:** Hillsides; accent clumps; borders. **CULTURE:** Fall-sown seed; divide clumps in Autumn; transplant any time, best in Winter. **A. tabernaemontana** (tay-burr-nay-mon-TAN-uh): Larger, wider leaves; found in sandy soils and along streams in NE Texas.

MACROSIPHONIA Macrosiphon (mac-crow-SIGH-fawn-ee-ah mac-crow-SIGH-fawn): Rock Trumpet. Perennial, low-growing but bushy; up-facing white or sometimes pink trumpets which open on single stems as evening approaches; May to September; open places of the Rio Grande Plains up to Edwards Plateau and west to Trans-Pecos. **USES:** Rock-garden delight; desert gardens; borders. **CULTURE:** Fall-sown seed; transplant any time, but best in late Winter.

ASCLEPIADACEAE (ess-clee-pea-uh-DAY-cee-ee): Milkweed Family

ASCLEPIAS (ess-CLEE-pea-us): Milkweed. Perennial, from thick rootstocks, wondrously variable among the 36 species in Texas, with green, white, pink, purple, orange and red flowers of unique construction; growing in sun or shade, deserts and bogs. Some of the more meritorious species are: **A. incarnata** (inn-car-NAY-tuh): Swamp Milkweed. Tall-growing, from shallow roots, with pink flowers at the tips; June to October; along banks and in marshes from the Plains Country to SC Texas. **USES:** Great for banks and accent clumps in bogs. **CULTURE:** Fall-sown seed; transplant from wild with ease nearly any time. **A. speciosa** (spee-see-OH-suh): Showy Milkweed. Stems up to 40 inches; leaves very woolly beneath; biggest flowers of all, in the nodes of upper stem, purple-rose. Blooms May to September in High Plains. **USES:** Accent clumps. **CULTURE:** Fall-sown seed; hard to transplant. **A. texana** (tex-AN-uh): Low-growing, up to 20 inches, becoming shrubby with age and covered with tiny snowballs from May to August; along the canyons of the Edwards Plateau. **USES:** Borders; rock garden. **CULTURE:** Quick from Fall-sown seed, blooming the next Spring; transplant any time from wild. **A. tuberosa** (tube-uh-ROSE-uh): Butterfly Weed. Brilliant orange to red, sometimes yellow, flowers at stem-tips from April to September over eastern half of state. A butterfly delight. Does not have milky sap like other species. **USES:** Accent clumps; borders. **CULTURE:** Fall-sown seed is best way, since monstrous, deep-seated roots are difficult to dig and rarely survive transplanting from the wild. **A. variegata** (vary-GAY-tuh): White Milkweed. Large and showy clusters at the tops of stems which may reach 4 feet; considered by many as one of the most beautiful of all the species. Blooms from April to July in sandy, E Texas soils. **USES:** Accent clumps; background plant. **CULTURE:** Fall-sown seed; big roots are hard to transplant. **A. viridis** (VEER-i-dis): Antelope Horns. Low-growing with stiff stems; large and showy clusters of pale green flowers, followed by upright, inflated seedpods. **USES:** Accent clumps; borders; roadsides, will withstand mowing. **CULTURE:** Fall-sown seed; hard to transplant from wild.

POLEMONIACEAE (polly-moan-knee-AA-cee-ee): Phlox Family

GILIA rigidula (GILL-ee-uh rij-uh-DEW-la). Perennial, from wandering roots; forming bushy mounds up to a foot high and round, capped with

golden-eyed blue stars, which open late in the morning. Various subspecies are found in the Edwards Plateau, NW Texas and Trans-Pecos, with most flowers in Spring, some in the Fall. **USES:** Low borders; rock and desert gardens; pot plant. **CULTURE:** Fall-sown seed; transplant from wild by digging deeply to catch roots and pruning stems severely.

IPOMOPSIS rubra (ip-po-MOP-sis RUBE-bra): Standing Cypress, Texas Plume, Red Gilia. Biennial, forming first-year rosettes which hug the ground with white-ribbed, fern-like leaves; exploding up to 6 feet second Summer with tubular, bright-red flowers crowded at top, opening from the top downward. Found on dry, rocky ground of E and C Texas. **USES:** Spectacular background plant; hillsides; accent clumps. **CULTURE:** Fall-sown seed; transplant yearlings from wild in Winter or early Spring. If top of flower-spike is cut, will form many smaller stems.

PHLOX (FLOCKS). Annual (perennial species treated in following paragraph) with hairy, opposite leaves, blooming riotiously in Spring; from white through red to purple, often with rings or stars in the throat; about 15 inches tall. **USES:** Massed, along roadsides; borders; hillsides. **CULTURE:** Fall-sown seed where plants are wanted, since they resent transplanting. Or sow three seeds in each individual peat pot and submerge pot where plants are wanted after seedlings are 2 to 3 inches high. Chill Spring-sown seeds before planting. **P. Drummondii** (drew-MUN-dee-eye). First collected in 1834, now the most widely planted annual in the world; very adaptable to soils. Up-facing flowers in all colors, many with eyes and rings and stars. Six subspecies found in E, S, C and NW Texas. **P. glabriflora** (GLAY-bre-fole-ee-uh): Rio Grande Phlox. Many branches from base; light purple to pink with a pale eye; February to June; along Coast and the lower Rio Grande Valley. **P. Roemeriana** (row-mer-ee-ANN-uh): Gold-eye Phlox. A little dandy, with inch-wide pink or lavender flowers on 3-inch plants; white eye banded with gold; endemic to Edwards Plateau; beginning to bloom in March and continuing as long as there are rains. Excellent rock garden plant.

PHLOX (FLOCKS). Perennial, often from spreading rhizomes, with weak stems usually and erect flower heads in Spring. Colors mainly pink to lavender. **USES:** Bedding plant; in borders; roadsides and ditches; shady hillsides; woodland walks. **CULTURE:** Freeze seed a week before sowing in Fall; cuttings in Summer; division of clumps in Fall and Spring; transplant from wild any time, snip back foliage. **P. divaricata** (dye-vary-CAY-tah): Sweet William, Blue Phlox. Almost evergreen stems, with 6 well-spaced nodes, elliptic to ovate leaves; white to lavender flowers, generally pinkish, whose petals are never notched; found in rich, humusy E Texas woods. **P. mesoleuca** (mess-oh-LOU-cah): White-eye

Phlox. Pink flowers with distinct centers on tidy, 6-inch clumps; blooming throughout the growing season on slopes in the Trans-Pecos. A prize for the rock garden; resents wet feet; withstands full sun. *P. oklahomensis* (oak-la-home-INN-sis). Lavender, pink or white flowers, with notched petals, in NE Texas grasslands. *P. pilosa* (pie-LOW-suh): Downy Phlox, Prairie Phlox. Lean-leaved, up to 2 feet; stems and leaves covered with soft hairs; purple, pink, lavender and white flowers in grasslands and open woodlands of E, S and SW Texas.

HYDROPHYLLACEAE (hie-dro-fah-LAY-see-ee): Waterleaf Family

HYDROLEA ovata (hie-dro-LEE-uh oh-VEY-tuh): Blue Waterleaf. Perennial, whose erect, hairy stems are armed with sharp-pointed spines, especially at tips; up to 30 inches; bright-blue clusters of flowers from August to October; in ditches and ponds of E and SE Texas. **USES:** Great for ditches and pond edges. **CULTURE:** In Fall, wrap several seeds in mud ball; let dry; drop in wet spots; or sow in pots and transplant; transplant from wild very gingerly any times. *H. spinosa* (spi-KNOW-suh) has larger flowers, more spines and blooms in June in Cameron County.

NAMA hispidum (NAY-muh HISS-pea-dum): Annual, generally low-growing, covered with gluey hairs and lobed leaves; large flowers for a tiny plant, from pink to purple, in sandy locations over most of state from March to July. **USES:** Roadsides; low borders. **CULTURE:** Fall-sown seed.

NEMOPHILA phacelioides (nim-MOFF-fah-la fay-sill-ee-owe-EE-dees): Baby Blue Eyes. Annual, with weak stems and showy blue flowers with paler throats, from March to May in shady woodlands of C, E and SE Texas. **USES:** Charming in shady nooks; along woodland walks. **CULTURE:** Fall-sown seed. Succulent leaves provide juicy meals for insects and preventive measures are required.

PHACELIA congesta (fay-SEE-lee-uh cone-JEST-tuh): Blue Curly. Annual, up to 4 feet, usually hairy and smelly; clusters of blue flowers arranged in fiddle necks at the top; March to June; most of state except E Texas. **USES:** Fence-lines and hillsides; backs of borders; accent clumps. **CULTURE:** Fall-sown seed.

BORAGINACEAE (beaux-uh-NAY-see-ee):

Borage Family

LITHOSPERMUM incisum (lith-oh-SPERM-um INN-sigh-some): Golden Puccoon. Perennial, from dye-filled, dark root, forming basal rosettes of hairy leaves, ushering up 12-inch stems which branch at the tops and hold clusters of golden, fringed yellow flowers; blooming mostly in the Spring over most of the state, but generally in sandy and rocky open sites. The showy Spring blossoms are infertile. Later in the year, late Summer to early Winter, almost-invisible flowers are produced in the upper parts of the leaf-nodes, which bear very fertile seeds. **USES:** Roadsides; mowable, in grasslands; dye plant; pot plant; edging for low borders; accent clumps. **CULTURE:** Fall-sown seed; transplant in Fall from tagged plants after seed are ripe. Plants are nearly evergreen in foliage.

VERBENACEAE (verb-uh-NAY-see-ee):

Verbena Family

VERBENA bipinnatifida (verb-BEE-nuh bye-pin-nay-TIFF-ee-duh): Plains Verbena. Perennial, short-lived, but forming mats by rooting at the nodes; sprawling stems; leaves twice divided and lobed; flowers in flat clusters on erect stems from Spring to frost over most of state except E Texas and Trans-Pecos. Flowers range from white to pink to purple-pink, sometimes with white eye. Forms colonies on disturbed and open land; resents competition with other plants. **USES:** Bare spots; roadsides with light vegetation; beds; borders; mowable, but dies out with growth of other plants. **CULTURE:** Sow seed any time, but cover seed-flat or bed for two weeks with plastic film or newspaper; erratic in germination. Cuttings may be taken from basal stems; transplant when young from wild. Thirty-four other species in Texas, loosely divided here into low-growing and flat flower-heads (Verbena) and tall-growing with tiny flowers on spikes (Vervain). *V. canadensis* (can-a-DENZ-sis): Rose Verbena. Perennial, node-rooting; leaves divided and toothed; stems erect; flowers mostly rosy-lavender to purple; blooming March to June in eastern half of state. *V. rigida* (RIJ-uh-dah): Tuber Verbena. Perennial, rooting at nodes; lance-like, sawtooth-leaves, hairy; flowers stiffly erect, usually dark purple, making attractive colonies. S and SE Texas; naturalized from South America. *V. tenuisecta* (ten-you-ee-SEC-tuh): Moss Verbena. Perennial, rooting at nodes; finely-cut foliage; mat-forming with clusters of purple,

pink or white airy flowers; from March to July in SE and Coastal Bend; naturalized from South America. *V. Wrightii* (RIGHT-ee-eye): Desert Verbena. Annual, with pink to purple-pink flowers in Trans-Pecos.

LABIATAE (lay-bee-AA-tee): Mint Family

MONARDA citriodora (moe-NAR-duh sit-tree-oh-DOOR-uh): Purple Horsemint, Lemon beebalm. Annual, square-stemmed to 2 feet, with aromatic leaves. Flowers of white or pink in several whorls above showy purple bracts; flowering from April to October all over Texas. **USES:** Bold, roadside masses; hillsides; cut flowers; leaves for tea; borders; dried stems with pom-pom seed clusters make handsome Winter bouquet additions. **CULTURE:** Fall-sown seed easy. *M. fistulosa* (fist-you-LOW-sah): Bergamont, Beebalm. Perennial, from wiry roots, forming clumps. Lavender flowers are crowded at stem-tips; in shady woodlands in eastern half of state, from May to August. Leaves are lance-shaped with tiny teeth. Ideal plant for shade; charming cut flower.

SALVIA (SAL-vee-uh): Sage. Perennials here, from generally woody taproots with square stems from 1 to 6 feet, blooming early and late, in sun or shade, over all parts of Texas. A diverse group of 22 species, almost all of them worthy of cultivation. **CULTURE:** Sow seed any time, cover lightly and water once; take cuttings any time the plants are growing; transplant any time you find them, shearing foliage back severely. *S. azurea* (a-ZOO-ree-uh): Big Blue Sage. A Fall-blooming giant, up to 6 feet; from July to October, with spikes of sky-blue flowers which have a white eye, from C Texas eastward. Pure white forms often found. Use it in accent clumps and for Fall backgrounds. *S. coccinea* (cox-SIN-ee-uh): Red Sage. Some blooms on 2-3 foot stems in Spring and Summer, but blazes of red fire in Autumn which attract all the hummingbirds in the neighborhood. Found in E, C and S Texas, generally in sandy soils. Use it in accent clumps; borders; in open, shady nooks. *S. farinacea* (fair-ee-NAY-see-uh): Mealy Blue Sage. Stems and flower-buds seem to be covered with silvery wool; spikes of blue-violet flowers from April to October, up to 2 feet or more with moisture. Found on limestone hillsides and ditches over most of Texas. Use it in clumps, borders. *S. Greggii* (GREGG-ee-eye): Cherry Sage, Shrubby Red Sage. Almost evergreen with inch-long leaves crowded on slender stems, up to 2½ feet high and covered most of the year with red or cherry-pink blossoms which are

strongly two-lipped. Blooms on new growth and benefits from Winter pruning. Use it as a small hedge; in accent clumps; borders. Found in rocky soils of C, S and W Texas. *S. lyrata* (LYE-rate-uh): Lyre-leaf Sage. Forms basal rosettes of leaves, which turn attractive bronze with Winter's chill; spikes of lavender flowers in Spring. Found in meadows and open woods in the eastern fourth of Texas. Use it in borders, on roadsides and as carpeting for woodlands. *S. regla* (REG-luh): Mountain Sage, Royal Sage. May well be the most spectacular of Texas Sages. Grows up to 6 feet in the shady canyons of the Trans-Pecos with shiny, heart-shaped leaves of apple-green and brilliant red tubes, up to 2 inches long, in Summer and Fall. Use it as accent plant; border backgrounds; open, shady nooks; great patio tub plant. *S. texana* (tex-AN-uh): Texas Sage. Low-growing, generally about 1 foot, with nearly evergreen, linear leaves; handsome blue and lavender-blue flowers profusely from February to April on limestone hillsides in C Texas. Has a deepish, woody taproot. Use it on roadsides and hillsides; as an edging for borders; mowable, in grasslands.

SOLANACEAE (sole-la-NAY-see-ee): Nightshade Family

CAPSICUM annuum var. minus (CAP-see-come ANN-knew-um MY-nus): Chilliquin, Bird Pepper. Perennial, with green branches and leaves; small white flowers throughout the year unless frozen, followed by persistent, pungent, red berries which are hotter than molten lava. Found on the Edwards Plateau, S Texas. **USES:** Hot pepper sauce; high borders and hedges; open, shady places. **CULTURE:** Sow seed when soil is warm throughout, transplant to desired site; pinch throughout growing season to increase bushiness.

SOLANUM elaeagnifolium (sole-LAY-numb ell-ee-ag-knee-FOLE-lee-um): Silver-leaf Nightshade, Trompillo. Perennial, from running rootstocks, with silvery leaves and stems up to 3 feet, armed with spines, and topped with violet or rich-purple stars accented with golden anthers, from March to October, throughout sunny sites in Texas. A weed at home; a prized garden plant elsewhere. **USES:** Accent clumps for Summer color; borders; roadsides and hillsides; mowable, since the vigorous roots quickly spring back with leaves and flowers. **CULTURE:** Fall-sown seed; root-cuttings taken in Spring and Summer; transplant gingerly any time.

SCROPHULARIACEAE (scroff-you-lair-ee-A-cee-ee): Figwort Family

AGALINIS fasciculata (ag-uh-LINE-us fah-sick-cue-LAY-tuh): Pink Foxglove. Gerardia. Annual, slender-leaved; stems to 2 feet, with lopsided bells of pink or rose from August to frost in open woods of E and NE Texas. **USES:** Roadside patches; in open woodlands. **CULTURE:** Sow seed in Spring where it is wanted, since it usually is parasitic on grass roots and can not be transplanted.

CASTILLEJA (cast-till-LIEGE-uh): Indian Paintbrush, Painted Cup. Perennial, (with one parasitic annual), found all over the state in full sun along roadsides and rocky hills, from 6 to 12 inches, mostly in the Spring. The attraction of the flowering stems is due mainly to the brightly colored bracts and tubes surrounding the tubular flowers, which generally are not commanding in beauty. **USES:** Roadsides and hillsides; cut flowers; low borders and beds; grasslands; rock and desert gardens. **CULTURE:** The annual species can not be grown successfully alone in tilled soil; it must have a nearby host-plant, generally a bunch-type grass. Mix the tiny, black seed with sand; put a hole in the sod with a sharp stick or old ball-point pen. Fill the hole with the seed and sand mixture; tap firmly and water well. Sow seed in Fall. Other species: sow in seed-flats of loam, peat and sand, mixed equally; transplant when small; transplant tagged perennial plants from wild in the Fall when first growth starts. **C. indivisa** (inn-dee-VEE-suh): Texas Paintbrush. Annual, parasitic with scarlet floral spikes up to 16 inches, from March to June on Coastal Plain and sandy, loamy, moist soils of eastern half of Texas. **C. integra** (inn-TEG-ruh): Grasslands Paintbrush. Perennial, slender spikes up to 18 inches, usually several stems, bright red; grasslands of the Davis Mountains in W Texas. **C. lanata** (lay-NAY-tuh): Woolly Paintbrush. Perennial, up to 18 inches, with bright red bracts atop stems and leaves covered with silvery hair; from March to October in rolling hills of Trans-Pecos. **C. latebracteata** (lay-tee-brack-tee-AH-tah): Perennial, generally brick-red to orange, on the Edwards Plateau to the Trans-Pecos, blooming mostly in late Spring, but often flowering up to December. **C. sessiliflora** (ses-sill-ee-FLOOR-uh): Downy Paintbrush. Perennial, short, from Alpine eastward to Ozona and San Angelo; rosy-pink bracts from March to June. **C. purpurea** (poor-POOR-re-uh): Purple Paintbrush. Perennial, with leaves which have a silver sheen, with widely varying bracts, from white to yellow to pink, red and purple; occurs on limestone outcrops in C and NC Texas in March and April.

PENSTEMON (pen-STUH-mun): Beard-Tongue. Perennial, with tubular or trumpet flowers, some having a distinct fifth, infertile stamen which is bearded; found in all parts of Texas except Rio Grande Valley; blooming from Spring to Fall. **USES:** Accent clumps; borders; Western species in rock and desert gardens; transplant from wild in late Fall or Winter with reasonable success. Twenty-three species in Texas. **P. ambiguus** (am-BIG-you-us): Pink Plains Penstemon. White suffused with pink, May to August, up to 20 inches on the High Plains. **P. baccharifolius** (back-uh-ree-FOLE-ee-us). Toothed-leaves all along rather sprawling stems, up to 16 inches, brilliant red, on limestone ledges in W Texas from June to September. **P. barbatus** (bar-BAY-tus). Scarlet-red flowers with a slight golden beard, up to 30 inches, from mid-June to September in the Trans-Pecos. **P. Cobaea** (coe-BAY-ee-uh): Foxglove. Huge, up to 3-inch, puffed-up tubes of white to pale lavender on stiff, 2-foot stems in May and June on prairie lands of Texas. **P. dasyphyllus** (day-cee-FILL-us). Rather open cups of blue, fading to lavender, 12-18 inches high, from August to October in isolated, spectacular colonies of W Texas. **P. Fendleri** (FEND-lehr-eye). Spikes, up to 18 inches, of handsome lavender-violet flowers from April to August on rocky soils in W Texas. **P. Havardii** (huh-VAHR-dee-eye). Tall, up to 6 feet in cultivation, with brilliant red flowers on branches. Endemic to W Texas, blooming from April to October. **P. Jamesii** (JAMS-ee-eye). Lavender to pink, up to 16 inches, from April to June, in the limestone hills of W Texas. **P. Murrayanus** (murr-ree-AN-us). Spectacular, up to 6 feet, with upper leaves completely encircling stem, from which scarlet, inch-long flowers arise in April and May; in sandy soils of E Texas. Extremely difficult to transplant from wild; requires deep, sandy soil and light shade for home success. **P. triflorus** (try-FLOOR-us). Dark-leaved with brilliant red flowers on 30-inch stems in April and May. Endemic to rocky hillsides of the Edwards Plateau.

ACANTHACEAE (aa-can-THAY-see-ee): Acanthus Family

RUELLIA nudiflora (rue-ELL-lee-uh nude-eye-FLOOR-uh): Wild Petunia. Perennial, from clusters of tough roots, with foliage and stems changing with the seasons; in Spring, very low with tiny flowers which produce fertile seed; later in year, up to 2 feet, the tops of the erect stems crowned with papery-blue flowers, from May to October, over southern half of state and C and NC Texas. Flowers separate from stems and hang downward late in the day. **USES:** Roadsides and hillsides; beds and borders. **CULTURE:** Fall-sown, fertile seed; separate clumps in Winter or early Spring; transplant nearly any time and trim back.

RUBIACEAE (rue-bee-AA-see-ee):

Madder Family

HEDYOTIS nigricans (head-ee-OH-tis NIGH-gree-can-z): Star Violets. Perennial, from tough taproot, with almost evergreen, slender leaves; flowering most of the year, from Spring to frost, especially in April and May; with clusters of tiny, four-petaled white to pink to violet flowers on weakly erect stems, up to 18 inches; throughout most of the state. **USES:** Massed along roadsides and hillsides; borders and beds; rock gardens. **CULTURE:** Fall-sown seed best, but can be sown later; transplant any time and prune to 2 inches.

CAMPANULACEAE (kam-pan-you-LAY-see-ee):

Bluebell Family

LOBELIA Cardinalis (low-BEE-lee-uh car-dee-NAL-is): Cardinal Flower. Perennial, from white roots, with spikes up to 5 feet of two-lipped, tubular, dark red flowers, the lower lip in three parts; in shady, moist sites or along stream banks all over Texas except lower tip; blooming from May to December, but mostly in late Summer and Fall. **USES:** Spectacular pond-side plant; moist woods where shade is not too dense; background plants if moisture is provided. **CULTURE:** Sow tiny black seed in Fall, Winter or Spring; do not cover, but press into soil and water gently with mist; germinates in about 30 days; stem cuttings may be taken in Spring and Summer; or bend over a stalk and bury it longways to allow little plants to sprout from leaf-nodes; divide clumps after blooming; transplant in late Winter and early Spring from wild.

COMPOSITAE (kahm-PAHS-ee-tee):

Sunflower Family

ACHILLEA millefolium (ack-uh-LEE-uh millie-FOLE-ee-um): Yarrow, Milfoil. Perennial, with creeping rhizomes and rosettes of aromatic, fern-like leaves; stems up to 20 inches hold many tiny flowers of white, sometimes pink, in Spring and Summer. Naturalized from Europe over

most of mid-Texas in sun and light shade. **USES:** Roadsides and hillsides; mowable, in grasslands; cut flowers; dried arrangements; beds and borders; herbal teas. **CULTURE:** Fall-sown seed; division of clumps in Fall or Winter; transplant from wild any time.

AMBLYOLEPIS setigera (am-blee-oh-LEAP-is see-TIJ-uh-ruh): Honey Daisy, Huisache Daisy. Annual, smooth leaves with scent of new-mown hay; generally 15 inches tall, with yellow centers and petals, which are deeply notched into 3 segments; Spring. Widespread on Edwards Plateau and S Texas, rare elsewhere. **USES:** Roadsides and hillsides; beds and borders. **CULTURE:** Fall-sown seed; re-seeds well, forms patches.

APHANOSTEPHUS skirrhobasis (affan-know-STEE-fuss skeer-row-BAY-sis): Lazy Daisy. Annual, up to 15 inches, with 1-inch white flowers with yellow center in Spring, opening late in the morning; found in the Plains Country, NC, and Central Texas. **USES:** Roadsides and hillsides; beds and borders; rock garden. **CULTURE:** Sow seed in Fall or Winter. Other species of *Aphanostephus* in Texas have much smaller flowers.

ASTER ericoides (AS-tur eeri-CO-ee-dees): Fall Aster, Heath Aster, Frost Aster. Perennial, from rhizomes, with branching, leaf-crowded stems up to 30 inches crowded with tiny white, gold-centered flowers in the Fall; in the northern two-thirds of Texas in sunny sites. **USES:** Keep pinching it in Spring and Summer to induce bushiness and use in borders; let it run wild in backgrounds and on hillsides. **CULTURE:** Pre-chill seeds and sow in Fall; division of clumps; transplant from wild any time. Most other Aster species defy easy identification. If you find a plant in the wild that you like, just pull it up while it's in flower. You'll get a leaf-stem with white roots at the base. Cut back to 3 inches and plant. It will start its own colony. Several Aster species are ideal for bank plantings.

BIDENS aristosa (BYE-denz air-rees-TOE-sah): Sticktight. Annual, with divided leaves usually, up to 4 feet, with numerous cosmos-like, yellow flowers from the upper nodes; very free-flowering in ditches and other moist places from late Summer to frost. **USES:** Spectacular cover-plant for marshy, sunny sites; ditches; good border background plant with ample moisture. **CULTURE:** Spring-sown seed.

CENTAUREA americana (sin-TAR-ree-uh aa-mere-re-CAN-uh): Basket Flower. Annual, with stem-clasping leaves, up to 5 feet tall, with stiff stems topped by pink, purple or white flowers with fluffy light centers; in Spring and early Summer; over most of Texas except extreme E Texas. **USES:** Cut flowers; backgrounds; massed on hillsides; accent clumps; dried seed heads in arrangements. **CULTURE:** Fall-sown seed which do best if scarified by rubbing between two sheets of sandpaper.

COREOPSIS tinctoria (coe-re-OP-sis tink-TORE-re-uh): Golden Wave. Annual, up to 3½ feet in favored sites, with many yellow, notched flowers which have maroon or brown splotches circling the dark center. In Spring and early Summer; most common in the eastern half of Texas. **USES:** Roadsides and hillsides; hot spots; in grasslands; beds and borders; a durable and dependable plant. **CULTURE:** Sow seed in Fall or Winter. Two perennial species, *C. grandiflora* (grandee-FLOOR-uh) and *C. lanceolata* (lan-see-oh-LAY-tuh) have pure yellow flowers and are found in open, sandy soils in E Texas. Six other species are found in the state.

DYSSODIA tenuiloba (diss-SEW-dee-uh ten-you-ee-LOBE-uh): Tiny Tim. Annual, from 4 to 8 inches; strong-scented leaves divided into lobes, from 7 to 15; clump-forming with many tiny yellow flowers from March to May and again in the Fall; found in C Texas down to the Rio Grande Plains in sunny spots. **USES:** Roadsides; rock and desert gardens; as an edging plant. **CULTURE:** Fall-sown seeds. Eight other species, with many varieties, are found in Texas, and most all are similarly useful.

ECHINACEA (ek-uh-NAY-see-uh): Purple Cone Flower. Perennial, usually from thick, blackish roots; hairy leaves and stems; flowers, on single stems, up to 3 feet, have hedgehog-centers and generally dropping petals of white, rosy purple or lavender; flowering late Spring and Summer; over most of Texas except the Trans-Pecos and lower Valley. **USES:** Excellent border and bedding plant; desert garden; along open woodland walks; hillsides. **CULTURE:** Fall-sown seed; division of clumps; transplant from wild any time by digging deep. *E. atrovirens* (at-row-RUE-benz) has strongly recurved dark-purple petals. *E. angustifolia* (ann-guss-ti-FOLE-lee-uh) has petals of white, rose to pale purple. *E. pallida* (PAL-lid-uh) is the only species with white pollen. *E. sanguinea* (san-GWIN-ee-uh) has long, up to 3-inch, petals of rose to dark red, but rarely white.

ENGELMANNIA pinnatifida (ing-gull-MAN-ee-uh pin-nay-TEE-fee-duh): Engelmann Daisy, Cut-leaf Daisy. Perennial, from a stout, deep taproot; forming basal rosettes of lobed leaves in the Winter; thrusting up several, 20-inch stems, branched at the top, covered with 8-petaled, pure yellow flowers in Spring, Summer and Fall; over most of state except the sandy soils of E Texas. **USES:** Accent clumps; mowable, in grasslands; roadsides and hillsides; beds and borders; a no-fail plant of many uses. **CULTURE:** Fall-sown seed; division of clumps; transplant from wild any time, best in Winter.

ERIGERON philadelphicus (ee-RIJ-uh-rah-n fill-uh-DELL-fick-us): Fleabane. Perennial, short-lived, from fibrous roots; up to 2 feet; early-Spring clusters of flowers bearing multitudes of tiny, slender white petals

around a large yellow center; E, SE and NC Texas in moist loam. **USES:** Moist, shady sites; ditches; edgings of ponds. **CULTURE:** Fall-sown seed; transplant from wild in Winter.

EUPATORIUM coelestinum (you-pah-TORE-re-um see-LES-tee-numb): Mist Flower, Blue Boneset. Perennial, from creeping rhizomes, with weakish stems; triangular leaves; ageratum-like blue flowers from Summer until frost; E, SE, Coastal Bend and Edwards Plateau in moist wooded areas. **USES:** Ideal for shady stream borders; ditches; moist borders. **CULTURE:** Fall-sown seed; transplant rhizomes in Spring. *E. Wrightii* (RIGHT-tee-eye) is a rounded, shrub-like perennial with numerous clusters of white flowers in the Fall on rocky hillsides from San Antonio to the Trans-Pecos.

GAILLARDIA pulchella (gay-LAHR-dee-uh pull-KELL-uh): Firewheel, Indian Blanket. Annual, with masses of late-Spring and early-Summer notched wheels of red, tipped with yellow; almost everywhere in the state, except deeply wooded sections. **USES:** Roadsides and hillsides; beds and borders; cutflower (float stemless flower heads in a shallow bowl of water for a dazzling effect); a no-fail plant. **CULTURE:** Seed best sown in Fall, but can be broadcast in Winter and early Spring; transplant seedlings in Fall and Winter, space 18 inches apart. Keep flowers plucked to lengthened blooming period. Use caution in collecting dried seed heads for they are covered with invisible, but painful, bristles. *G. suavis* (SWA-vis): Pincushion Daisy. Perennial, forming rosettes of leaves; sending round, dark, sweet-smelling balls up to 2 feet on a leafless stem in Spring and Summer; over most of the state. If petals are present, they usually are dark orange. The fragrance, to some is like vanilla; to others, gardenias. Six other species, mostly perennial, are in the state and all are useful.

HELIANTHUS (he-lee-AN-thus): Sunflower. Annual or perennial, widely ranging over all parts of the state, with late Summer and Fall yellow flowers, which have brown or yellow centers. A complex family made more confusing by natural hybridization among the species. Alphabetically, the better species are: *H. angustifolius* (ann-guss-tee-FOLE-lee-us): Swamp Sunflower. Perennial, sometimes with a few long, slender rhizomes; up to 6 feet; leaves 8 inches, but only ½-inch wide, jutting from stem; flowers in clusters at top with a small eye; Summer and Fall; E, SE Texas in moist woods. **USES:** Excellent water plant for marshes and edging. **CULTURE:** Fall-sown seed; transplant delicate root system any time. *H. annuus* (ANN-you-us): Sunflower. Annual, hairy stems and leaves; often rank growing; Summer and Fall; widespread. **USES:** Massive effects in fields and waste spots; bird food. **CULTURE:**

Fall-sown seed better than in Winter and early Spring. Pinch young plants frequently to produce bushy and spectacular plants. **H. argophyllus** (or-go-FILL-us): Silver-leaf Sunflower. Annual, entire plant, especially young ones, covered with dense, silvery hair; up to 6 feet; dark-centered flowers in late Summer and Fall on sandy lands of SE Texas and Rio Grande Plains. **USES:** As a pinched specimen; spectacular backgrounds. **CULTURE:** Fall-sown seed. **H. debilis var. cucumerifolius** (DEB-ee-lis cue-cue-mere-ee-FOLE-ee-us): Sand Sunflower. Annual, with a tidy, bunching habit; many dark yellow flowers, sometimes almost orange-yellow, with dark centers; on sandy lands of S Texas and Coastal Bend in late Summer and Fall. **USES:** Cutflower; screening; backgrounds. **CULTURE:** Fall-sown seed. **H. Maximiliani** (maxie-mill-lee-AN-eye): Maximilian Sunflower. Perennial, from a creeping rootstock; leaves gray-green, folded in V-shape and bent like a scimitar; up to 15 feet; spikes with golden-centered flowers in Fall; found over most of Texas where moist conditions exist. **USES:** Backgrounds; ditch plant; Spring-emerging foliage is handsome throughout the year; excellent bird food. **CULTURE:** Fall-sown seed; transplant divisions and roots in Fall, Winter, early Spring; division of clumps; Spring and Summer stem cuttings. This is an aggressive plant and requires much room. **H. petiolaris** (pet-tee-oh-LAHR-is): Plains Sunflower. Annual, usually a miniature version of the common Sunflower, with lower flowers on longer stems, making the whole plant appear bushy and more useful as a bedding plant. Found in the western half of Texas in late Summer and Fall.

HYMENOXYIS scaposa (high-men-OX-is SKA-po-sah): Four-nerved Daisy. Formerly known as *Actinea* or *Tetraneuris*. Perennial, rather mat-forming, with hairy leaves; up to 8 inches; yellow flowers and centers, backs of petals have 4 prominent nerves, often purplish; almost everblooming from March to October; over most of state except extreme E Texas. **USES:** Hillsides and roadsides; beds and borders; rock and desert gardens; drought-resistant. **CULTURE:** Fall-sown seed; transplant any time; division of clumps in Winter. **H. linearifolia** (lynn-knee-air-re-FOLE-lee-uh). Annual, with branched flowering heads up to 10 inches; numerous yellow flowers; in bloom from early Spring on into late Fall, over most of Texas. Flowers get smaller in size as year progresses. **USES:** Same as above. **CULTURE:** Fall-sown seed.

LIATRIS (LYE-at-tris): Blazing Star, Gayfeather, Button Snake Root. Perennials, from corms; generally stiff leaves and stems; blooming late Summer and Fall with species all over the state. **USES:** As short hedges; in accent clumps; beds and borders; roadsides and hillsides; cutflowers, both fresh and dried; bird food. **CULTURE:** Fall-sown seeds produce some tiny bloom spikes the first Fall afterwards, abundantly the second year. Year-old seed seems to germinate better. Transplant any time from

wild, best in Fall and Winter. Also propagated by soft stem cuttings in late Spring and by cutting corm into sections. **L. elegans** (ELL-ee-guns) is tall and light flowered, rarely rose or purple. **L. mucronata** (mew-crow-NAY-tah) often has reddish stems, with rose or purple flower head. **L. punctata** (punk-TAY-tah): Dotted Gayfeather. Has leaves which bear dots and stiff spikes of rosy purple. **L. pycnostachya** (pick-now-STAY-ki-a) is taller, with the flowers crowded at the top. **L. squarrosula** (square-rue-LOW-sah) has its flower heads on short stems out of the top of the spike. Whatever *Liatris* you find, you'll find it useful.

LINDHEIMERA texana (lend-HEIM-uh-rah tex-AN-uh): Yellow Texas Star, Lindheimer's Daisy. Annual, bright green leaves and stems, covered with hair; perky 5-petaled, 2-inch yellow flowers with yellow stems and petals which have 2 notches at the tips; in Spring over most of Texas. **USES:** Roadsides and hillsides; borders and bedding. **CULTURE:** Fall-sown seed.

LYGODESMIA texana (lye-go-DESS-me-uh tex-AN-uh): Pink Dandelion, Skeleton Plant. Perennial, from a cluster of slender rhizomes, with blue-gray-green leaves and stems; the upper branches essentially leafless and crowned with bluish-lavender to rose flowers resembling dandelions; blooms from Spring to Fall over all of the state except NE Texas. **USES:** Roadsides and hillsides; beds and borders; accent clumps. **CULTURE:** Fall-sown seed; easily transplanted from wild; from division of clumps.

MARSHALLIA caespitosa (marr-SHALL-lee-uh sez-pea-TOE-sah): Barbara's Buttons. Perennial, from a short rhizome; most of the leaves are crowded at the base of a 20-inch stem, topped with a ball of white or cream-colored mass of tiny flowers; abundant in the eastern half of Texas in April and May, sometimes June. **USES:** A border delight; use in accent clumps. **CULTURE:** Fall-sown seeds; division of clumps; transplant from wild in Fall and Winter.

MELAMPODIUM cinereum (mel-lam-PODE-dee-um sin-ear-RE-um): Blackfoot Daisy, Mountain Daisy. Perennial, from a spreading root; muchly-branched stems, sprawling; topped with toothed, white, daisy-like flowers with yellow centers; from April to Fall, in the limestone regions of the western half of the state. **USES:** Excellent pot plant; beds and borders; rock and desert gardens; hillside accent clumps. **CULTURE:** Fall-sown seed; transplant from wild any time, but cut back severely if plant is blooming.

PALAFOXIA Hookeriana (pal-a-FOX-ee-uh hooker-re-ANN-uh): Showy Palafoxia. Endemic annual, up to 2 feet, branched below the middle of the

main stem, with many 1-inch flowers of dazzling pink; September and October, in sandy soils of south East Texas and on the coast. **USES:** Massed along roadsides; accent clumps; beds and tall borders. **CULTURE:** Fall or Spring-sown seeds; keep pinched for better effect.

PINAROPAPPUS roseus (pen-arow-PAP-us ROE-zee-us): Rock Lettuce. Perennial, from short rhizomes, forming tight clumps, up to 1 foot, with masses of 5-toothed, white petals which are tinged beneath with rose or lavender; Spring; in open limestone areas of the Edwards Plateau, Plains Country and NC Texas. **USES:** Dandy border plant; desert and rock gardens; roadsides; fair pot plant. **CULTURE:** Fall-sown seed; transplant rhizomes in early Winter or after seeding.

RATIBIDA columnaris (rah-TIB-uh-da kol-um-NARE-is): Mexican Hat. Perennial, from deep root, with cut leaves at base and branching stems, reaching 4 feet; cone centers are draped with up to 7 drooping petals of yellow or yellow with maroon blotches; Spring into Fall; on open, calcareous soils in western two-thirds of state. **USES:** Very drought-resistant; roadsides; accent clumps; tall beds and borders; good cut flower. **CULTURE:** Fall or Spring-sown seeds; transplant anytime except in flower.

RUDEBECKIA hirta (rude-BECK-ee-uh HER-ta): Brown-eyed Susan. Annual, with hairy foliage and stems, up to 2 feet, branching; brown cone centers surrounded with yellow petals, which are spotted a reddish-brown; Summer and Fall; the eastern two-thirds of the state. **USES:** Roadsides; hillsides; beds and borders; fair cut flower. **CULTURE:** Fall or Winter-sown seed; self-seeds well.

THELESPERMA filifolium (thiel-ee-SPERM-uh fill-lee-FOLE-lee-um): False Golden Wave, Green Thread. Annual, much-cut, dark green foliage with slender segments, up to 30 inches; golden flowers with 3-notched petals and reddish-brown centers; late Spring into Summer and early Fall; over most of state. **USES:** Roadsides and hillsides; beds and borders; highly adaptable. **CULTURE:** Fall or Spring-sown seeds; transplant in Winter from wild; self-seeds well. Eight other species, some perennial, in Texas and most of them make good garden subjects.

VERBESINA encelioides (verb-be-SIGH-nuh inn-see-lee-oh-EE-dees) Crownbeard, Cowpen Daisy. Annual, with stem-hugging leaves of grayish green, up to 3 feet, with butter-yellow flowers which have 3-lobed petals and yellow centers; Summer and early Fall; throughout Texas, usually on disturbed soil. **USES:** Quick-flowering, thus useful for masking ugly sites in Summer; backgrounds; roadsides. **CULTURE:** Fall or Spring-sown seeds; seedlings easily transplanted; does best in rich soil.

VERNONIA baldwinii (ver-NON-ee-uh bald-WIN-knee-eye): Western Ironweed. Perennial, with firm, lance-shaped leaves, up to 6 feet, with clusters of royal-purple flowers, up to 30 per head; Summer and Fall, in NC Texas, Edwards Plateau and Plains Country. **USES:** Sparkling color for Fall backgrounds. **CULTURE:** Fall-sown seed; transplant any time, but best after seeding. **V. Lindheimeri** (lend-HEIM-uh-rye): Woolly Ironweed. Similar, but shorter, with slender, silvery leaves and rosy-purple flower clusters; on the Edwards Plateau.

VIGUIERA dentata (vee-gwee-ERE-uh den-TAH-tuh): Golden-eye. Perennial, with oval, somewhat triangular, leaves which are opposite at base and alternate above; up to 6 feet; golden flowers on branched ends; petals have 5 notches; October and November on limestone slopes of Edwards Plateau and NC Texas. **USES:** Hillsides; backgrounds; accent clumps. **CULTURE:** Fall-sown seed best, but can be planted in Spring; transplant after seeding or in very early Spring.

ZEXMENIA hispida (zex-MEN-ee-uh HIS-pea-duh): Zexmenia. Perennial, making mounds of dark-green, roughly hairy leaves; orange, 8-petaled flowers on stiff stems up to 3 feet; Summer and Fall; Edwards Plateau, Rio Grande Plains and the southern parts of SE and NC Texas. **USES:** Very free-flowering and drought-resistant; borders; accent clumps; hillsides and roadsides. **CULTURE:** Fall-sown seed; transplant any time, breaking up woody clumps.

ZINNIA acerosa (ZEE-knee-uh aa-cee-ROSE-uh): Dwarf Zinnia, Spiny-leaf Zinnia. Perennial, forming 6-inch mounds of slender, grayish leaves; covered with papery white flowers from June to October in the Big Bend. **USES:** Outstanding border plant; pot plant; desert and rock gardens; very free-flowering and long-blooming. **CULTURE:** Fall or Spring-sown seeds; transplant from wild in Winter. **Z. grandiflora** (grandee-FLOOR-uh): Plains Zinnia. Perennial, up to 10 inches, with broad-petaled yellow flowers in Summer and Fall in dry, chalky areas of the Trans-Pecos and Plains Country. Uses and culture same as *Z. acerosa*.

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