

**Nature Quest Field Trips to Big Springs Ranch for Children
Real County, Texas, 22-25 April 2010**

New species to Big Spring Ranch Checklist this spring including Nature Quest

funnel-web spider sp. (Nature Quest)
midge fly sp. (Nature Quest)
red Pyralid moth sp. (Nature Quest)
Grapevine Epimenis (Nature Quest)
Orange-fringed Black Skeletonizer (post-NQ trip)
Least Skipper (Nature Quest)
Green Skipper (post-Nature Quest)
Strecker's (prob.)/Yucca (poss.) Giant-Skipper (Nature Quest; post-NQ)
Springtime Darner (first noted by Tripp Davenport; also on NQ trips)
Golden-winged Dancer (first for Real County; found by Tripp Davenport; photos)
Snowy Egret (Tony Gallucci pre-Nature Quest; photos)
Swainson's Hawk (Nature Quest)
Lesser Yellowlegs (Nature Quest)
Eurasian Collared-Dove (first noted by Tripp Davenport this spring; also on NQ trips)

notes on giant-skipper sp.

On 24 April 2010, i got a momentary glimpse of a perched Giant-Skipper on the road, and watched it patrol a section of road between the springs road crossing and the upper pond. Along that same stretch i as able to watch two others patrolling, and a fourth above the springs before the "catfish heads". As my only previous experience with Giant-Skippers in the hill country had been in searches for and occasionally finding adults of Yucca Giant-Skipper, i made the assumption that that was what i was seeing. Further my brief look at the perched bug appeared to be that species, though i had no time to look it over for other identifying marks. In a later discussion with Derek Muschalek he was intrigued because he thought it late for a bug that flies normally in March. On my way home that night i got to re-thinking the situation and remembered that at least one other Giant-Skipper had been found in the Hill Country before, but i was unaware of details. Further i knew that some other species came close . . . indeed, Lee Haile and Marshall Johnston had discovered a stand of *Manfreda* cf. *sileri* near Nature Quest headquarters the same day, which initiated a conversation about a) the last known records of *Manfreda* Giant-Skipper, and b) the presence of a small group of *Manfreda* at Big Springs, which may or may not be cultivars, or natives purposely planted. While i did not think there was any way the bugs i observed were *Manfreda* Giant-Skipper, it did spark me to immediately do some research when i got home. Since i would be returning on the 25th with Derek, largely to refind these bugs, i wanted to be aware of all the possibilities and field marks. What i found was that there were six species that had occurred with about 70 miles of the Ranch . . . in addition to those discussed above, there

were Mary's Giant-Skipper, which could be logically eliminated because it uses *Agave lecheguilla* as a host (few on the Ranch, and mostly cultivars) and is a fall flier, Coahuila Giant-Skipper, also using *Agave lecheguilla* and flying in late summer to fall, both of those occurring as close as Val Verde County (two counties away) and Ursine Giant-Skipper which uses some of the larger Yuccas and the plains type Yuccas, but doesn't fly until late May through the summer. It has been recorded as close as Val Verde County as well. All three of those species could be considered Chihuahuan Desert endemics, and Real County has fringe elements of the Chihuahuan Desert flora, although it's technically not in it. Of the remaining original three species of Giant-Skipper, Manfreda Giant-Skipper has been recorded in adjacent Uvalde County and is thought of, along with the plant as a lowland species. The presence of *Manfreda* growing at Concan raises some questions though. Nevertheless it is highly unlikely to be the bug we saw, for the total lack of *Manfreda* in the area we were. I might mention as well that in my short look the bug i saw did not strike me as resembling any of these four species. That brings us to the final two. Yucca Giant-Skipper has a flight period of late February to May according to the literature. However, it is widespread from Mexico to the middle Rockies, and the later flight is tied to its northern reaches. In our area i cannot find flights past the first week of April. We had talked extensively about the late season we are experiencing in terms of both odonate and butterfly emergences, and one could postulate the same for these bugs. It utilizes a variety of *Yucca* species as host plants, several of which are easily found on the Ranch, and in the locations where these bugs were observed, including *Yucca constricta*-complex, and *Yucca baccata*-complex species. In short we could not rule it out as being the species i observed. The last species is Strecker's Giant-Skipper, also a somewhat widespread species, and one that has been recorded in several counties in the central Hill Country. Although i could not find a specific Real County record, maps seem to encompass Real in the distribution. In addition, the Hill Country population is isolated from the remaining range, and is considered a separate subspecies with a unique hostplant. It is noted as having a flight time immediately following *Yucca* Giant-Skipper, which would be perfectly appropriate for our observations. The host plant is *Yucca rupicola*, the common ground-level growing *Yucca* of the central Hill Country, and which is common on the Ranch and in the area of the sightings. The final piece of evidence that indicates this might have been the species observed is that it among all the species is the one most closely resembling the *Yucca* Giant-Skipper and that in my glimpse of the bug i did not look for and could easily have missed the key fieldmark separating the two. I picked up Derek the morning of the 25th and relayed all i had found to him, and we set out in search of more individuals. We found bugs in one of the locations from the previous day, and in two new locations, indicating we had probably six individuals over the weekend. Unfortunately, we never had one perch, they were constantly in their bullet-like zagging patrol flight. Attempts to net were ridiculously optimistic. We also noted that between the two days the bugs were flying only between 9:30 and 10, with field time between about 8 and noon. I have not attempted to find them later in the day yet. So, we are currently left with

a unknown identification but with both of us leaning heavily towards Strecker's Giant-Skipper. I also think it probable that Yucca Giant-skipper also occurs on the Ranch, but it will take efforts earlier in the season to locate them.

notes on sylphs

Earlier this month Tripp Davenport, science supervisor at our Ranch high school, found a Jade-striped Sylph near Austin, setting a new early date record for Texas by several weeks. I was intrigued that they might be out as well at the Ranch but was unable to get there right away. And in looking on Friday and Saturday found none. This weekend would have been the earliest ever for the Ranch at least. Then on Sunday i glimpsed a patrolling bug on the terraces below the springs that i felt pretty certain was a male, but wasn't going to mark it as a new early date without some other confirmation. Once Derek and i had crossed the river heading back to the car, i noticed a dead bug on the ground, and in picking it up found it to be a male Jade-striped Sylph. No indication what killed it, and there is virtually no traffic on this road on a daily basis, and certainly none travelling over 5 miles an hour, if that, so that seems unlikely as a source of the kill. It had no chunks missing either. It was in full color, and the wings looked worn, so i suspect it had been flying for at least a while. While we were looking at it another bug flew bouncing by and i netted it. It was a fresh female, not teneral, but probably emerged that day (25th). I photographed both bugs, retained the male specimen, and released the female.

notes on raven nest

On Friday i showed the Nature Quest group the Common Raven nest on the honeycomb overhang above tablerock, and one of the participants noted that there appeared to be two nests. Sure enough not only were there two nests (for the first time in my observations at the Ranch), but there were two young in one nest and three in the other. In all my years i have never seen this, thinking Common Ravens to be territorial. I have done some preliminary searches and have not found any specific instances of Common Ravens communally or colonially nesting. However, African Dwarf Ravens do so, and there are records in North America for both American Crows and Northwestern Crows, and i found indications that Fish Crows do also. But there is also specific research on Chihuahuan Ravens to determine if any takes place, which found them too territorial to allow for it. Although they do not keep other nesters from feeding range, they do maintain a minimum distance between nests even among former nest helpers from previous generations. I will continue to research to see if there are records for Common Raven. We watched these birds at some length and found that when an adult came to the nest, four times over the days we observed, that they always fed the young in the leftmost nest. At one time, the two birds from the rightmost nest made their way to the other nest along a small ridge but were ignored by the adults. In addition it was clear that the rightmost birds were significantly older than the leftmost birds, being close to fledging (indeed one was not in the nest on Sunday), and standing on the rim of the nest. The other three were hunkered in the nest until an adult arrived, and while fully

covered in feathers, still had bright yellow gapes and did not appear near ready to fledge. I guessed a difference in age of at least one week. Pictures of the nests are posted at <http://milkriver.blogspot.com/2010/04/env-big-springs.html>

notes on vireo mimics

Vireos are known mimics, incorporating portions of other birds' songs into their phrases. Especially notable is the Black-capped Vireo which may insert a number of other birds' songs in its long rambling phrases. Over the weekend i encountered three vireos utilizing the songs of other vireos which momentarily had me pursuing them in search of the "better" birds. They included a White-eyed Vireo incorporating Hutton's Vireo elements in its song (Hutton's Vireos were also present at the location), and both a White-eyed and a Red-eyed Vireo incorporating Black-capped Vireo elements in their songs which led to the discovery of a Black-capped Vireo singing in a location where they had not previously been found on the Ranch.

notes on odd Parula song

On the 25th Derek and i had both identified a Yellow-throated Warbler song emanating from a very large Cedar Elm above the springs. While we were looking for other birds, a bird popped out on a bare limb of that same elm and Derek immediately identified it as a Northern Parula. Both of these species breed on the Ranch. He then noted that it was singing the song we had previously identified as being a Yellow-throated Warbler. We watched it for several minutes as it repeatedly sang that song while never singing a song we typically associate with Northern Parula. I took a series of pictures but the tree was so tall and my lens so inadequate that detail is hard to gather from the pics. Nevertheless you can see the half eye crescents, yellow throat, and dark throat band typical of Northern Parula. We considered three possibilities, none of which can i totally dispel: a) the bird learned the song from a Yellow-throated Warbler male singing nearby during its development; b) it was a Sutton's Warbler, a known hybrid form between Yellow-throated and Parula Warblers, and learned from its male parent; or c) was perhaps influenced genetically by the swarm of Tropical x Northern Parula hybrids known from the Hill Country, with the genetic influence of southern Tropical Parulas which sing a warbled rather than buzzy song. This last seems the most unlikely, at least in part because we both thought the song was indistinguishable from other Yellow-throated Warblers we were hearing all morning. photos at <http://milkriver.blogspot.com/2010/04/env-big-springs.html>

notes on Saffron Thistle

After discovering a small stand of this European/Asian/Australian invasive last year, and after identifying it as a hyper-noxious weed, i made a rudimentary effort to trash seedheads in 2009. However i discovered what looks now to be about a thousand plants on our trip in on Friday. I have alerted Ranch staff, found out that there are a few more small pops on the Ranch, and we have begun an eradication attempt to prevent it from taking over the open lands on the Ranch.

Checklist of animals seen

+ = too many to count

= photographed

numbers are by date A-B-C-D where A = 22 April 2010, B = 23 April 2010, C = 24 April 2010, D = 25 April 2010

scientific names are available on the Ranch Master Checklist

Molluscs

White Globesnail 0-1-0-0

Diplopods

iron gray millipede sp. 0-1-0-0

Arachnids

funnel-web spider sp. 0-web-0-0

Insects (excluding Butterflies/Moths and Odonates)

crane fly sp. 0-200-20-40

treehole mosquito sp. 0-0-2-0

gray-striped fly sp. 0-0-0-2

blackbutt red wasp sp. 0-1-0-0

European Honeybee 0-3-6-4

Imported Fire Ant 0-++-++

Native Fire Ant 0-++-++

road burrow ant sp. 0-++-++

Texas Red Harvester Ant 0-+-0-0

orange band-winged grasshopper sp. 0-1-0-4

pygmy grasshopper sp. 0-0-0-1

Cochineal Bug 0-++-++

Gerrid Strider 0-+-0-10

Veliid strider sp. 0-+-0-0

scarlet *Sophora* plant bug sp. 0-+-0-+

black ground termite 0-0-+-0

midge fly sp. 0-0-+-0

Lepidoptera

gold Pyralid moth sp. 0-+-2-2

red Pyralid moth sp. 0-0-1-0

Grapevine Epimenis 0-0-1-0

Orange-fringed Black Skeletonizer 0-0-0-+ (new to Ranch)

White-lined Sphinx 0-0-2-1

Northern Cloudywing 0-1-0-3

Horace's Duskywing 0-1-0-0

Common Sootywing 0-1-0-0
Common/White Checkered-Skipper 0-4-0-4
Sachem 0-0-0-3
Whirlabout 0-0-3-0
Fiery Skipper 0-1-1-0
Least Skipper 0-2-0-0
Celia's Roadside-Skipper 0-0-0-1
Green Skipper 0-0-0-1 (new to Ranch)
Strecker's/Yucca Giant-Skipper 0-0-4-3

Pipevine Swallowtail 0-4-2-0
Spicebush Swallowtail 0-1-0-0
Black Swallowtail 0-1-1-4
Eastern Tiger Swallowtail 0-0-1-0
Two-tailed Swallowtail 0-4-5-6
Giant Swallowtail 0-1-0-1
Orange Sulphur 0-2-0-2
Cloudless Sulphur 0-2-4-0
Lyside Sulphur 0-1-1-0
Sleepy Orange 0-40-20-20
Dainty Sulphur 0-4-0-0
Checkered White 0-10-3-3
Gray Hairstreak 0-0-1-8
Reakirt's Blue 0-2-0-1
Queen 0-1-1-0
Monarch 0-1-0-0
Gulf Fritillary 0-1-0-0
Variegated Fritillary 0-3-2-10
Question Mark 0-3-2-4
Red Admiral 0-8-4-10
Painted Lady 0-1-0-0
American Lady 0-1-1-3
Arizona Sister 0-1-0-1
Red-spotted Purple 0-1-0-1

Odonates

American Rubyspot 0-1-0-0
Double-striped Bluet 0-40-0-0
Familiar Bluet 0-10-0-0
Kiowa Dancer 0-10-1-1
Aztec Dancer 0-30-0-1
Springwater Dancer 0-8-0-2
Violet Dancer 0-1-0-1
Blue-ringed Dancer 0-0-2-2
Powdered Dancer 0-0-1-0
Dusky Dancer 0-2-0-0

dancer sp. 0-2-0-0

Common Green Darner 0-4-1-0

Springtime Darner 0-1-1-0

Sulphur-tipped Clubtail 0-1-0-0

Pronghorn Clubtail 0-0-0-1

Flag-tailed Spinyleg 0-0-0-1

Dot-winged Baskettail 0-10-2-1

Prince Baskettail 0-1-2-0

Jade-striped Sylph 0-0-0-3 (1 live male, 1 dead male, 1 live female)

Flame Skimmer 0-8-3-1

Widow Skimmer 0-1-0-0

Common Whitetail 0-0-0-1

Pale-faced Clubskimmer 0-12-2-2

Variegated Meadowhawk 0-0-1-3

Fish

Common Carp 0-1-0-0

Blacktail Shiner 0-20-6-6

Largespring Gambusia 0-30-10-0

Redbreast Sunfish 0-1-0-0

Amphibians

neotenic salamander 7c 0-2-0-0

Gulf Coast Toad 0-++tadpoles-0-0

Blanchard's Cricket Frog 0-20-10-10

Cliff Chirping Frog 0-0-1-0

Rio Grande Leopard Frog 0-++tadpoles-1tadpole-0

Reptiles

Guadalupe Softshell 0-0-0-1

Texas Slider 0-0-0-1

Red-eared Slider 0-2-0-3

Eastern Tree Lizard 0-1-0-0

Birds

Wild Turkey 0-0-1f-0

Great Blue Heron 0-1-1-0

Snowy Egret 1-0-0-0 (new for Ranch)

Cattle Egret 0-2-0-0

Turkey Vulture 4-10-4-20

Black Vulture 1-15-2-3

Red-tailed Hawk 0-1-0-0

Red-shouldered Hawk 0-0-0-1

Zone-tailed Hawk 1-0-0-0

Swainson's Hawk 0-0-1-0 (new for Ranch)

hawk sp. 0-1-0-0
Osprey 1-0-0-0
Spotted Sandpiper 0-1-1-2
Lesser Yellowlegs 0-0-3-0 (new for Ranch)
Mourning Dove 0-2-2-0
White-winged Dove 0-2-0-1
Inca Dove 0-6-2-1
Common Ground-Dove 0-1-0-0
Eurasian Collared-Dove 4-2-2-4 (new to Ranch this spring)
Chimney Swift 0-4-0-0
Black-chinned Hummingbird 0-1-6-3
Ruby-throated Hummingbird 0-1-2-0
hummingbird sp. 0-5-30-0
#Green Kingfisher 0-1-4-0
Ladder-backed Woodpecker 0-4-3-3
Golden-fronted Woodpecker 0-2-2-2
Eastern Phoebe 0-3-4-3
Black Phoebe 0-2-1-2
Eastern Wood-Pewee 0-2-2-3
Acadian Flycatcher 0-0-1-0
Ash-throated Flycatcher 0-20-10-12
Scissor-tailed Flycatcher 0-1-0-0
Vermilion Flycatcher 0-0-0-1
White-eyed Vireo 2-6-10-6
Yellow-throated Vireo 0-2-3-4
Hutton's Vireo 0-3-3-2
Red-eyed Vireo 0-1-1-2
Black-capped Vireo 0-1-0-0
Western Scrub-Jay 0-1-1-3
Common Raven 0-9-8-8 (3 to four adults plus five young on two adjacent nests)
Barn Swallow 0-8-5-2
Cliff Swallow 20-100-150-40
Tree Swallow 0-0-40-0
Northern Vough-winged Swallow 0-10-2-2
Carolina Chickadee 0-2-0-2
Black-crested Titmouse 0-12-6-8
Bewick's Wren 1-3-4-3
Canyon Wren 0-5-6-5
Carolina Wren 0-3-6-4
Ruby-crowned Kinglet 0-0-1-0
Blue-gray Gnatcatcher 0-1-2-4
Northern Mockingbird 0-1-0-0
Northern Parula 0-2-1-[#1?] last parula singing Yellow-throated Warbler song/Sutton's?
parula sp. (Northern/Tropical) 0-2-1-0

Nashville Warbler 0-2-0-4
Orange-crowned Warbler 0-0-0-3
Black-and-white Warbler 0-4-5-2
Golden-cheeked Warbler 0-10-8-6
Yellow-throated Warbler 0-4-6-4
Yellow-rumped (Audubon's) Warbler 0-0-1-0
Louisiana Waterthrush 0-2-1-2
Summer Tanager 0-8-50-20
Chipping Sparrow 30-5-25-10
Rufous-crowned Sparrow 0-0-1-0
Lark Sparrow 4-3-0-1
Northern Cardinal 0-4-8-5
Painted Bunting 2-0-1-2
Indigo Bunting 0-0-1-0
Red-winged Blackbird 0-2-0-0
Brown-headed Cowbird 0-8-12-2
Scott's Oriole 0-1-0-0
House Finch 0-2-12-2
Lesser Goldfinch 0-2-4-1
Pine Siskin 0-0-1-0

Mammals

Axis Deer 0-0-0-3
Rock Squirrel 0-0-0-1

Plants

These are the fungi and plants noted in the four days at the Ranch. Special plants we sought out and talked about are marked in red. Species photographed are marked with #.

Division BASIDIOMYCOTA

GEASTRACEAE – Earthstar Family

Earthstar-type Fungus

Supergroup PRIMOPLANTAE – Green Algae

CHLOROPHYCEAE – Green Algae Family

Green Algae sp.

Kingdom PLANTAE – Plants

ANEMIACEAE – Grass Fern Family

Mexican Curlygrass Fern, *Anemia mexicana*

PTERIDACEAE – Rock Fern Family

Maidenhair Fern, *Adiantum capillus-veneris*

Standley Cloakfern, *Notholaena standleyi*

THELYPTERIDACEAE – Bracken Fern Family

River Shieldfern, *Thelypteris ovata* var. *lindheimeri*

CUPRESSACEAE – Cypress Family

Ashe Juniper/Mountain Cedar, *Juniperus ashei*

Bald Cypress, *Taxodium distichum*

POACEAE – Grass Family

Water Bentgrass, *Agrostis semiverticillata* (*Polypogon viridis*)

Bushybeard Bluestem, *Andropogon glomeratus*

King Ranch Bluestem, *Bothriochloa ischaemum* var. *songarica*

Buffalograss, *Buchloe dactyloides*

Coastal Bermudagrass, *Cynodon dactylon*

Scribner Panicgrass, *Dichantherium* (*Panicum*) *oligosanthes*

Lindheimer Muhly, *Muhlenbergia lindheimeri*

Switchgrass, *Panicum virgatum*

Green Bristlegrass, *Setaria viridis*

Texas Wintergrass/Speargrass, *Stipa* (*Nassella*) *leucotricha*

Little Bluestem, *Schizachyrium scoparium*

CYPERACEAE – Sedge Family

Jamaican Sawgrass, *Cladium jamaicense*

Black Sedge, *Schoenus nigricans*

BROMELIACEAE – Pineapple and Airplant Family

Ballmoss, *Tillandsia recurvata*

Spanish Moss, *Tillandsia usneoides*

COMMELINACEAE – Dayflower Family

Erect Dayflower, *Commelina erecta*

Widow's Tears, *Tinantia* (*Commelinantia*) *anomala*

LILIACEAE – True Lily Family

Spring Rainlily, *Cooperia pedunculata*

ALLIACEAE – Garlic Family

Drummond Wild Garlic, *Allium drummondii*

Crowpoison, *Nothoscordum bivalve*

RUSCACEAE – Beargrass Family

Texas Sotol, *Dasyllirion texanum*

Sacahuista, *Nolina texana*

AGAVACEAE – Agave/Yucca Family

Century Plant, *Agave americana*
Manfreda sp., *Manfreda* sp.
Giant Yucca sp., *Yucca baccata/carnerosana*
Soaptree Yucca, *Yucca cf. elata*
cf. Hybrid Yucca, *Yucca rupicola* X *Y. cf. constricta*
Twistleaf Yucca, *Yucca rupicola*
Spanish Dagger, *Yucca treculeana*
Plains-type Yucca sp., *Yucca* sp. cf. *constricta*

ORCHIDACEAE – Orchid Family

Giant Helleborine/Chatterbox Orchid, *Epipactis gigantea*

JUGLANDACEAE – Hickory Family

Pecan, *Carya illinoensis*
Arizona Walnut, *Juglans major*
Mexican Walnut/Little Walnut/Nogalito, *Juglans microcarpa*

FAGACEAE – Oak/Beech Family

Texas Oak/Spanish Oak, *Quercus buckleyi* (*Q. texana*)
Plateau Live Oak, *Quercus fusiformis*
Lacey Oak/Blue Oak, *Quercus laceyi* (*Q. glaucoides*)
Plateau Chinkapin Oak, *Quercus muhlenbergii* var. *brayi*
Scalybark/Bastard/Shin Oak, *Quercus sinuata* var. *breviloba*

CANNABACEAE – Hemp Family

Netleaf Hackberry, *Celtis reticulata*

ULMACEAE – Elm Family

Cedar Elm, *Ulmus crassifolia*

MORACEAE - -Mulberry Family

Texas Littleleaf Mulberry, *Morus microphylla*

URTICACEAE – Nettle Family

False-nettle, *Boehmeria cylindrica*
Cucumberweed, *Parietaria pensylvanica* (*P. obtusa*)

ROSACEAE – Rose and Fruit Family

Mountain Mahogany, *Cercocarpus montanus*
Escarpment Black Cherry, *Prunus serotina* ssp. *eximia*

RHAMNACEAE – Buckthorn Family

Redroot/Inland Ceanothus, *Ceanothus herbaceus*
Green Squawbush, *Condalia viridis*
Carolina Buckthorn, *Rhamnus caroliniana*

NYCTAGINACEAE – Four O’Clock Family

Rock Four O’Clock, *Mirabilis dumetorum* (syn. *latifolia*)

CARYOPHYLLACEAE – Sandwort Family

Bentham Sandwort, *Arenaria benthamii*

CACTACEAE – Cactus Family

Nipple Cactus, *Coryphantha sulcata*

Strawberry Pitaya, *Echinocereus enneacanthus*

White Lace Cactus, *Echinocereus reichenbachii* var. *reichenbachii*

Claret Cup Cactus, *Echinocereus triglochidiatus*

Engelmann’s Prickly Pear, *Opuntia lindheimeri*

CABOMBACEAE – Fanwort Family

Carolina Fanwort, *Cabomba caroliniana*

RANUNCULACEAE – Buttercup Family

Windflower, *Anemone heterophylla*

Scarlet Leatherflower, *Clematis texensis*

BERBERIDACEAE – Barberry Family

Agarita, *Berberis trifoliolata*

PAPAVERACEAE – Poppy Family

Yellow/Mexican Prickly Poppy, *Argemone mexicana*

LAURACEAE – Laurel Family

Spicebush, *Lindera benzoin*

BRASSICACEAE – Mustard Family

Virginia Peppergrass, *Lepidium virginicum*

Plateau Bladderpod, *Lesquerella recurvata*

Water-Cress, *Nasturtium officinale* (*Rorippa nasturtium-aquaticum*)

HALORAGIDACEAE – Water Milfoil Family

Water Milfoil sp., *Myriophyllum* sp.

HYDRANGEACEAE – Saxifrage Family

Texas Mock-Orange, *Philadelphus texensis*

PLATANACEAE – Windseed Family

Western Sycamore, *Platanus occidentalis*

FABACEAE – Bean Family

Huisache, *Acacia smallii* (*A. miniata*, *A. farnesiana*)

Texas Redbud, *Cercis canadensis* var. *texensis*

Texas Kidneywood, *Eysenhardtia texana*
Plateau Indigo, *Indigofera lindheimeriana*
Texas Bluebonnet, *Lupinus texensis*
Least Bur-Clover, *Medicago minima*
Fragrant Pink Mimosa, *Mimosa borealis*
Honey Mesquite, *Prosopis glandulosa*
Lindheimer Senna, *Senna (Cassia) lindheimeriana*
Eve's Necklace, *Sophora affinis*
Texas Mountain-Laurel/Mescalbean, *Sophora secundiflora*
Leavenworth Vetch, *Vicia leavenworthii*

OXALIDACEAE – Sorrel Family

Yellow Woodsorrel/Common Sour-Clover, *Oxalis dillenii*

RUTACEAE – Rue Family

Wafer Ash/Hoptree, *Ptelea trifoliolata*

MELIACEAE – Chinaberry Family

Chinaberry, *Melia azedarach*

ARALIACEAE -- Aral Family

Water Pennywort, *Hydrocotyle* cf. *verticillata*

SALICACEAE – Poplar, Cottonwood and Willow Family

Coyote Willow, *Salix* cf. *exigua*

Black Willow, *Salix nigra*

EUPHORBIACEAE – Spurge Family

Black Noseburn, *Tragia nigricans*

PASSIFLORACEAE – Passionflower Family

Yellow Passionflower, *Passiflora affinis*

ANACARDIACEAE – Pistachio Family

Poison Oak, *Rhus toxicodendron* var. *eximia*

Poison Ivy, *Rhus toxicodendron* var. *toxicodendron*

Skunkbush/Aromatic Sumac, *Rhus trilobata* var. *trilobata* (*R. aromatica* var. *flabelliformis*)

Evergreen Sumac, *Rhus virens*

Smoketree, *Cotinus obovatus*

SAPINDACEAE – Maple Family

Rocky Mountain Bigtooth Maple, *Acer grandidentatum* var. *grandidentatum*

Yellow (Red) Buckeye, *Aesculus pavia* var. *flavescens*

Mexican Buckeye, *Ungnadia speciosa*

VITACEAE – Grape Family

Virginia Creeper, *Parthenocissus quinquefolia*
cf. Thicket Creeper, *Parthenocissus cf. vitacea*
Berlandier's Grape, *Vitis cinerea* (*V. berlandieri*)
Mountain Grape, *Vitis monticola*

LYTHRACEAE – Myrtle Family

Plateau/Stream Loosestrife, *Lythrum ovalifolium*

ONAGRACEAE – Primrose Family

Pink Evening-Primrose/Rose of Mexico, *Oenothera rosea*

GARRYACEAE – Silk-Tassel Family

Lindheimer's/Mexican Silk-tassel, *Garrya ovata* var. *lindheimeri*

EBENACEAE – Persimmon Family

Texas Persimmon, *Diospyros texana*

POLEMONIACEAE – Phlox Family

Drummond's Phlox, *Phlox drummondii*

APOCYNACEAE – Dogbane Family

Antelopehorns Milkweed, *Asclepias asperula*
Star Milkvine, *Matelea biflora*
Pearl Milkvine, *Matelea reticulata*

CONVOLVULACEAE – Morning Glory Family

Lindheimer's Morning Glory, *Ipomoea lindheimeri*

HYDROPHYLLACEAE – Bellwort Family

Blue-Curls, *Phacelia congesta*

OLEACEAE – Olive Family

Redbud, *Menodora heterophylla*

LOGANIACEAE – Butterflyflower Family

Wand Butterflybush, *Buddleja racemosa*

VERBENACEAE – Vervain Family

Frogfruit, *Phyla incisa*
Dakota Vervain, *Verbena bipinnatifida*
Gray Vervain, *Verbena canescens*
Texas Vervain, *Verbena halei*
Pink Vervain, *Verbena pumila*

LAMIACEAE – Mint Family

Annual Pennyroyal, *Hedeoma acinioides*
Spearmint, *Mentha spicata*
Mealy Sage, *Salvia farinacea*
Annual/Drummond's Skullcap, *Scutellaria drummondii*

SCROPHULARIACEAE – Monkeyflower Family

Common/Woolly Mullein, *Verbascum thapsus*

ACANTHACEAE – Wild Petunia Family

American Water-willow, *Justicia americana*

PLANTAGINACEAE – Sage Family

Redseed Plantain, *Plantago rhodosperma*

Paleseed Plantain, *Plantago virginica*

CAPRIFOLIACEAE – Honeysuckle Family

White Bush-Honeysuckle, *Lonicera albiflora*

ASTERACEAE – Sunflower Family

Hierba del Marrano, *Aster subulatus*

Rooseveltweed/Baccharis, *Baccharis neglecta*

Bullthistle/Nodding Thistle, *Carduus nutans*

Slender Bristle-thistle, *Carduus tenuiflorus*

Distaff/Saffron Thistle, *Carthamus lanatus* (collected)

Hairy Least-Daisy/Dwarf White Aster, *Chaetopappa bellidifolia*

Spreading Least-Daisy, *Chaetopappa effusa*

Silverpuff/Nodding Lettuce, *Chaptalia texana* (*C. nutans*)

Texas Thistle, *Cirsium texanum*

Plumed Thistle, *Cirsium undulatum*

Engelmann's Daisy, *Engelmannia pinnatifida*

Shrubby Boneset/Thoroughwort, *Eupatorium havanense*

Late Boneset, *Eupatorium serotinum*

Roundhead Rabbit-Tobacco, *Evax verna*

Pinchusion Daisy, *Gaillardia suavis*

Lindheimer's Rock-Daisy, *Perityle lindheimeri*

White Rock-Lettuce, *Pinaropappus roseus*

Streamside Goldenrod, *Solidago juliae*

Sow-Thistle, *Sonchus asper*

Dandelion, *Taraxacum officinale*

Cowpen Daisy, *Verbesina encelioides*

Frostweed/Iceplant, *Verbesina virginica*