

Notes on a Fourth Visit to the Encinitos Ranch,
Brooks County, Texas, 20-21 March 2007

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In the fourth of a series of investigations of the flora of a large and fascinating tract on the South Texas Plains, I joined Conservancy colleagues Lisa Williams and Debbie Benesh for a spring survey of the Encinitos Ranch on 20 and 21 March 2007. Previous surveys of the ranch, which occupies parts of Brooks, Hidalgo, Jim Hogg and Starr counties, had taken place during late spring (14 June 2006), early fall (28 September 2006) and late fall (14-15 November 2006). This was our first visit during early spring, which on some years can be the most exciting season for field work, particularly on sandier parts of the region. As luck would have it, the winter had been fairly wet, and the vernal flora was in full display. In addition to the quasi-rare regional endemics we'd hoped to survey and photograph, such as Amelia's sand-verbena (*Abronia ameliae*) and sand brazoria (*Brazoria arenaria*), we also encountered some truly unexpected species, species found primarily in the more humid southeastern United States, such as sundew (*Drosera brevifolia*) and spatulate lepuropetalon (*Lepuropetalon spathulatum*). In all, the visit was one of the more informative surveys in recent memory.

Areas Examined

Stop 1. If we had a plan for where to stop first, that plan was abandoned as soon as we entered the Chevron Gate. After driving only about 500 feet into the pasture (at N26°49'35.3", W098°20'44.4"), curiosity got the better of us and we jumped out to see what was blooming. The answer was: plenty. Most conspicuous on the deep sand of this gently undulating or hummocky landscape were Texas butterweed (*Senecio ampullaceus*), Drummond phlox (*Phlox drummondii*), Lindheimer's globemallow (*Sphaeralcea lindheimeri*) and bigflower bladderpod (*Lesquerella grandiflora*). Perennial grasses were also common, but most were warm-season species that were dormant at the time; seacoast bluestem (*Schizachyrium scoparium*) was abundant in some parts, but we wandered through areas dominated by threeawn (*Aristida* sp.) where sparser cover allowed proliferation of small forbs. Woody plants were scattered, with mesquite (*Prosopis glandulosa*) occurring as individual trees or tall shrubs either alone or in mottes with granjeno (*Celtis pallida*). Mottes in this area typically had a shrub component composed of tasajillo (*Opuntia leptocaulis*), pricklypear (*Opuntia engelmannii* var. *lindheimeri*) and catclaw (*Acacia greggii*). Shrubs were occasionally encountered out in the grassy matrix, with the most common species being Texas peach-bush or duraznillo (*Prunus texana*). Although quasi-rare from the global perspective, this medium-sized shrub is quite common on the sandy eastern part of the Encinitos Ranch. We took points at ten clusters of peachbush before realizing that the species was too common at this spot to census in a meaningful way (Table 2). Other species observed at stop 1 and typical of late successional grasslands on deep sands included:

Ambrosia psilostachya
Callirhoe involucrata
Cenchrus spinifex
Cnidoscolus texanus
Commelina erecta
Croton parksii
Ditaxis pilosissima
Evax verna
Evolvulus alsinoides
Galactia canescens
Gamochaeta sp.
Glandularia quadrangulata
Hymenopappus artemisiifolius
Monarda fruticulosa
Nuttallanthus texanus
Oenothera cf. laciniata
Physalis spathulifolia
Scutellaria sp.
Setaria sp.
Sisyrinchium sp.
Tephrosia lindheimeri
Urochloa ciliatissima
Verbesina encelioides
Yucca constricta

Stop 2. Our second stop was a short distance to the northwest, along the west side of Vargas Creek at N26⁰49'54.4", W098⁰20'56.5". Vargas Creek is more of a wet-weather drainageway than a creek in this part of the ranch; there is no evidence of water at the surface, nor even a well defined channel. The most interesting part of the drainageway is the gentle upper slope on the west side of the creek, where seepage maintains moist spots on somewhat tight sand. In that microhabitat we were completely astonished to find sundew (*Drosera brevifolia*), an insectivorous plant not previously reported from the Holocene Sand Sheet. Among the hundreds of sundew plants was a smaller population of spatulate lepuropetalon (*Lepuropetalon spathulatum*), another tiny species that had never been seen on the Sand Sheet before. Other characteristic species of this community were winter bentgrass (*Agrostis hiemalis*), coreopsis (*Coreopsis tinctoria*), yellow mecardonia (*Mecardonia procumbens*), prairie rose-gentian (*Sabatia campestris*), and a spikesedge (*Eleocharis* sp.) that was too young to identify.

Texas peachbush was fairly common on the upland on the west side of the creek. It was also common between stops 1 and 2.

Stop 3. We stopped here, along a pipeline road at N26⁰50'18.0", W098⁰20'46.8", to note the presence of Texas peachbush. One shrub was GPSed, but we didn't wander over the landscape in search of others.

Stop 4. Dozens of Texas peachbush shrubs were observed at stop 4, along the same pipeline not quite half a mile east-northeast of stop 3. One of the shrubs, at N26⁰50'26.4", W098⁰20'27.9", bore young fruit, one of the few individuals of such stature we saw during this visit. Topography here was gently undulating, with low dunes or tall hummocks providing maybe five feet of relief. Vegetation was mostly seacoast bluestem grassland with occasional mottes of mesquite and granjeno. IN a patch of shorter herbaceous vegetation, at N26⁰50'28.1", W098⁰20'29.1", we observed a single smallflower milkvine (*Matelea parviflora*) with numerous prostrate stems.

Stop 5. This stop was on another deep sand site, but here the vegetation was brushier. Nonetheless, Texas peachbush was still present; we GPSed one shrub at N26⁰50'46.7", W098⁰20'15.4", but again we made no effort to count all the individuals in the neighborhood.

Stop 6. Vegetation at this spot, in the vicinity of N26⁰51'00.1", W098⁰20'19.8", was brushier still, and the sand was reddish rather than light brown or whitish as at the previous stops. Woody components include mesquite, granjeno, catclaw, pricklypear, tasajillo, chapote (*Diospyros texana*), colima (*Zanthoxylum fagara*), panalero (*Forestiera angustifolia*) and lotebush (*Ziziphus obtusifolius*). The herbaceous flora did not appear to be significantly different from that of light-colored sands.

Stop 7. We finished the afternoon with a walk around the active dune field. This time we approached from the west, at N26⁰51'19.8", W098⁰19'55.1". This is in the zone of accretion, where sand accumulates when the prevailing southeasterly wind is blowing. In some places these downwind slopes are ten or fifteen feet high and very steep. In most places they are unvegetated, as one would expect in an area of sand accumulation. However, the exotic perennial natalgrass (*Rhynchelytrum repens*) was surprisingly common in a few areas and seemed to be capable of stabilizing loose sand on even the steepest slopes. If this

proves to be the case, that could be bad news for some of the native species that are dependent on unstable dunes for their habitat, including dune dalea (*Dalea austrotexana*), a recently-described species known only from South Texas. We observed several dune dalea plants at stop 7, but we couldn't speculate on the dynamics of the dune system and any interspecies competition that might be taking place.

Stop 8. The first stop on the second day was selected in an effort to find out more about the local status of sundew, the highlight of the first day's survey. We returned to a site we'd examined during fall 2006, a site that our collective memories told us might be an appropriate place to find sundews in the spring. It lay on slopes along the southwest bank of Vargas Creek just upstream from a pipeline crossing, at N26°50'05.0", W098°21'10.1", and like stop 2 it proved to host a large population of sundews. Also in this moist tight sand was terrestrial bladderwort (*Utricularia subulata*), a member of a group of insectivorous plants whose members are mostly aquatic. Other associates includes winter bentgrass, chaff-flower (*Centunculus minimus*), (*Lindernia anagallidea*), prairie rose-gentian, cinnamon hairsedge (*Bulbostylis capillaris*), a panicgrass (*Dichantherium* sp., voucher 25565), and the unidentified spikesedge.

Stop 9. Next we visited the "headwaters" of Vargas Creek among a set of low and mostly vegetated dunes just south of La Voznaga Windmill, at N26°50'28.7", W098°21'37.7" and vicinity. We walked around on the dunes and the hardpan flats among them but didn't find any of the tight moist sand habitat in which we'd found sundews. However, we did find a small population of Jones's nailwort (*Paronychia jonesii*), a quasi-rare annual forb that is endemic to sandy parts of South Texas. Most of the plants were very young and very small, and as a result no census was attempted. All of the plants were on sparingly vegetated sandy hummocks on lower slopes of the dunes, just above the hardpan bottoms.

Stop 10. Around midmorning, Toddy and the boys showed up to take us to one of the spots where they'd seen Amelia's sand-verbena (*Abronia ameliae*), another quasi-rare endemic, during spring 2006. On the way, Toddy led us to a spot along a north-south fenceline where South Texas rushpea (*Pomaria austrotexana*) was locally frequent. Between N26°50'33.9", W098°22'59.9" and N26°50'38.3", W098°22'59.0" we saw between 5 and 10 large clumps. (As in Texas peachbush, individual rushpea plants are often hard to distinguish.) Soil here was a light-colored fine sand, and vegetation was a mesquite-tasajillo woodland or tall shrubland. The ground layer was mid-successional; seacoast bluestem was absent, and common species included threeawn, tansy mustard (*Descurainia pinnata*), bigflower bladderpod, and Texas hiddenflower (*Cryptantha texana*).

Stop 11. This spot, along the ranch's east-west northern fenceline at N26°51'34.3", W098°22'51.3", was one of the sites where Toddy found Amelia's sand-verbena in 2006. The plants came up again this year, albeit in small numbers. We counted seven individuals within about 100 feet of this GPS point, and another individual about a tenth of a mile to the east, at N26°51'33.8", W098°22'45.8". Topography in the area was a bit more undulating than in other places, with maybe more than five feet of local relief. Vegetation was a grassland with dense cover; common components include threeawn, Texasgrass (*Vaseyochloa multinervosa*) and various warm-season grasses that could not be identified with certainty. Associated with sand-verbena in patches of comparatively bare sand were bigflower bladderpod, Drummond's phlox, Lindheimer's globemallow, silverleaf sunflower (*Helianthus argophyllus*) and Texas bullnettle (*Cnidocolus texanus*). We also noted the presence of Texas peachbush in the fenceline at N26°51'34.4", W098°22'47.9", but we

made no attempt to search for others.

Stop 12. We stopped here, a few hundred yards east of stop 11, when Lisa spotted sand brazier (*Brazoria arenaria*) as we drove by. This showy annual was one of the quasi-rare endemic species we'd hoped to find on the ranch during spring, so the discovery of this population engendered some excitement. At N26°51'34.5", W098°22'33.1" we saw three or four plants in flower, and during the next twenty minutes or so we found perhaps a hundred more individuals, most of them only in bud or merely vegetative, on about 25 acres. We also found another cluster of Amelia's sand-verbena, a group of five individuals on a particularly hummocky site at N26°51'32.7", W098°22'08.3", and a couple of Jones's nailwort plants. But perhaps the oddest thing about this landscape was the paucity of woody plants. Mesquite was so conspicuously absent that some sort of brush control episode was suspected. The only shrub species that occurred here in any abundance was Texas peachbush, of which we must have seen several hundred individuals. Other species observed in this interesting area included:

Acalypha radians
Aphanostephus skirrhobasis
Chamaecrista flexuosa
Chloris cucullata
Cnidoscolus texanus
Commelina erecta
Corydalis micrantha
Cryptantha texana
Dalea obovata
Descurainia pinnata
Ditaxis pilosissima
Evolvulus alsinoides
Galactia canescens
Heterotheca subaxillaris
Hymenopappus artemisiifolius
Monarda fruticulosa
Opuntia leptocaulis
Opuntia sp. (*O. engelmannii* var. *lindheimeri*?)
Pterocaulon virgatum
Phlox drummondii
Physalis spathulifolia
Polanisia erosa
Rhynchosia americana
Schizachyrium scoparium
Stillingia texana
Tephrosia lindheimeri
Tetragonathea repanda
Yucca constricta
Zornia bracteata

Stop 13. At N26°51'35.1", W098°22'06.3" we stopped briefly for lunch. Several shade-tolerant plants were collected from nearby mesquite mottes, but nothing unusual was observed.

Stop 14. After lunch we examined a complex of pothole ponds and the saline flats that surround some of them. All of these depressions lie west of a major pipeline and a little more than a mile north of La Visnaga Windmill. At N26°51'34.4", W098°21'58.7", we checked a small vague depression consisting of a more or less circular flat of tight dry sand and no surface water. The place was by no means barren; vegetation was rather dense. Goldenweed (*Isocoma* sp.), a low-growing subshrub often found on saline soils, was common. Other characteristic species included red lovegrass (*Eragrostis secundiflora*), St. John's wort (*Hypericum pauciflorum*), juniperleaf (*Polypremum procumbens*), and golden hyssop (*Gratiola flava*), with moister spots (in deeper parts where water persists longest) dominated by coreopsis (*Coreopsis tinctoria*) and eryngo (*Eryngium nasturtiifolium*). Few of the deep sand species that were so common at previous stops were detected here.

At N26°51'34.5", W098°21'53.8", we encountered a small pothole pond surrounded by a ring of spikeweed (*Eleocharis* sp., probably *E. palustris*) and water-clover (*Marsilea* sp.). That ring was in turn surrounded by a band of wet saline clay that supported sparse halophytic vegetation composed of sumpweed (*Sesuvium* sp.), Carolina wolfberry (*Lycium carolinianum*), coreopsis and eryngo.

Perhaps a thousand feet south of the northern fenceline, at N26°51'25.3", W098°21'55.0" was another major depression. This bottom of this one was entirely covered by bermudagrass (*Cynodon dactylon*) and spikeweed. Huisache trees perhaps 20 to 25 feet tall covered about ten percent of the pond bottom. Between these major ponds are patches of unvegetated dry tight sand and low hummocks of looser sand covered by upland sandhill forbs and grasses.

Stop 15. A short distance to the east, at N26°51'29.3", W098°21'42.8", we stopped to look at the flora of a pothole pond in which the water level is maintained or enhanced by groundwater pumping. Its shoreline of wet loamy clay or fine sand support low herbaceous vegetation composed of water-clover, bermudagrass, Rocky Mountain bulrush (*Schoenoplectus saximontanus*), lanceleaf burhead (*Echinodorus tenellus*), and toothcup (*Rotala ramosior*). On the east side of the pond, at N26°51'32.7", W098°21'40.1", is a dry flat of tight sand in which we found a small population of horse-crippler cactus (*Echinocactus texensis*) in the company of alkali sacaton (*Sporobolus wrightii*), hairy grama (*Bouteloua hirsuta*) and firewheels (*Gaillardia pulchella*).

Stop 16. On the east side of the pipeline, at N26°51'23.0", W098°21'41.6", we stopped to look at ducks and dragonflies at another groundwater-enhanced pothole pond. Vegetation was much like stop 15.

Stop 17. Returning to sandy upland environments, we stopped along a pipeline at N26°51'06.8", W098°22'00.1" to look at a low vegetated (long stabilized) dune field. As in so many other places, we found a diverse grassland dominated by seacoast bluestem, Texasgrass, tanglehead (*Heteropogon contortus*) and threeawns, with many showy areniphilic forbs in full bloom. Conspicuous were Drummond phlox, stinking dalea (*Dalea obovata*), silverleaf sunflower, bigflower bladderpod, Lindheimer's globemallow, squarebud

daisy (*Tetragonathea repanda*), cardinal feather (*Acalypha radians*), butterweed (*Senecio obovatus*), and bullnettle (*Cnidocolus texanus*).

Stop 18. This stop was at a pump-fed stock tank near the northern fenceline, at N26°51'29.1", W098°21'22.5". The tank is concrete-lined and therefore offered no unusual habitat for plant species. The surrounding trap contains numerous large mesquite and may be a great spot for birding.

Stop 19. Next we migrated south, crossing the highway (R. M. 755) to examine the valley of Vargas Creek on that part of the ranch. About 1.3 airmiles southeast of the highway, in the vicinity of N26°48'54.7", W098°19'24.0", we found hummocky if low sandhill habitats at the top of the top and tight sand habitats at the bottom. Jones' nailwort was found in small numbers in the latter habitat, in the company of winter bentgrass, lazy daisy, Drummond phlox and other species.

Stop 20. Jones' nailwort turned up again at out last stop, which was along Vargas Creek another 0.9 airmiles southwest of stop 19. At N26°48'30.0", W098°18'41.5" it occurred—again in small numbers—in hummocky sand along the top of the slope, often around gopher mounds; associates here were lazy daisy, Drummond phlox, and Hooker's plantain (*Palafoxia hookeriana*). Vegetation in that area was an open mesquite woodland, which stood in strong contrast to a goldenweed-dominated medium-stature shrubland on tight sand flats in the creek bottom.

Significance

Previous surveys had already demonstrated that the Encinitos Ranch contains a fascinating representative of the vegetation and flora of the South Texas Sand Sheet. This spring survey revealed the presence of additional species of conservation interest, bringing the total to six (Table 1). Just as interesting was the discovery of a suite of species that are common from the global perspective but were previously unknown from the South Texas Sand Sheet, species such as sundew and spatulate lepuropetalon. Additional surveys will no doubt provide additional surprises.

Literature Cited

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Table 1. Plant species of conservation interest observed on the Encinitos Ranch, 2006-2007.

Species	Global Rank	Status on Ranch
Amelia's sand-verbena (<i>Abronia ameliae</i>)	G3	Rather rare and local in spring 2007
sand brazoria (<i>Brazoria arenaria</i>)	G3	Rather rare and local in spring 2007
smallflower milkvine (<i>Matelea parviflora</i>)	G3 or G4	Common
Jones' nailwort (<i>Paronychia jonesii</i>)	G3	Seemingly frequent; surveys inadequate at present
Texas peachbush, duraznillo (<i>Prunus texana</i>)	G3 or G4	Common, the largest population currently known
South Texas rushpea (<i>Pomaria austrotexana</i>)	G3	Scattered

Explanation of Global Ranks

- G1 = less than 6 populations known globally; critically imperiled, especially vulnerable to extinction
- G2 = 6-20 populations known globally; imperiled and very vulnerable to extinction throughout its range
- G3 = 21-100 populations known globally; either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g., a single state or physiographic region), or because of other factors making it vulnerable to extinction throughout its range
- G4 = more than 100 populations known; apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery
- G5 = demonstrably secure globally, though it may be quite rare in parts of its range

A "T" subrank following a global rank denotes the rank for subspecific taxa; i.e., the G rank is the rank for the species as a whole, while the T rank is the rank for the individual variety or subspecies.

Figure 1. Areas examined during survey of Encinitos Ranch, Brooks County, Texas, and 20-21 March 2007. Base maps: Santa Elena 7.5' Quadrangle (USGS, 1972a) and Santa Elena SE 7.5' Quadrangle (USGS, 1972). Amelia's sand-verbena (*Abronia ameliae*) was observed at stops 11 and 12; sand brazoria (*Brazoria arenaria*) was observed at stop 12; smallflower milkvine (*Matelea parviflora*) was observed at stop 4; Jones' nailwort (*Paronychia jonesii*) was observed at stops 9, 12, 19 and 20; South Texas rushpea (*Pomaria austrotexana*) was observed at stop 11; Texas peachbush or duraznillo (*Prunus texana*) was observed at stops 1, 2, 3, 4, 5, 11 and 12.

Table 2. GPS points for Texas peachbush (*Prunus texana*) observed on the Brooks County portion of the Encinitos Ranch, 20-21 March 2007.

Stop No.	Latitude/Longitude	Census	Comment
1	N 26° 49' 34.2", W098°20'45.2"	1	4 ft. tall
1	N 26° 49' 34.2", W098°20'45.3"	1	4 ft. tall
1	N 26° 49' 34.5", W098°20'45.8"	1	3 ft. tall
1	N 26° 49' 33.8", W098°20'46.4"	?	large clonal colony
1	N 26° 49' 34.3", W098°20'48.3"	?	large clonal colony
1	N 26° 49' 33.6", W098°20'48.7"	1	4 ft. tall
1	N 26° 49' 34.2", W098°20'49.8"	1	huge, 5 ft. tall
1	N 26° 49' 36.3", W098°20'48.6"	?	large clonal colony
1	N 26° 49' 36.4", W098°20'46.8"	1	4 ft. tall
1	N 26° 49' 36.2", W098°20'45.4"	?	clone with dozens of stems
2	N 26° 49' 54.4", W098°20'56.5"	?	common on upland W of creek; also common between stops 1 and 2
3	N 26° 50' 18.0", W098°20'46.8"	?	common here
4	N 26° 50' 26.4", W098°20'27.9"	dozens	one with fruit
5	N 26° 50' 46.7", W098°20'15.4"	1	no census
11	N 26° 51' 34.4", W098°22'47.9"	1	along road; no census attempted
12	N 26° 51' 34.5", W098°22'33.1"	hundreds	Massive population; the dominant woody plant over ca. 100 acres

