

No Place But Texas:  
An Annotated List of Plant Taxa Endemic to the Lone Star State

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Provided below is a list of all plant taxa thought to be endemic to, i.e., found only in, the State of Texas. This distinction has no biological significance, since political boundaries do not correspond to biotic and abiotic forces that effect plant distribution. Nonetheless, this list is offered to satisfy the curiosity of those who wish to know, for whatever reason, which of the state's 5500 to 6000 plant taxa grow only in Texas. Plant taxa that are endemic to the each of the 11 ecoregions that are found, in whole or (mostly) in part in Texas, are available from The Nature Conservancy in other venues.

A list of Texas endemics is not a new idea: two similar unpublished lists have been generated in the past. The first, entitled Endemic Vascular Plants of Texas, probably dates from the mid 1970's. It came to the Texas Natural Heritage Program from the files of the long-defunct Rare Plant Study Center at the University of Texas at Austin. Its authorship is unknown, but legend has it that it was the work of a student of Dr. Chester Rowell, a student who compiled it by painstakingly thumbing through the Manual of the Vascular Plants of Texas (Correll & Johnston, 1970) and writing down every taxon described as endemic to Texas. The second effort was a list of target species for a project entitled Phytogeographical Investigation of Texas Endemics (Amos, 1991). This list was compiled by Dr. Bonnie Amos of Angelo State University. Its concept was broader, including taxa thought to be endemic to major natural biological regions contained mostly within the state as well as most of the traditional political endemics.

All of the taxa from the preceding efforts were originally included in this list. Many were deleted on the basis of new information documenting occurrence beyond the boundaries of the state. Others were deleted for taxonomic reasons, as new information made it clear that some of our so-called endemics were not distinct from taxa of other regions. (See "Excluded Taxa" at end of document.) Conversely, a few recently-described endemics are included here for the first time.

This is a work in progress. County distributions were compiled over the years from voucher specimens as well as a wide spectrum of published and unpublished literature. However, those sources are not cited directly in this document. Before any such list can be published, voucher specimens for each county must be transcribed. That task has not been undertaken as yet, in part because the ongoing Flora of Texas project offers the prospect that such information will be available electronically in a few years. For the meantime, county records represented by vouchers at the Plant Resources Center at the University of Texas at Austin are flagged with asterisks. The fact that other records are not documented herein is unacceptable and will be corrected in the future.

Only a few particularly pertinent literature references are cited. Those providing an illustration of the taxon in question are flagged with asterisks.

## PTERIDOPHYTES

### Isoetaceae Quillwort Family

*Isoetes lithophila* Pfeiffer. Rock quillwort. Sand and gravel in shallow water of ephemeral pools on essentially barren granite and gneiss outcrops on the Llano Uplift. Burnet\*, Gillespie, Llano\* and Mason counties. Ref: Correll, 1956\*; Correll & Correll, 1975\*; Flora of North America Committee, 1993; Rowell, 1983; Walters & Wyatt, 1982.

## ANGIOSPERMS

### Monocots

#### Agavaceae Agave Family

*Nolina arenicola* Correll. Sand sacahuista. Windblown Quaternary sand in dune area east of Van Horn; also in shrublands on steep Permian limestone slopes in the Guadalupe Mountains. Culberson, Hudspeth and perhaps El Paso counties. Ref.: Burgess & Northington, 1981; Correll, 1968; Poole, 1989b; Powell, 1998\*.

*Nolina lindheimeriana* (Scheele) Wats. Lindheimer's nolina. Grasslands and open juniper-oak woodlands on dry rocky limestone slopes, mostly on the Edwards Plateau, but ranging north on the Lampasas Cutplain to Bell and Somervell Counties and south to at least Fayette County. Bandera\*, Bell, Bexar\*, Comal\*, Edwards\*, Gillespie\*, Fayette\*, Kendall\*, Kerr\*, Lampasas\*, Somervell, Travis\* and Williamson\* counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Lynch, 1981\*.

*Yucca necopina* Shinnery. Glen Rose yucca. Grasslands on sandy soils on terraces of the Brazos River in Hood and Somervell counties and in deep sands in Parker and Tarrant counties (Diggs, Lipsomb & O'Kennon, 1999). Ref.: Diggs, Lipsomb & O'Kennon, 1999\*.

*Yucca pallida* McKelvey. Pale yucca. Rocky limestone slopes primarily on the Lampasas Cutplain and in the Cross Timbers, with reports from Bosque, Brown, Coryell, Dallas, Palo Pinto, Parker, Somervell, Tarrant and Wise counties; the report from Travis County in Vines (1960) is doubtful. Reports from the Blackland Prairie are probably from areas of shallow stony soils rather than deep heavy clays. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Tull & Miller, 1991; Vines, 1960.

*Yucca rupicola* Scheele. Twistleaf yucca. The common yucca of the Edwards Plateau and Llano Uplift, occurring in almost every imaginable habitat. Bandera, Bell, Bexar, Blanco, Bosque, Burnet, Comal, Dallas, Edwards, Gillespie, Hays, Kendall, Kerr, Kimble, Kinney, Llano, Real, San Saba, Somervell, Travis, Uvalde and Val Verde counties. According to Mahler (1988), *Yucca rupicola* ranges no further north than Bell County, which would seem to indicate that reports from Dallas and Somervell counties may be based on specimens of *Yucca pallida*, another Texas endemic. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Enquist, 1987a\*; Lynch, 1981\*; Rickett, 1970\*; Vines, 1960\*.

*Yucca tenuistyla* Trel. White-rim yucca. Southern Edwards Plateau and South Texas Plains; county distribution unknown due to lack of voucher specimens. A poorly known species, submerged by some authorities (e.g., Vines, 1960) within the more widespread *Yucca constricta*.

#### Commelinaceae Spiderwort Family

*Tradescantia edwardsiana* Tharp. Plateau spiderwort. Locally common in woodlands and forests in mesic canyons and on alluvial terraces in parts of the Lampasas Cutplain, but rare on much of the Edwards Plateau. Bandera\*, Bell\*, Bexar\*, Brown\*, Caldwell\*, Collin (Diggs et al., 1999), Coryell\*, Dallas (Diggs et al., 1999), Fannin\*, Hays, Lamar\*, Medina\*, Palo Pinto\*, Travis\*, Uvalde\* and Val Verde\* counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Tharp, 1932\*.

*Tradescantia humilis* Rose. Texas spiderwort. Numerous habitats in sandy to loamy soils over much of southern and eastern Texas. Austin\*, Atascosa\*, Bandera\*, Bastrop\*, Bee\*, Bexar\*, Brazoria\*, Brown (Diggs et al., 1999), Burleson\*, Dallas (Diggs et al., 1999), Dimmit\*, Fayette\*, Frio\*, Goliad\*, Gonzales\*, Guadalupe\*, Harris\*, Hays\*, Karnes\*, Kenedy\*, Kleberg\*, Lamar (Diggs et al., 1999), Matagorda\*, Newton\*, Nueces\*, Robertson\*, San Patricio\*, Travis\*, Uvalde\*, Victoria\*, Webb\*, Williamson\* and Wilson\* counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Rickett, 1970\*.

*Tradescantia pedicellata* Celarier [*Tradescantia X diffusa* Bush]. Granite spiderwort. Mostly in grasslands and among shrubs on rocky slopes and flats on sandy to gravelly soils derived from granite, gneiss and other igneous and metamorphic rocks of the Llano Uplift. Burnet\*, Llano\* and Mason\* counties; a report from Blanco Co. is somewhat anomalous. Ref.: Celarier, 1956; Enquist, 1987a\*; MacRoberts, 1978.

*Tradescantia subacaulis* Bush. Stemless spiderwort. Grasslands and woodland margins, mostly on sandy soils, ranging across much of the eastern half of Texas. Anderson\*, Aransas\*, Atascosa\*, Bastrop\*, Bexar\*, Brazos\*, Brooks\*, Caldwell\*, Calhoun\*, Chambers\*, Dallas\*, Denton\*, Erath\*, Fayette\*, Fort Bend\*, Freestone\*, Gonzales\*, Grayson\*, Henderson\*, Hidalgo\*, Kenedy\*, Kleberg\*, Lavaca\*, Lee\*, Leon\*, Liberty\*, Limestone\*, Medina\*, Milam\*, Navarro (Diggs et al., 1999), Refugio\*, Robertson\*, San Patricio\*, San Saba\*, Tarrant\*, Travis\*, Washington\* and Willacy\* counties. Ref.: Anderson & Woodson, 1935; Diggs, Lipsomb & O'Kennon, 1999\*; Jones, 1977.

#### Cyperaceae Sedge Family

*Carex edwardsiana* Bridges & Orzell. Canyon sedge. Duff-covered loamy soils in mostly deciduous woodlands on rocky slopes in mesic limestone canyons. Bandera\*, Bell\*, Bexar, Blanco, Comal, Coryell\*, Hays\*, Kendall\*, Medina\*, Real, Travis and Uvalde\* counties. Ref.: Bridges & Orzell, 1989\*; Diggs, Lipsomb & O'Kennon, 1999\*; Naczi & Bryson, 1990.

*Cyperus onerosus* M. C. Johnston. Dune flatsedge. Moist to wet sand in depressions among active or partially stabilized sand dunes in Andrews, Ward and Winkler counties. Ref.: Carr, 1991; Johnston, 1964a; Warnock, 1974\*.

*Eleocharis austrotexana* M. C. Johnston. South Texas spikesedge. Miscellaneous wetlands at scattered locations on the coastal plain. Atascosa, Cameron\*, Guadalupe\*, Kenedy, Kleberg, Liberty, Matagorda, San Patricio and Wharton\* counties (Johnston, 1964; ASTC, 1983; TEX-LL, 1997). Ref.: Johnston, 1964b.

#### Liliaceae Lily Family

*Allium canadense* L. var. *ecristatum* M. E. Jones. Crestless wild-onion. Poorly drained sites on sandy substrates within coastal prairies of the Coastal Bend area. Goliad, Matagorda, Nueces, Refugio and San Patricio counties (Ownbey, 1950; TAES, 1998; TEX-LL, 1998); a collection attributed to Bee County was probably taken from a site in San Patricio County (Ownbey, 1950). Ref: Cheatham, Johnston & Marshall, 1995\*; Jones, 1977; Ownbey, 1950.

*Allium coryi* M. E. Jones. Cory's onion; Sperry's yellow onion. A variety of habitats in Brewster\*, Jeff Davis\*, Pecos\*, Presidio\* and Terrell\* counties. Ref.: Cheatham, Johnston & Marshall, 1995\*; Henrickson & Johnston, in prep.; Ownbey, 1950; Rickett, 1970\*.

*Allium elmendorfii* M. Ownbey. Elmendorf's onion. Grasslands and other open habitats on deep loose sands. Atascosa, Bee, Bexar, Gonzales, Guadalupe, Kenedy, Llano, Nueces, Refugio, San Patricio and Wilson counties. Ref.: Cheatham, Johnston & Marshall, 1995\*; Ownbey, 1950.

*Allium perdulce* S. V. Fraser var. *sperryi* M. Ownbey. Sperry's pink onion. Brewster, Culberson, Hudspeth, Jeff Davis, Presidio and Reeves counties. Ref.: Cheatham, Johnston & Marshall, 1995\*; Ownbey, 1950.

*Allium runyonii* M. Ownbey. Runyon's onion. Open areas on deep sandy soils. Mostly in South Texas. Brooks\*, Duval\*, Goliad, Jim Hogg, Kenedy\*, Kleberg, Nueces, Refugio, San Patricio\*, Webb, Willacy\* and Zapata\* counties. Ref.: Cheatham, Johnston & Marshall, 1995\*; Diggs, Lipsomb & O'Kennon, 1999\*; Hill, 1982; Ownbey, 1950.

*Cooperia jonesii* Cory [*Zephyranthes jonesii* (Cory) Traub]. Jones' rainlily. Bee, Cameron, Goliad, Nueces, Refugio, San Patricio and Victoria counties (Correll & Johnston, 1970). Correll & Johnston (1970) speculated that this might be a hybrid between *Zephyranthes pulchella* and *Cooperia drummondii*.

*Cooperia smallii* Alex. Small's rainlily. Reported only from Cameron County. Correll & Johnston (1970) speculated that this might be a hybrid between *Zephyranthes pulchella* and *Cooperia drummondii*.

*Cooperia traubii* Hayward. Traub's rainlily. Moist soils in seasonal swales in southeast Texas, including (at least) Aransas, Calhoun, Colorado, Galveston and Refugio counties. Ref.: Jones, 1977; Niehaus, Ripper & Savage, 1984\*.

*Echeandia chandleri* (Greenm. & Thomps.) M. C. Johnston [*Anthericum chandleri* Greenm. & Thomps.] Cameron, Kleberg and Nueces counties, in nonsaline clay in coastal prairie grassland remnants and in unshaded openings in subtropical woodlands or shrublands and in windblown saline clay on lomas at mouth of Rio Grande. Villareal Q. (1994) reported *Echeandia chandleri* to be common in valleys and on lower slopes in a portion of southeastern Coahuila that lies at an elevation between 1200 and 2350 meters; the species is retained as a Texas endemic pending a taxonomic assessment of the Coahuila material. Ref.: Cruden, 1981; Cruden, 1993; Poole, 1985; Richardson, 1995\*.

*Echeandia texensis* Cruden. Green Island echeandia. Lomas along the Gulf coast in Cameron County (Cruden 1999).

*Zephyranthes pulchella* J. G. Sm. Showy zephyr-lily. Seasonally wet areas on the coastal plain of South Texas. Cameron\*, Frio\*, Hidalgo\*, Karnes, Kleberg, Nueces\*, Starr, Webb and Wilson counties.

*Zephyranthes refugiensis* F. B. Jones. Refugio rainlily. Open swales on tight sandy loam. Goliad, Refugio and San Patricio counties. Ref.: Jones, 1961; Jones, 1977.

#### Orchidaceae Orchid Family

*Spiranthes parksii* Correll. Navasota ladies'-tresses. Margins of post oak woodlands in areas where edaphic factors such as high aluminum content or hydrologic factors such as a winter-perched water table limit competing vegetation. Brazos, Burleson, Fayette, Freestone, Grimes, Jasper, Leon, Madison, Milam, Robertson and Washington counties. Ref.: Catling & McIntosh, 1979; Mahler, 1980g; Poole & Riskind, 1987\*; Wilson & Ajilvsgi, 1983.

#### Poaceae Grass Family

*Bouteloua kayi* Warnock. Kay's grama. Limestone outcrops and gravelly soils on desert flats in a small portion of Brewster County. Ref.: Powell, 1994; Warnock, 1955\*.

*Bromus texensis* (Shear.) Hitchc. Texas brome. Various habitats on the coastal plain and Edwards Plateau. Aransas\*, Bexar\*, Duval, Goliad, Jim Wells\*, Karnes, McMullen, Nueces\*, Refugio, San Patricio\* and Travis counties. Ref.: Gould, 1975\*; Silveus, 1933\*; Wagnon, 1952.

*Chloris texensis* Nash. Texas windmillgrass. Relatively bare areas in coastal prairie grassland remnants on sandy to sandy loam soils. Brazoria, Chambers, Galveston, Harris, Nueces and Refugio counties, with questionable reports from Brazos and Hidalgo counties. Ref.: Gould & Box, 1965\*; Silveus, 1933\*.

*Digitaria texana* Hitchc. [including *Digitaria runyonii* Hitchc.] Texas crabgrass. Grasslands on deep sandy soils on the coastal plain. Brooks, Calhoun, Kenedy, Nueces, San Patricio and Willacy counties. Ref.: Gould & Box, 1965\*; Gould, 1975; Lonard, 1993.

*Muhlenbergia involuta* Swallen. Canyon muhly; hybrid muhly. Rocky slopes in openly wooded limestone canyons; sometimes along creekbottoms, mostly on the Edwards Plateau. Bandera, Blanco, Burnet, Comal, Edwards, Hays, Kendall, Kerr, Medina and Travis counties. Supposedly of hybrid origin (*Muhlenbergia lindheimeri* x *Muhlenbergia reverchonii*). Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Gould, 1975\*; Silveus, 1933\*; Swallen, 1932.

*Panicum nodatum* Hitch. & Chase [*Dichantheium nodatum* (Hitch. & Chase) Gould]. Sarita dichantheium. Mostly on deep sandy soils of coastal barrier islands, the South Texas Sand Sheet, and the Post Oak belt on Eocene Sands in the northern part of the South Texas Plains. Aransas, Atascosa, Bastrop, Bexar, Brooks, Caldwell, Calhoun, Colorado, Gonzales, Karnes, Kenedy, Kleberg, Lavaca, Nueces, Refugio, Robertson, Victoria and Wilson counties (TEX-LL, Feb 2001; McAlister, 1999). Also in Mexico? (See Silveus, 1933.) Ref.: Gould & Box, 1965\*; Lonard, 1993\*; Silveus, 1933\*.

*Setaria firmula* (Hitchc. & Chase) Pilger [*Panicum firmulum* Hitchc. & Chase]. Knotgrass. South Texas Sand Sheet and other sandy areas of the South Texas Plains. Hidalgo, Jim Wells, San Patricio and Willacy counties. Ref.: Gould, 1975\*; Lonard, 1993; Silveus, 1933\*.

*Sporobolus tharpaii* Hitchcock. Padre Island dropseed. Deep sandy soils of coastal dunes and the South Texas Sand Sheet. Aransas\*, Brazoria\*, Cameron\*, Harris\*, Kenedy\*, Matagorda, San Patricio\* and Willacy\* counties (TEX-LL, 2002; GH). Ref.: Gould & Box, 1965\*; Gould, 1975\*; Lonard, 1993\*; Silveus, 1933\*.

*Tridens buckleyanus* (L. H. Dewey) Nash [*Triodia buckleyana* (L. H. Dewey) Vasey]. Buckley tridens. Juniper-oak woodlands on rocky limestone slopes on the southern and eastern Edwards Plateau and Lampasas Cutplain. Bandera\*, Bexar, Comal\*, Hays\*, Kendall\*, Kinney, Lampasas\*, Medina, Real, San Saba, Travis\* and Uvalde counties. Ref.: Gould, 1975; Silveus, 1933\*.

*Tridens congestus* (L. H. Dewey) Nash [*Triodia congesta* L. H. Dewey]. Pink tridens. Blackland and coastal prairies, often in disturbed or early-successional sites. Aransas\*, Bastrop\*, Bexar\*, Calhoun\*, Dallas\*, DeWitt\*, Goliad\*, Grayson (Diggs, Lipsomb & O'Kennon, 1999), Kleberg\*, Leon\*, Navarro\*, Nueces\*, San Patricio\*, Tarrant\* and Travis\* counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Gould, 1975\*; Silveus, 1933\*.

*Vaseyochloa multinervosa* Hitchcock. Texasgrass. Grasslands and woodland margins on deep sandy soils of coastal South Texas and the post oak belt on Eocene sands. Aransas, Brooks, Kenedy, Kleberg, Nueces, Refugio, San Patricio, Uvalde and Willacy counties (TAES, 1998; TEX-LL, 1997). Ref.: Hitchcock, 1950\*; Lonard, 1993\*; Silveus, 1933\*.

*Willkommia texana* Hackel var. *texana*. Texas willkommia. Mostly in sparsely vegetated shortgrass patches within taller prairies on alkaline or saline soils on the Coastal Plain of southeast and south Texas. Brazoria, Bee, Calhoun, Cameron, Harris, Kenedy, Kleberg, Refugio and San Patricio counties (Hill, 1982b; TEX-LL, 1997; US); the type specimen is from Ellis County. Plants of the Paraná Basin of northern Argentina (Hill, 1982b) are presumably all var. *stolonifera*. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Gould, 1975\*; Hill, 1982; Silveus, 1933\*.

*Zizania texana* Hitchcock. Texas wild-rice. Known only from a short segment of the San Marcos River in Hays County, Texas. Ref.: Gould, 1975\*; Poole & Riskind, 1977\*; Silveus, 1933\*.

#### Potamogetonaceae Pondweed Family

*Potamogeton clystocarpus* Fern. Little Aguja pondweed. Submersed aquatic known only from quiet seepage pools in Little Aguja Creek in the Davis Mountains of Jeff Davis County. Ref.: Correll & Correll, 1975\*; Fernald, 1932; Haynes, 1974; Poole & Riskind, 1977\*; Rowell, 1983.

#### Smilacaceae Greenbriar Family

*Smilax renifolia* Small. Kidneyleaf greenbriar. A poorly understood species thought to be endemic to canyon woodlands of the Edwards Plateau. Kartesz (1994) and Jones, Wipff & Montgomery (1997) continue to recognize this taxon; others, such as Walter Holmes (who annotated all material at TEX-LL to *Smilax bona-nox*), do not.

## Dicots

### Acanthaceae Acanthus Family

*Justicia wrightii* Gray. Wright's justicia. Desert grasslands on limestone substrates. Brewster, Pecos and Val Verde counties. Ref.: Wasshausen, 1966.

*Ruellia drummondiana* Gray. [Submerged, perhaps through clerical error, in *Ruellia davisiorum* Tharp & Barkley by Hatch et al. (1990); still recognized by most authorities.] Drummond's ruellia. Wooded mesic limestone canyons, creekbanks and river terraces, mostly on the Edwards Plateau. Bandera\*, Bell\*, Bexar\*, Bosque, Comal\*, Dallas, Gillespie, Gonzales\*, Guadalupe\*, Hays\*, Kerr\*, Llano\*, McLennan\*, Travis\*, Uvalde\*, Williamson\* and counties (Turner, 1991); also Hamilton (Diggs et al., 1999) and Zapata (source?). Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Enquist, 1987a\*; Long, 1966\*; Tharp & Barkley, 1949; Wasshausen, 1966.

### Aizoaceae

*Sesuvium trianthemoides* Correll. Texas sea-purslane; roughseed sea-purslane. Known only from the type collection taken in 1947 from "dunes" at an unspecified location in Kenedy County (Correll, 1966). Ref.: Correll, 1966b; Correll & Correll, 1975\*.

### Apiaceae Carrot Family

*Daucosma laciniatum* Gray. Meadow daucosma. Clayey to loamy soils in partial shade along margins of juniper-oak woodlands, occasionally in full sun in grassland openings and on rocky limestone slopes but usually not in severely dry areas; sometimes abundant among flood detritus at high water line along reservoirs. Apparently restricted to the Edwards Plateau. Bandera, Bell, Blanco\*, Comal\*, Gillespie\*, Hays\*, Kendall\*, Kerr\*, Medina\*, Real\*, Travis\*, Uvalde\* and Val Verde [source?] counties. A report from Wilson County [source?] is anomalous. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Enquist, 1987a\*; Mathias & Constance, 1951\*.

*Eurytaenia hinckleyi* Math. & Const. Hinckley spreadwing. Loose sand of partially stabilized dunes and blowouts. Andrews, Crane, Reeves, Ward\* and Winkler\* counties. Ref.: Mathias & Constance, 1951\*; Warnock, 1974\*.

*Tauschia texana* Gray. Texas tauschia. Loamy soils in deciduous forests or woodlands on river and stream terraces. Austin, Brazoria, Caldwell, DeWitt, Fort Bend, Goliad, Gonzales, Grimes, Harris, Lavaca, Victoria and Wharton counties (Mathias & Constance, 1951; TEX-LL, 1998). Ref.: Correll & Correll, 1975\*; Mathias & Constance, 1951\*.

### Asclepiadaceae Milkweed family

*Asclepias linearis* Scheele. Slim milkweed. Grasslands on sandy soils, from South Texas Plains north to Dallas County. Bastrop\*, Brazoria\*, Calhoun\*, Cameron\*, Galveston\*, Hidalgo\*, Jackson\*, Jefferson\*, McMullen\*, Nueces\*, San Patricio\* and Victoria\* counties (TEX-LL, 2002); also Dallas, La Salle and Milam counties (Woodson, 1954). Ref.: Cheatham, Johnston & Marshall, 2000\*; Diggs, Lipsomb & O'Kennon, 1999\*; Niehaus, Ripper & Savage, 1984\*; Rickett, 1970\*; Woodson, 1954\*.

*Matelea brevicoronata* (B. L. Robinson) Woodson. Shortcrown milkvine. Grasslands on sandy substrates, mostly on the South Texas Sand Sheet. Brooks, Duval, Hidalgo\*, Kenedy\*, Starr\*, Webb and Zapata counties. Ref.: Shinnors, 1964.

*Matelea edwardsensis* Correll. Plateau milkvine. Mesic to fairly dry juniper-oak woodlands on the Edwards Plateau and adjacent Lampasas Cutplain. Bandera\*, Bexar\*, Bell\*, Bosque, Comal\*, Dallas, Edwards\*, Kendall\*, Medina\*, Real, San Saba\* and Travis\* counties. Ref.: Correll, 1965; Diggs, Lipsomb & O'Kennon, 1999\*; Enquist, 1987a\*; Rowell, 1983b.

*Matelea parviflora* (Torr.) Woodson. Smallflower milkvine. Mostly in grasslands on sandy soils of the South Texas Sand Sheet, but ranging northward on Eocene sands. Atascosa\*, Brooks\*, Dimmit\*, Duval\*, Frio\*, Hidalgo\*, Jim Hogg\*, Jim Wells, Karnes\*, Kleberg\*, La Salle\*, Live Oak\* and Webb\* counties. A record from Brewster County (limestone crevice of Mesa de Anguila, 14 Mar 1986, J. Garcia 12899, TEX-LL) is anomalous. Ref.: Shinnery, 1964.

*Matelea radiata* Correll. Falfurrias milkvine. Brooks and Hidalgo counties. Until recently, known only from the type collection (Brooks Co.: Falfurrias, 24 Jun 1909, F. L. Lewton 828); a 1942 Runyon specimen from Hidalgo County was recently annotated to this species. Neither specimen is accompanied by information about habitat. Ref.: Correll, 1965.

*Matelea texensis* Correll. Texas milkvine. Desert grasslands and shrublands on igneous substrates, at elevations between 4000 and 5000 feet. Brewster County. Ref.: Correll, 1966; Hanks & Powell, 1983a.

#### Asteraceae Sunflower Family

*Aster eulae* Shinnery [*Symphotrichum eulae* (Shinnery) Nesom]. Whitehouse's aster. Riparian woodlands in the eastern half of Texas. Apparently not recognized by Turner at TEX-LL; what IS the current taxonomic status of this thing? Ref: Cheatham, Johnston & Marshall, 2000\*.

*Astranthium robustum* (Shinnery) DeJong. [Common name?] A variety of open arid habitats at lower elevations in the Chihuahuan Desert. Brewster\*, Jeff Davis\*, Pecos, Presidio\* and Reeves counties. Ref.: DeJong, 1965.

*Bahia bigelovii* Gray. Bigelow's bahia. Mostly on igneous substrates in canyons in mountains of Trans-Pecos. Brewster\*, Jeff Davis\* and Presidio\* counties. Ref.: Warnock, 1977a\*.

*Brickellia hinckleyi* Standl. var. *hinckleyi* [*Brickellia brachyphylla* (Gray) Gray var. *hinckleyi* (Standl.) Flyr]. Hinckley's brickellbush. Rocky soils in higher elevation mountain canyons of Brewster and Jeff Davis counties. Ref.: Flyr, 1968; Standley, 1940.

*Brickellia hinckleyi* Standl. var. *terlinguensis* (Flyr) B. L. Turner [*Brickellia brachyphylla* (Gray) Gray var. *terlinguensis* Flyr]. Terlingua brickellbush. Brewster and Hudspeth counties. Collected from various situations in Chihuahuan Desert: from slopes in the Chisos and Eagle Mountains and from a creek bottom near Terlingua. Ref.: Flyr, 1968.

*Brickellia dentata* (DC.) Sch. Bip. Gravelbar brickellbush. Essentially restricted to frequently scoured gravelly alluvial beds in creek and river bottoms. Bexar, Blanco, Comal\*, Edwards\*, Hays\*, Kimble\*, Real, Travis\*, Uvalde\*, Val Verde and Williamson counties. A specimen attributed to Trinity County (TEX-LL) is probably erroneous as to location. Ref.: Mahler, 1981j.

*Brickellia eupatorioides* (L.) Shinnery var. *gracillima* (Gray) Turner [*Kuhnia leptophylla* Scheele; *Brickellia leptophylla* (Scheele) Shinnery]. Narrowleaf brickellbush. Moist to dry gravelly alluvial soils along riverbanks on the Edwards Plateau; also on limestone slopes (Correll & Johnston, 1970). Bexar, Blanco, Comal\*, Edwards\*, Gillespie, Kerr\*, Kimble\*, Kinney, Travis\*, Uvalde\*, Val Verde and Zavala counties. Ref.: Cheatham, Johnston & Marshall, 2000\*; Turner, 1989a.

*Chaetopappa bellidifolia* (Gray & Engelm.) Shinnery. Hairy least-daisy. One of the most common Edwards Plateau endemics, occurring in shallow calcareous soils in cattle pastures and other open situations with little competing vegetation, sometimes on ridgetops where underlying limestone bedrock is exposed; also present, if less common, in

juniper-oak woodlands on slopes. Bandera, Bexar, Blanco, Caldwell, Comal, Edwards, Hays, Gillespie, Kerr, Kimble, Kinney, Mason, McLennan, Real, Sutton, Travis, Uvalde and Val Verde counties. Ref.: Enquist, 1987a\*; Shinnars, 1946.

*Chaetopappa effusa* (Gray) Shinnars. Spreading least-daisy. Loamy soils in shade of oak-juniper woodlands on mesic rocky slopes or in limestone canyons in the southern Edwards Plateau. Bandera\*, Bexar\*, Blanco, Comal\*, Edwards, Gillespie, Hays, Kendall\*, Kerr\*, Medina\*, Real\* and Uvalde\* counties; a specimen from Travis County (TEX-LL) is probably erroneous as to location. Ref.: Shinnars, 1946.

*Chaetopappa imberbis* (Gray) Nesom [*Chaetopappa asteroides* (Nutt.) DC. var. *imberbis* Gray]. Bristleless least-daisy. Early successional openings in post oak and live oak woodlands on deep sands of the Carrizo and other Eocene formations as well as Pleistocene strata along the Gulf coast. Atascosa, Aransas, Bexar, Caldwell, Goliad, Gonzales, Guadalupe, Kenedy, Nueces and Wilson counties (Nesom, 1988). Ref.: Nesom, 1988.

*Chaptalia texana* Greene [*Chaptalia nutans* (L.) Polák. var. *texana* (Greene) Burkhart]. Nodding lettuce. Woodlands and shrublands on rocky slopes, mostly on limestone, mostly on the Edwards Plateau but also in the South Texas Plains and Trans-Pecos. Bandera\*, Bastrop\*, Bee\*, Brewster\*, Comal\*, Edwards\*, Goliad\*, Guadalupe\*, Karnes\*, Kerr\*, Kinney\*, Medina\*, Nueces\*, Real\*, Terrell\*, Travis\*, Uvalde\* and Val Verde\* counties. According to Diggs, Lipscomb & O'Kennon (1999), this species is endemic to Texas. [Isn't it in Mexico?] Ref.: Diggs, Lipscomb & O'Kennon, 1999\*; Enquist, 1987\*.

*Chrysopsis texana* G. L. Nesom [*Bradburia hirtella* T. & G.]. Mauchia. Disturbed or otherwise open sandy areas mostly in the post oak belt of eastern Texas. Bastrop\*, Brazos\*, Burleson\*, Cass\*, Chambers\*, DeWitt\*, Fayette\*, Gonzales\*, Grimes\*, Hays\*, Houston\*, Jasper\*, Lee\*, Travis\*, Trinity\*, Walker\* and Washington\* counties (TEX-LL, 1999); a map in Semple & Chinnappa suggests records from Colorado and Polk counties. Occurs as rare waif in Louisiana (Gandhi & Thomas, 1989). Ref.: Diggs, Lipscomb & O'Kennon, 1999\*; Semple & Chinnappa, 1984\*.

*Coreopsis nuecensis* Heller. Crown coreopsis. Open areas on sandy substrates. Atascosa\*, Bastrop\*, Bee\*, Bexar, Brazos\*, Brooks, Burleson, Caldwell\*, DeWitt\*, Dimmit\*, Frio\*, Gonzales\*, Guadalupe, Jim Wells\*, Karnes\*, La Salle\*, San Patricio\* and Wilson\* counties. Specimens from Burleson, Edwards, Goliad, Hidalgo, Kenedy, Kleberg, Medina, Robertson, Uvalde, Victoria and Willacy counties at TAES need to be examined in light of the relatively recent segregation of *Coreopsis neucensoides* as a distinct species. Ref.: Niehaus, Ripper & Savage, 1984\*; Smith, 1974\*; Smith, 1976\*.

*Coreopsis neucensoides* E. B. Smith. False crown coreopsis. Open areas on sandy substrates. Atascosa\*, Austin\*, Brooks\*, Calhoun\*, Colorado\*, DeWitt, Duval\*, Fayette, Goliad\*, Gonzales\*, Harris\*, Hidalgo\*, Jackson\*, Jim Hogg\*, Kenedy\*, Kleberg\*, Lavaca\*, Liberty\*, Matagorda\*, Milam\*, Nueces\*, Victoria\*, Wharton\* and Willacy\* counties. Ref.: Smith, 1974\*; Smith, 1976\*.

*Dyssodia tenuiloba* (DC.) Robins. var. *wrightii* (Gray) Strother [*Thymophylla tenuiloba* (DC.) Small var. *wrightii* (Gray) Strother]. Tiny Tim. Locally common in disturbed areas within grasslands on the coastal plain of South Texas, ranging northward as far as Bastrop County. Aransas\*, Bastrop, Bee\*, Calhoun\*, DeWitt\*, Goliad\*, Gonzalez\*, Karnes\*, Lavaca\*, Refugio\*, San Patricio\* and Wilson\* counties. Ref.: Strother, 1967; Strother, 1987.

*Dyssodia tephroleuca* Blake [*Thymophylla tephroleuca* (Blake) Strother]. Ashy dogweed. Early successional openings in shrublands on sandy substrates mostly over the Laredo Formation (U. S. Fish & Wildlife Service, 1987). Starr, Webb and Zapata counties. Ref.: Blake, 1935; Crank, 1992; Poole & Riskind, 1987\*; Strother, 1967; Strother, 1987; Turner, 1980.

*Gaillardia aestivalis* (Walt.) Rock. var. *winkleri* (Cory) Turner [*Gaillardia lutea* Greene var. *winkleri* Cory]. Winkler's gaillardia. Deep loose well drained sands in openings in pine-oak woodlands and along unshaded margins. Apparently restricted to the Village Creek watershed of Hardin County. Ref.: Ajilvgsi, 1979\*; Cory, 1946; Loughmiller & Loughmiller, 1984\*; Turner, 1979.

*Grindelia oolepis* Blake. Plains gumweed. Early successional patches in coastal prairie on heavy clay soils, sometimes in disturbed habitats along railroads and vacant lots in urban areas (Mahler, 1981); collected by Robert Runyon from "crawfish lands" in Cameron County in 1923. Bee\*, Cameron\*, Jim Wells, Nueces\*, Refugio and San Patricio\* counties. Ref.: Blake, 1928; Mahler, 1980e; Mahler, 1981a; Steyermark, 1934\*.

*Gutierrezia amoena* (Shinners) Diggs, Lipscomb & O'Kennon [*Amphiachyris amoena* (Shinners) Solbrig; *Xanthocephalum amoenum* Shinners]. Shinners' broomweed. A weed of overgrazed pastures and disturbed sites on clayey calcareous soils of the Edwards Plateau and Lampasas Cutplain. Bell, Bosque, Brown, Burnet, Comal, Comanche, Crockett, Denton, Erath, Hays, Hood, Johnson, Lampasas, Parker, Tom Green and Travis counties (TEX-LL, 1999; Shinners, 1951a). Ref.: Diggs, Lipscomb & O'Kennon, 1999\*; Lane, 1979; Lane 1982; Shinners, 1951a.

*Helenium linifolium* Rydb. Slimleaf sneezeweed. Open areas on various soils South Texas Plains. Atascosa\*, Brooks\*, Cameron\*, Dimmit\*, Duval\*, Frio\*, Hidalgo\*, Jim Wells\*, Kleberg\*, La Salle\*, Maverick\*, Webb\*, Willacy\*, Zapata\* and Zavala counties. Ref.: Bierner, 1972.

*Helianthus debilis* Nutt. subsp. *silvestris* Heiser. A sunflower. Mostly on relatively xeric sandhills, occasionally in disturbed sites, in the Post Oak Belt and Pineywoods. Anderson\*, Brazos\*, Burleson\*, Cherokee\*, Freestone, Grimes, Hardin\*, Henderson\*, Houston\*, Leon\*, Liberty\*, Limestone\*, Madison, Milam\*, Montgomery\*, Nacogdoches\*, Newton\*, Robertson\*, Rusk\*, San Augustine\*, Shelby\*, Smith\*, Upshur\*, Washington and Wood\* counties (Heiser, 1956; TEX-LL, 2002). Probably in western Louisiana. Ref.: Heiser, 1956; Heiser, 1969.

*Helianthus praecox* Engelm. & Gray subsp. *hirtus* (Heiser) Heiser [*Helianthus debilis* Nutt. subsp. *hirtus* Heiser]. Dimmit sunflower. Known only from Dimmit County, occurring in local abundance on well drained sandy soils in open shrublands. Ref.: Heiser, 1969.

*Helianthus praecox* Engelm. & Gray subsp. *praecox* [*Helianthus debilis* Nutt. subsp. *praecox* (Engelm. & Gray) Heiser]. Galveston sunflower. Sandy open areas along the upper Texas coast. Brazoria\*, Chambers, Galveston\* and Jefferson counties (Heiser, 1956; TEX-LL, 2002). Ref.: Heiser, 1956; Heiser, 1969.

*Helianthus praecox* Engelm. & Gray subsp. *runyonii* (Heiser) Heiser [*Helianthus debilis* Nutt. subsp. *runyonii* Heiser]. Grasslands and woodland margins on deep sands. primarily on barrier islands and the South Texas Sand Sheet. Aransas, Atascosa\*, Bee, Brooks\*, Cameron, Duval\*, Hidalgo\*, Kenedy\*, Kleberg\*, Nueces, San Patricio, Starr\*, Webb\*, Willacy\* and Zapata\* counties (Heiser, 1956; TEX-LL, 2002). Ref.: Heiser, 1956; Heiser, 1969.

*Hymenopappus artemisiifolius* DC. var. *riograndensis* B. L. Turner. Rio Grande woollywhite. Sandy open areas in Bee, Brooks, Goliad, Hidalgo, Kenedy, Kleberg, Victoria and Willacy counties.

*Hymenopappus carrizoanus* B. L. Turner. Sandhill woollywhite. Disturbed or open areas in grasslands and post oak woodlands on deep sands derived from the Carrizo and similar Eocene formations. Anderson\*, Atascosa\*, Bastrop\*, Bexar\*, Caldwell\*, Frio\*, Guadalupe\*, Leon\*, Medina\* and Robertson counties. Ref.: Turner, 1989b.

*Hymenoxys texana* (Coul. & Rose) Cockerell. Prairie-dawn. Restricted to sparsely vegetated areas on slightly saline soils that are sticky when wet but powdery when dry, often at the base of mima (pimple) mounds in open grasslands. Fort Bend and Harris counties; a 19th century specimen from La Salle County is probably erroneous as to location. Ref.: Bridges, 1988; Mahler, 1982d\*; Mahler, 1983\*; Mahler, 1993; Poole & Riskind, 1987\*.

*Liatris bracteata* Gaiser. Coastal gayfeather. Coastal prairies on a variety of loamy substrates. Aransas, Brazoria, Colorado, Galveston, Harris, Live Oak, Matagorda, Refugio, San Patricio and Waller counties. Tveten and Tveten, 1993\*.

*Liatris cymosa* (H. Ness) K. Schum. [*Laciniaria cymosa* H. Ness]. Branched gayfeather. Somewhat barren grassland openings in post oak woodlands on tight clay, chalky, or gravelly soils. Brazoria, Burleson, Lee, San Jacinto, Walker and Washington counties. Ref.: Ness, 1899\*.

*Palafoxia hookeriana* T. & G. [including var. *minor* Shinnery]. Showy palafoxia, Hooker's palafoxia. Margins of woodlands on deep sands from the Pineywoods west through the post oak belts and south to the South Texas Sand Sheet. Aransas\*, Atascosa\*, Austin, Bastrop\*, Brooks\*, Burleson\*, Caldwell\*, Colorado\*, Freestone\*, Goliad, Gonzales\*, Grimes\*, Harris\*, Henderson\*, Hidalgo, Houston\*, Jackson\*, Jim Hogg\*, Kenedy\*, Lavaca\*, Lee\*, Leon\*, Liberty\*, Limestone\*, Medina, Milam\*, Montgomery\*, Nueces\*, Robertson\*, San Jacinto (Peterson & Brown, 1983), San Patricio\*, Starr\*, Victoria\*, Washington\* and Wilson\* counties. Ref.: Ajilvsgi, 1979\*; Diggs, Lipsomb & O'Kennon, 1999\*; Rickett, 1970\*; Turner & Morris, 1976\*.

*Palafoxia reverchonii* (Bush) Cory. Reverchon's palafoxia. Openings in and margins of post oak or pine woodlands. Anderson\*, Hardin\*, Henderson\*, Houston\*, Leon\*, Limestone, Nacogdoches\*, Montgomery, Polk, Robertson\*, Trinity and Upshur\* counties. Ref.: Ajilvsgi, 1979\*; Diggs, Lipsomb & O'Kennon, 1999\*; Turner & Morris, 1976\*.

*Pectis angustifolia* Torr. var. *fastigiata* (A. Gray) D. J. Keil. Crownseed pectis. In pockets of extremely shallow soils on upland limestone exposures of the eastern and southern Edwards Plateau. Bell\*, Bosque\*, Edwards\*, Howard\*, Kerr\*, Sutton\*, Travis\* and Williamson\* counties. Ref.: Keil, 1977\*; Diggs, Lipsomb & O'Kennon, 1999\*.

*Perityle angustifolia* (Gray) Shinnery [*Laphamia angustifolia* Gray]. Rayless rockdaisy. Fairly inaccessible crevices in dry limestone cliff faces on the Stockton and western Edwards plateaus. Crockett\*, Pecos\*, Terrell\* and Val Verde\* counties. Almost certainly in adjacent Mexico. Ref.: Powell, 1973.

*Perityle bisetosa* (Gray) Shinnery var. *scalaris* Powell. Crevices in limestone bluffs and other limestone exposures. Brewster County. Ref.: Powell, 1967\*; Powell, 1973; Warnock, 1977a\*.

*Perityle cinerea* (Gray) Powell. Grayleaf rockdaisy. Crevices in dry limestone caprock of mesas in extreme western Edwards Plateau (i.e., Stockton Plateau) and eastern Trans-Pecos. Brewster\*, Pecos\*, Reeves, Terrell and Upton\* counties. Ref.: Hanks & Powell, 1983b; Powell, 1969\*.

*Perityle fosteri* Powell. Foster's rockdaisy. Rock faces on limestone boulders and bluffs in deep protected canyons. Known only from Culberson County. Ref.: Powell, 1983\*.

*Perityle huecoensis* Powell. Hueco rockdaisy. Dry limestone rock outcrops in the Hueco Mountains of El Paso County. Ref.: Powell, 1983\*; Worthington, 1989.

*Perityle rupestris* (Gray) Shinnery var. *albiflora* Powell. Rock outcrops in mountains of the Trans-Pecos. Brewster\*, Jeff Davis\* and Presidio\* counties. Ref.: Powell, 1969.

*Perityle rupestris* (Gray) Shinnery var. *rupestris*. Rock outcrops in mountains of the Trans-Pecos. Culberson, Jeff Davis\* and Presidio counties. Ref.: Powell, 1969\*.

*Perityle vitreomontana* Warnock. Glass Mountain rockdaisy. Crevices in limestone exposures on cliffs and rock outcrops. Glass and Chisos Mountains of Brewster County. Ref.: Powell, 1969; Warnock, 1977b\*.

*Perityle warnockii* Powell. Warnock's rockdaisy. Crevices in steep dry limestone bluffs. Val Verde County. Ref.: Powell, 1967\*.

*Pseudoclappia watsonii* Powell & Turner. Watson's pseudoclappia. Chihuahuan Desert shrublands on dry rocky gypseous clay hills. Brewster\*, Hudspeth\* and Jeff Davis or Presidio counties. Ref.: Powell & Turner, 1976\*.

*Psilactis heterocarpa* (Hartman & Lane) Morgan [*Machaeranthera heterocarpa* Hartman & Lane]. Welder machaeranthera. Coastal prairie grasslands and open mesquite-huisache woodlands on mostly gray-colored clayey to silty soils over the Beaumont and Lissie Formations (Carr, 1995b). Karnes, Kleberg, Nueces, Refugio, San Patricio and Victoria counties. Only recently recognized as distinct from *Machaeranthera tenuis* (S. Wats.) Turner & Horne, under which it is discussed in Correll & Johnston (1970) and Jones (1977). Ref.: Hartman & Lane, 1987\*; Hartman, 1990; Morgan, 1993.

*Rayjacksonia aurea* (Gray) Hartman & Lane [*Machaeranthera aurea* (Gray) Shinnery]. Houston machaeranthera, Houston daisy. Naturally barren or sparsely-vegetated slick spots or pimple mounds on coastal prairie, usually on loamy to sandy loam soils (Clodine, Gessner and Wockley series); occasionally in disturbed pastures and on roadsides in places where natural conditions are imitated (Mahler, 1980; Mahler, 1981; Mahler, 1983). Galveston and Harris counties. Ref.: Mahler, 1980f; Mahler, 1981a\*; Mahler, 1983\*; Mahler, 1993.

*Silphium albiflorum* Gray. White rosinweed. Grasslands on shallow stony calcareous soils, sometimes on rather barren, xeric caliche outcrops and roadcuts, in northern parts of the Edwards Plateau and calcareous areas to the north. Bell, Bosque, Burnet, Coryell, Dallas, Denton, Ellis, Erath, Hill, Hood, Johnson, Lampasas, Mason, McCulloch, McLennan, Menard\*, Tarrant, Taylor, Travis\*, Williamson and Wise counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Enquist, 1987a\*; Niehaus, Ripper & Savage, 1984\*; Rickett, 1970\*.

*Tetragonathea repanda* (Buckl.) Small. Showy nerve-ray. Woodland margins and open areas on deep sands on the coastal plain in South Texas. Aransas\*, Atascosa\*, Bexar\*, Brooks\*, Duval, Frio\*, Kenedy\*, Jim Hogg\*, Jim Wells, Medina\*, Nueces\*, Refugio\*, San Patricio\*, Webb\*, Willacy\* and Zapata\* counties. A specimen at TEX-LL with ambiguous locational information has been attributed to Goliad County. Ref.: Jones, 1977; Turner & Dawson, 1980.

*Tetranneuris linearifolia* (Hook.) E. Green var. *arenicola* Bierner. Sand Sheet bitterweed. Open areas on deep sands of the South Texas Sand Sheet. Brooks, Hidalgo, Jim Hogg\* and Zapata counties (Bierner et al., 1992). Ref.: Bierner et al., 1992.

*Thelesperma burridgeanum* (Regel) Blake. Burrige greenthread. Sandy open areas on the South Texas Plains. Atascosa\*, Bexar, Dimmit\*, Frio\*, Karnes\*, La Salle\*, Medina\*, Wilson\* and Zavala\* counties. A specimen from Wilson County (Sullivan & Turner 2) has been misattributed to Terrell County on the Flora of Texas herbarium specimen browser. Ref.: Ajilvsgi, 1984\*.

*Thelesperma flavodiscum* (Shinnery) B. L. Turner. Yellowdisk greenthread. Open post oak woodlands and margins on deep sandy soils. Anderson\*, Bastrop\*, Burleson\*, Freestone\*, Gonzales\*, Hardin\*, Houston\*, Leon\*, Medina\*, Milam\*, Newton\*, Polk\*, San Augustine\*, Shelby\*, Smith\*, Tyler\*, Van Zandt and Wilson\* counties (TEX-LL, 1998).

*Thelesperma nuecense* B. L. Turner. Coastal Bend greenthread. Grasslands and margins of oak mottes on sandy soils of the South Texas Sand Sheet and barrier islands. Aransas\*, Brooks\*, Duval\*, Hidalgo\*, Jim Hogg\*, Kenedy\*, Kleberg\*, Live Oak, Nueces\*, San Patricio\* and Willacy\* counties. A specimen from Kenedy Co. (10 mi S of Sarita, S. F. Blake 12599, TEX-LL) has been misattributed to Cameron Co.

*Thurovia triflora* Rose [*Gutierrezia triflora* (Rose) M. A. Lane]. Threeflower broomweed. Sparsely vegetated slick spots in coastal salty prairies and along drier upper margins of ecotone between salty prairies and tidal flats. Aransas\*, Brazoria\*, Calhoun\*, Galveston, Harris\*, Jackson\*, Matagorda\*, Refugio\*, San Patricio and Waller\* counties. Ref.: Lane, 1980; Lane, 1985; Ruffin, 1974\*; Suh & Simpson, 1990.

*Verbesina lindheimeri* Robins. & Greenm. Lindheimer's crownbeard. Calcareous clayey and loamy soils in juniper-oak woodlands on rocky limestone slopes on the Edwards Plateau; apparently unpalatable, often common in woodlands from which other herbaceous plants have been removed by browsing. Bandera\*, Bell\*, Blanco\*, Burnet (Diggs et al., 1999), Coryell (Diggs et al., 1999), Edwards\*, Hays\*, Kendall, Kerr\*, Medina, Travis\* and Uvalde counties; a

specimen from Jackson County (26 Nov 1939, B. C. Tharp s.n., TEX-LL) is either erroneous as to location or represents a disjunct population. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*.

*Xanthisma texanum* DC. var. *texanum*. Texas sleepy-daisy. Disturbed or otherwise open sandy areas, mostly at the southern tip of the Post Oak Belt and northern edge of the South Texas Plains. Atascosa\*, Bexar\*, Dimmit\*, Frio\*, La Salle\*, Medina\*, Webb\*, Wilson\* and Zavala\* counties; seemingly disjunct in the Rolling Plains (Childress\* and Hall\* counties).

#### Berberidaceae Barberry Family

*Mahonia swaseyi* (Buckl.) Fedde [*Berberis swaseyi* Buckl.]. Texas barberry. Shallow calcareous stony clay of upland grasslands/shrublands over limestone as well as loamier soils of openly wooded canyons and creek terraces; essentially restricted to the Edwards Plateau. Bandera\*, Blanco\*, Comal, Hays\*, Kerr\*, Real\* and Travis\* counties; one report from Bailey County in the Panhandle (Rowell, 1967). A specimen from Real County (Prade Ranch, E. J. Palmer 31763, TEX-LL) has been misattributed to Frio County. Ref.: Cheatham, Johnston & Marshall, 2000\*; Durand, 1973; Enquist, 1987a\*; Lynch, 1981\*; Rowell, 1967; Vines, 1960\*.

#### Boraginaceae Borage Family

*Cryptantha crassipes* I. M. Johnst. Terlingua Creek cats-eye. Sparsely vegetated xeric gypseous clay or chalky shales on low rounded hills and gentle slopes. Known only from Brewster County. Ref.: Higgins, 1971; Johnston, 1964; Poole, 1989c; Poole & Riskind, 1987\*.

*Cryptantha texana* (A. DC.) Greene. Texas hiddenflower. Loose, well drained sandy or sandy-gravelly soils in full sun, in early successional communities or in recently disturbed areas where competition from taller perennial grasses and forbs is minimal; South Texas Plains north to the Central Mineral Basin and Lampasas Cutplain. Atascosa\*, Austin\*, Bastrop\*, Bexar\*, Brooks\*, Burnet\*, DeWitt\*, Duval\*, Gillespie\*, Goliad\*, Gonzales\*, Guadalupe\*, Hays\*, Jim Hogg\*, Jim Wells, Karnes\*, Llano\*, Mason\*, Medina\*, Refugio, Robertson\*, Runnels\*, San Patricio\*, Somervell\*, Starr\*, Travis\*, Willacy\* and Wilson\* counties; Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Johnston, 1964.

*Onosmodium helleri* Small. Heller's marbleseed. Loamy calcareous soils in oak-juniper woodlands on rocky limestone slopes, often in the more mesic portions of canyons; only on the Edwards Plateau. Bandera, Bexar\*, Burnet, Comal\*, Hays, Kendall\*, Kerr, Travis\*, Uvalde and Williamson counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Enquist, 1987a\*; Mackenzie, 1905; Mahler, 1981i; Turner, 1995a.

#### Brassicaceae Mustard Family

*Arabis petiolaris* Gray. Brazos rockcress. Wide-ranging and in countless habitats, on the Edwards Plateau, Lampasas Cutplain, Llano Uplift, northern part of the South Texas Plains and western portions of the Coastal Plain. Bastrop\*, Bell (Diggs et al., 1999), Bexar\*, Burnet\*, Coleman (Diggs et al., 1999), Comal\*, Dallas, Gillespie\*, Guadalupe\*, Hays\*, Kinney\*, Live Oak, Llano\*, McLennan (Diggs et al., 1999), Medina\*, San Saba\*, Travis\*, Uvalde\*, Val Verde, Wilson\* and Young (Mahler, 1988) counties. Ref.: Cheatham, Johnston & Marshall, 1995\*; Diggs, Lipsomb & O'Kennon, 1999\*; Enquist, 1987a\*; Hill, 1981.

*Leavenworthia aurea* Torr. var. *texana* (Mahler) Rollins [*Leavenworthia texana* Mahler]. Texas gladecress. Restricted to early-successional herbaceous communities in shallow calcareous soils in vernal wet glades on Weches Formation ironstone outcrops. Sabine and San Augustine counties; experimentally introduced in Nacogdoches County. Ref.: George & Nixon, 1990; Mahler, 1981a\*; Mahler, 1987; Mahler, 1993.

*Lesquerella densiflora* (Gray) Wats. Densflower bladderpod. Neutral to calcareous usually somewhat sandy soils over igneous and metamorphic substrates as well as limestone and alluvium, in full sun in portions of grasslands where cover by taller perennial grasses and forbs is minimal. Widespread: Andrews, Archer\*, Blanco\*, Brown, Burnet\*,

Callahan\*, Cameron, Coke, Coleman\*, Comanche, Concho\*, DeWitt\*, Eastland\*, Fort Bend\*, Gillespie\*, Gonzales, Grimes, Hays, Hood, Jones\*, Kerr\*, Llano\*, Mason\*, McCulloch\*, McLennan\*, Palo Pinto\*, San Saba\*, Shackelford\*, Somervell\*, Taylor\*, Travis\*, Victoria, Washington and Wichita\* counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Enquist, 1987a\*; Rollins & Shaw, 1973\*.

*Lesquerella engelmannii* (Gray) Wats. subsp. *engelmannii*. Engelmann's bladderpod. Shallow calcareous clayey soils in grasslands on rocky limestone uplands, mostly in a narrow band along the eastern edge of the Edwards Plateau, ranging as north as far as the Red River but not, according to Clark (1975), into Oklahoma. Bandera, Burnet, Caldwell, Collins, Cooke, Dallas, Ellis, Erath, Guadalupe, Hays, Lampasas, Montague, Parker, San Saba, Tarrant, Travis and Wise counties. Ref.: Clark, 1975; Enquist, 1987a\*; Rickett, 1970\*; Rollins & Shaw, 1973.

*Lesquerella grandiflora* (Hook.) Wats. Bigflower bladderpod. Grasslands and open areas on loose sandy soils, from the South Texas Sand Sheet and other coastal sands, throughout the southern post oak belt on Eocene strata and into the Llano Uplift (Central Mineral Basin). Atascosa\*, Austin\*, Bastrop\*, Bexar\*, Borden\*, Brooks\*, Burlleson\*, Burnet\*, Caldwell\*, DeWitt\*, Dimmit\*, Duval\*, Fayette, Fort Bend\*, Frio\*, Goliad\*, Gonzales\*, Guadalupe\*, Hidalgo\*, Jim Hogg\*, Karnes\*, Kenedy\*, Kleberg\*, Lee\*, Llano\*, Mason\*, Medina\*, Nueces\*, San Patricio\*, Starr\*, Travis\*, Victoria\*, Webb\*, Willacy\* and Wilson\* counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Hill, 1982b; Jones, 1977\*; Niehaus, Ripper & Savage, 1984\*; Rollins & Shaw, 1973.

*Lesquerella pallida* (T. & G.) Wats. White bladderpod. Seasonally wet, comparatively high pH sandy soils in natural openings or glades within pine-oak forests over ironstone/glaucanite or the Weches Formation. Known only from San Augustine County. Ref.: George & Nixon, 1990; Mahler, 1985a; Mahler, 1993; Nixon et al., 1973\*; Poole & Riskind, 1987\*; Rollins, 1993.

*Lesquerella recurvata* (Gray) Wats. Plateau bladderpod. Usually in full sun in shallow calcareous clayey soils, often where underlying bedrock is exposed at the surface thus limiting cover by taller perennial herbs and woody plants; mostly on the Edwards Plateau and the Lampasas Cutplain. Bandera\*, Bell\*, Bexar\*, Blanco, Bosque\*, Burnet\*, Caldwell, Comal\*, Coryell, Edwards\*, Ellis, Erath, Gillespie\*, Grimes, Hamilton\*, Hays\*, Hill\*, Hood, Johnson\*, Kendall\*, Kerr\*, Kimble\*, Kinney\*, Llano\*, McLennan\*, Medina\*, Menard\*, Real\*, Somervell, Sutton\*, Tarrant, Travis\*, Uvalde\*, Val Verde\*, Waller and Williamson\* counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; Rollins & Shaw, 1973\*; misidentified in Niehaus, Ripper & Savage, 1984\*.

*Lesquerella sessilis* (Wats.) Small. Sessile bladderpod. Shallow sandy to clayey soils in a variety of open situations with minimal competition from larger perennials, on the southern Edwards Plateau and adjacent South Texas Plains. Bandera\*, Bexar\*, Blanco\*, Comal\*, Crockett, Edwards\*, Gillespie\*, Hays, Kendall\*, Kerr, Kimble, Live Oak\*, Medina, Real\*, Sutton\* and Uvalde\* counties. A Tharp specimen (29 Mar 1930, TEX-LL) reading "Victoria, Goliad" has been attributed to Victoria County. Ref.: Rollins & Shaw, 1973\*.

*Selenia grandis* R. Martin. Large selenia. Seasonally wet clayey soils in open areas. Cameron\*, Dimmit\*, Hidalgo\*, La Salle, McMullen\* and Nueces\* counties. Ref.: Martin, 1940; Rollins, 1993.

*Selenia jonesii* Cory [including var. *obovata* Rollins]. Jones' selenia. Moist clayey soils of swales and buffalo wallows on high prairies of the western Edwards Plateau. Crockett\*, Dawson\*, Dimmit, Glasscock\*, Mitchell, Nolan, Reagan and Scurry counties. Ref.: Cory, 1931; Mahler, 1981b\*; Mahler, 1981c\*; Mahler, 1993; Martin, 1940; Rollins, 1993.

*Streptanthus bracteatus* Gray. Bracted twistflower. Occurs in low numbers in a broad spectrum of habitats on limestone slopes supporting a mosaic of juniper-oak woodlands and grassland openings, most often on mesic woodland margins. Bandera, Comal, Medina, Real, Travis and Uvalde counties; a record from Caldwell County has not been verified. Ref.: Damude & Poole, 1990c; Enquist, 1987a\*.

*Thelypodium tenue* Rollins. Fresno Creek thelypod. Known only from the gravelly bed of Fresno Creek in Presidio County. Ref.: Hanks & Powell, 1983; Rollins, 1957; Rollins, 1993.

*Thelypodium texanum* (Cory) Rollins. Texas thelypody. Gravelly creek bottoms, open rocky slopes, and other habitats at lower elevations in the Trans-Pecos. Brewster\*, Culberson\*, El Paso\*, Hudspeth\*, Jeff Davis\* and Presidio\* counties; surely in adjacent Mexico. Ref.: Niehaus, Ripper & Savage, 1984\*; Warnock, 1970\*.

#### Buddlejaceae Buddleja Family

*Buddleja racemosa* Torr. subsp. *incana* (Torr.) Norman [*Buddleja racemosa* Torr. var. *incana* Torr.]. Wand butterfly-bush. Pits or fractures in limestone exposed on canyon walls, cliff faces and steep rocky slopes, mostly on the southern part of the Edwards Plateau. Bandera\*, Bexar, Comal, Edwards\*, Kerr\*, Kinney\*, Real\*, Uvalde and Val Verde\* counties. Ref.: Norman, 1966.

*Buddleja racemosa* Torr. subsp. *racemosa*. Wand butterfly-bush. Pits and fractures in limestone exposed on canyon walls, cliff faces and steep rocky slopes, mostly to the east of subsp. *incana*. Comal\*, Hays\*, Kendall and Travis\* counties. Ref.: Lynch, 1981\*; Norman, 1966; Schulz, 1922\*; Vines, 1960\*.

#### Cactaceae Cactus Family

*Cylindropuntia imbricata* (Haworth) Knuth var. *argentea* (Anthony) Backeberg [*Opuntia imbricata* (Haw.) DC. var. *argentea* Anthony]. Silver cholla; Big Bend cane cholla. Mesquite thickets and creosote flats on comparatively deep soils of desert bottomlands and washes (Benson, 1982) or rocky limestone soil (Heil et al., 1985). Brewster County. Ref.: Anderson, 2001\*; Anthony, 1956; Benson, 1982.

*Echinocereus chisoensis* W. T. Marshall var. *chisoensis* [*Echinocereus reichenbachii* (Terscheck) Haage f. var. *chisoensis* (W. T. Marshall) L. Benson]. Chisos hedgehog cactus; Chisos pitaya. Desert grasslands or open shrublands on unconsolidated gravelly fan and terrace deposits on desert flats and low hills at moderate elevations (2000-2500 feet) in the Chihuahuan Desert of Brewster County. Ref.: Anderson, 2001\*; Heil & Anderson, 1982b; Poole & Riskind, 1987\*; Weniger, 1984\*.

*Echinocereus chloranthus* Engelm. var. *neocapillus* Weniger. Golden-spine hedgehog cactus; long-haired green-flowered pitaya. Sparsely vegetated desert grasslands over novaculite outcrops. Brewster and Presidio counties. Note: Anderson (2001) did not recognize this taxon, placing it tentatively in synonymy under *Echinocereus viridiflorus* Engelm. subsp. *davisii* (A. D. Houghton) N. Taylor. Ref.: Anderson, 2001; Benson, 1982\*; Warnock, 1977a\*; Weniger, 1984\*.

*Echinocereus papillosus* Linke var. *angusticeps* (Clover) W. T. Marshall [*Echinocereus berlandieri* (Engelm.) Engelm. var. *angusticeps* (Clover) L. Benson; includes some plants treated by some authors as *Echinocereus blanckii* (Polseger) F. Palmer var. *angusticeps* (Clover) L. Benson. Not recognized at all by Anderson (2001).] Small yellow-flower alicoché. Grasslands and thorn shrublands on various substrates, usually in shallow reddish sandy loams over limestone or caliche. Hidalgo, Jim Hogg and Starr counties. Ref.: Weniger, 1984\*.

*Echinocereus reichenbachii* (Terscheck) Haage f. var. *albertii* L. Benson [*Echinocereus melanocentrus* Lowry]. Black lace cactus. Grasslands, thorn shrublands and mesquite woodlands on sandy, possibly somewhat saline soils, sometimes growing at ecotone between upland types and lower areas dominated by halophytes. Jim Wells, Kleberg and Refugio counties. Note that Taylor (1985) placed this taxon in synonymy under *Echinocereus reichenbachii* var. *fitchii* (Britt. & Rose) L. Benson; this view was followed by Anderson (2001). Ref.: Benson, 1982\*; Poole & Riskind, 1987\*; Weniger, 1979c; Weniger, 1984\*.

*Echinocereus viridiflorus* Engelm. var. *correllii* L. Benson [*Echinocereus viridiflorus* Engelm. subsp. *correllii* (L. Benson) Blum & Lange]. Correll's green pitaya. Among grasses in rock crevices on low hills in desert or semi-desert grassland, occasionally on novaculite. Brewster, Coke and Pecos counties. Ref.: Benson, 1982.

*Echinocereus viridiflorus* Engelm. var. *davisii* (A. D. Houghton) W. T. Marshall [*Echinocereus viridiflorus* Engelm. subsp. *davisii* (A. D. Houghton) N. Taylor] Davis' green pitaya. Chihuahuan Desert scrub on novaculite outcrops,

usually hidden in mats of *Selaginella*. Known only from Brewster County. Ref.: Anderson, 2001\*; Benson, 1982; Poole & Riskind, 1987\*; Warnock, 1977a\*; Weniger, 1979d; Weniger, 1984\*.

*Escobaria guadalupensis* Brack & Heil. Guadalupe Mountain cactus. Exposed slabs and fractured limestone rock on steep, mostly south-facing slopes, within open coniferous woodlands above 6500 ft. in the Guadalupe Mountains; often associated with *Petrophytum cespitosum*. Culberson County. Ref.: Heil & Brack, 1986\*; Heil & Brack, undated.

*Escobaria hesteri* (Y. Wright) F. Buxbaum [*Coryphantha hesteri* Y. Wright; *Mammillaria hesteri* (Y. Wright) Weniger]. Hester's corycactus. Grasslands on dry gravelly limestone hills and alluvial fans at ca. 4000-5000 feet; often on novaculite. Brewster, Pecos and Terrell counties. Ref.: Anderson, 2001\*; Benson, 1982\*; Heil & Anderson, 1982a; Weniger, 1984\*.

*Escobaria minima* (Baird) D. Hunt [*Coryphantha minima* Baird; *Coryphantha nelliae* Croizat; *Escobaria nelliae* (Croizat) Backeberg] Nellie corycactus. Chihuahuan Desert scrub on novaculite outcrops. Known only from Brewster County. Ref.: Benson, 1982\*; Poole & Riskind, 1987\*; Weniger, 1979b; Weniger, 1984\*.

*Opuntia aureispina* (Brack & Heil) Pinkava & Parfitt [*Opuntia macrocentra* Engelm. var. *aureispina* Brack & Heil]. Golden-spined pricklypear. Desert scrub on fractured Boquillas Limestone at about 1900 feet. Brewster County. Ref.: Anderson, 2001\*; Heil & Brack, 1988; Pinkava & Parfitt, 1988.

*Sclerocactus brevihamatus* (Engelm.) Hunt subsp. *tobuschii* (W. T. Marshall) N. Taylor [*Ancistrocactus tobuschii* W. T. Marshall; *Echinocactus tobuschii* (W. T. Marshall) Weniger]. Tobusch fishhook cactus. Low-stature grasslands or woodland openings on very shallow stony clay soils over flaggy limestone, usually on ridgetops but occasionally on valley flats. Bandera, Edwards, Kerr, Kimble, Kinney, Real, Uvalde and Val Verde counties. Ref.: Anderson, 2001\*; Niehaus, Ripper & Savage, 1984\*; Poole & Riskind, 1987\*; Weniger, 1979a; Weniger, 1984\*.

#### Campanulaceae Bellflower Family

*Campanula reverchonii* Gray. Basin bellflower. Shallow, well drained, sandy to gravelly soils derived from igneous (and perhaps metamorphic) rocks, often in cracks on exposed granite domes; essentially restricted to the Llano Uplift. Burnet, Gillespie, Llano and Mason counties. Historically from Kendall and Travis counties on the Edwards Plateau, where perhaps it occurs on alluvial sand. Ref.: Cheatham, Johnston & Marshall, 2000\*; Enquist, 1987a\*; Mahler, 1981; Mahler, 1993; McVaugh, 1951; Niehaus, Ripper & Savage, 1984\*; Walters & Wyatt, 1982.

*Triodanis texana* McVaugh. Texas Venus' looking-glass. Sandy soils in open areas throughout much of the eastern half of Texas. Aransas\*, Bastrop\*, Bexar\*, Burleson, Caldwell\*, Dallas, Denton, Erath\*, Fayette, Freestone\*, Frio, Gillespie\*, Gonzales\*, Hardin, Leon\*, Medina\*, Milam\*, Travis, Van Zandt and Washington\* counties. Ref.: Diggs, Lipsomb & O'Kennon, 1999\*; McVaugh, 1951.

#### Capparidaceae Caper Family

*Polanisia erosa* (Nutt.) Iltis subsp. *breviglandulosa* Iltis. South Texas yellow clammyweed. Grasslands and early-successional open areas on deep loose sands of the South Texas Sand Sheet and Coastal Bend areas. Aransas\*, Brooks\*, Goliad\*, Hidalgo\*, Jim Hogg\*, Kenedy\*, Kleberg, Nueces, San Patricio\*, Starr\*, Willacy\* and Zapata\* counties. Ref.: Iltis, 1958.

#### Caprifoliaceae Honeysuckle Family

*Symphoricarpos guadalupensis* Correll. McKittrick snowberry. A poorly understood taxon thought to be restricted to the Guadalupe Mountains of Culberson County; however, Powell (1988) reported seeing similar plants in the Sierra del Carmen in Coahuila. Ref.: Burgess & Northington, 1981; Correll, 1968; Higgins, 1989; Jones, 1940; Poole, 1987; Powell, 1998\*.