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Thomas K. Todsen Field Books — 1967-1981

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One of New Mexico's many exceptional amateur botanists was Thomas Kamp Todsen (1918-2010; see *The New Mexico Botanist* 53: 1-3, 2011.). A few years ago, two of his field books were given to me by his son, Andy, with the expectation that the information therein might be of interest to New Mexico botanists.

The first book, a 4 x 8 inch reporter-style notebook with top-coil binding, is titled on the front cover, "Botanizing Notebook, T.K. Todsen, 1968." The notebook is apparently missing one or more initial pages, but the second intact page has an unambiguous date of 16 September 1967. Recording ends slightly more than one year later on 28 September 1968. Notes are recorded on only one side of each page. This notebook will be referred to as FB67-68.

The second book is a 4.5 x 7.25 inch hard-cover Transit Book (the cover barely attached by a few threads) with 17 preliminary printed pages of "Improved Tables and Information." It is missing the first six pages of notes (snipped out of the notebook), and begins with notes from 15 September 1968, and ends on 26 July 1981. Notes are recorded on both sides of each page. This book will be referred to as FB68-81.

To help in searching localities, the pages of the field books are indexed by county (United States) or state (Mexico):

FB67-68

Arizona

Cochise Co.: 23

New Mexico

Bernalillo Co.: 19

Dona Ana Co.: 2, 3, 4, 5, 6, 7, 9, 11, 12, 18

Grant Co.: 1, 13, 14, 17, 21

Hidalgo Co.: 2, 16

Lincoln Co.: 15, 20, 21

Los Alamos Co.: 19

Otero Co.: 14, 15

Sierra Co.: 3, 14, 17

Taos Co.: 19

Texas

El Paso Co.: 6

FB68-81

Arizona

Cochise Co.: 16, 18, 48, 80, 83, 99

New Mexico

Catron Co.: 24, 44

Colfax Co.: 44

Dona Ana Co.: 1, 2, 4, 8, 10, 12, 14, 22, 24, 28, 30, 34, 36, 38, 40, 42, 46, 48, 50, 52, 62, 64, 68, 70, 72, 74, 76, 78, 86, 88, 89, 93, 94, 95, 96, 97, 100, 102

Grant Co.: 12, 14, 16, 26, 28, 38, 40, 42, 44, 50, 74, 81, 85

Guadalupe Co.: 44

Hidalgo Co.: 2, 6, 50, 52, 76, 87, 88, 100, 104

Lincoln Co.: 20, 22, 30, 50

Luna Co.: 60, 84

McKinley Co.: 32

Otero Co.: 16, 18, 20, 22, 26, 30, 34, 36, 48, 60, 62, 74, 141

San Juan Co.: 68

San Miguel Co.: 24, 26

Sierra Co.: 26, 28, 34, 42, 44, 46, 52, 64, 89, 98, 103, 105, 106, 107

Socorro Co.: 72, 78

Taos Co.: 48

Torrance Co.: 42

Utah

San Juan Co.: 32

Mexico

Sonora: 54, 58, 60

Each page of the field books that contained notes was scanned, and are reproduced on the following pages. A page number was added in the upper corner (left or right), to reference the list of counties.



BOTANIZING NOTEBOOK

T. K. TODESEN.

1968

FB67-68

1918-771
100' - 1500' 2000' 2500' 3000'
Mojave Desert - Sonoran Desert
Mojave Desert - Sonoran Desert

3 7-8 Oct 67
IPOMOEA BARBATISEPALA (IN
FRUIT) AND SICYOSPERMA GRACILE
IN FLOWER AND FRUIT (IS THIS
REFERABLE TO SICYOS GLABER?)

24 Sep 67 - NE of Monticello - Tetradecas
Coulteri in bloom - Cowenia in bloom

17 March 68 - Mouth of Soledad Canyon
Anemone ~~sp~~ sphaerophylla
Mimulus rubellus
Eschscholtzia mexicana
Corydalis aurea
Gomphrena pectinifera
Echinocactus intertextus
all in bloom

1 1
Spiranthes parasitica? ~~sp~~
Forest plants w/ leaves in
Mojave found by Allan Campbell 1 Sep
Plants ~~sp~~ w/ leaves and dried
flower stalks found in several
locations on north side of Signal
Peak, Pinos Altos Mtns ~~1 Sep 67~~
by Todeen & Johnson, always
near Gambel oaks in lower elev. (6000')
and aspen in higher elev. Malaxis
Ehrenbergii in similar locations.
On 15 Oct leaves mostly faded,
some gone completely, some still
fresh. Plants w/ leaves collected
23 Sept 67. Plants checked 2 Dec 67
by Johnson - no leaves seen

4 23 Mar 68
- Mouth of Soledad Canyon
Linaria terana
Gilia
- Achenbach Canyon
Carpobrotus bigibbii
14 Apr 68
East of Aguirre Spring - in bloom
Anemone sphaerophylla
Lupinus concinnus
Astrocytus sp.
3 other members of Papilionaceae
Unguicula speciosa
Pentstemon sp.
Lesquerella sp.

2 1
TRIP TO ORGAN MTNS 16-17 Sep 67
FOUND ON ORGAN PEAK 17 SEP
A BRIGHT RED SCROPHULARIA,
APPARENTLY NOT PREVIOUSLY
REPORTED. (I HAD FOUND THIS AT
ROCK HOUSE SPRING ON 4 JUL 65 AND
TAKEN A PHOTO.)
TRIP TO SOUTH END OF PEONCILLO
MTNS 7-8 Oct 67.
1. AT HEAD OF SIDE CANYON OF
GUADELOUPE CANYON - POTANOGETON
SPECIES, PROBABLY ILLINOENSIS
IN RANCH TANK ALONG WITH
LEMNA SP.
IN GUADELOUPE CANYON, ON N. MEX
SIDE SAGERETIA WEIGHTII?

5 14 Apr (Cont.)
Feuillea rupicola
Minulus sp.
Echinocactus triglochidiatus
Echinocactus intertextus
Castilleja sp.
Cirsium sp.
Corydalis avicularia
Friday, 26 Apr 68
With Andy walked from Aguirre
Spring Road up Indian Hollow to
NW base of Sugarloaf. Altitude
5300' to 6750'.
Delphinium virens - 5300' - just beginning
Castilleja 5700'
Astragalus 5300'



6 26 Apr 68 (cont.)

Fendlera rupicola 5700'-6500'
all bloom
Pentstemon 5300'-5700'

Mimulus nasutus? 5700'-6200'
in seep areas, small to gross,
stems and leaves glandular, leaves
orbicular, annual, plants from 7cm
to 4 dm tall
Gnaphalium chilense
Lupinus concinnus

Drypetalum ruineum
Pedicularis longiserrulata var. *multiple*
29 Apr 68 *Teeth on leaflets.*

— Franklin Mtns - Scenic Drive

Arenaria microphylla
Stenandrium barbatum
Polygala sp. *Name* sp.
— Christo Rey
Stenandrium barbatum
Chamissoa sp.
Coldenia

9 10 May 68 Continued

GORDON C. CEEEL *BIOLOGY DEPT.*
ANGELA STATE COLLEGE
SAN ANGELO, TEX *Orechias*

Mrs ELEANORE HENSON TULLEY
BIOLOGY DEPT (Microbiologist)
UTEP

— 5 May 68 - SHALAM HILLS

Tradescantia *scopulorum* - completely
GLABROUS
Gilia

Phacelia corrugata and *intermedia*

Zinnia pumila? *Neozamia* *podum*

Sierpianthus

Heuchera

— 12 May 68 - Organs - Fillmore
above 6000' - *Drypetalum ruineum*
South-facing slopes above Fillmore Spring
- *Carpochaete bigelovii*

7 29 Apr 68 (cont.)

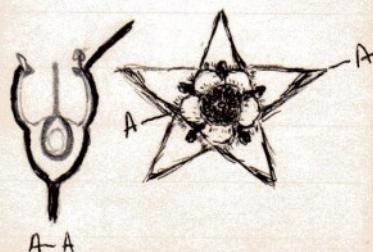
Psathyrotes sp. *scoposa*

From 26 April 68, Indian Hollow
Comandra pallida
6500 ft in SE facing wall of cleft

granite boulders - a perennial, ^{not} ~~annual~~
at base, glabrous; leaves alternate, linear-
sessile,
lanceolate, estipulate, 3-9 mm wide, up
to 30 mm long, entire; in flowerance
corymbiform, 3-6 flowers at the
ends of pedicels of varying length, the
with flower groups/reduced leafy bracts;
perianth ^{mostly} ~~mostly~~ 5
^B perigonous, 4-5 parted, pink
silverform, the throat somewhat inflated,
sepals valvate in bud, the lobes triangular
acute to obtuse, white tinged pink,

8

3-3 1/2 mm long, 2 mm wide at base, the tube
3 mm long; petal lobes half-orbicular, yellowish
1 mm long or less, alternate w/ calyx lobes;
stamens inserted between petal lobes,
adnate to the tube, free portion ca 1 mm or
less, appearing hairy-appendaged, opening
by longitudinal slits?; ovary half-inferior
to inferior (inserted in a disk?), 1-locular,
1-2 ovules, parietal, style and stigma
simple, linear, sap clear.



10 10 May 68 Continued

Srotulus - mesa near La Cueva
Pentstemon *festucae* - Foothills 5000'-6000'

Chamissoa - " "
Polygonum *leptophyllum* - just below Marrow
Delesseria *mesa* - 5000' - 7000'
Dalea *pegorosa* - above - Foothills @ 5500'

Delphinium *viscosus* - 5500'
Psuedospermatelis *var* *constrictifolius*

Pentstemon *spectabilis* - just above
mining camp

Polygonum *triviale* (*nanum* *var*)
Chamissoa *festucae* - above 7000'

Castilleja - 19" dbh

Prunus *virginiana* - 19" dbh
Leucocarpus *albiflorus* *var* - Fillmore Spring

Leucocarpus *albiflorus* - Fillmore Spring

Morus *microphylla* - " "

Mimulus *guttatus*? - " "

Saxifrage *triphylla* - *glaucoides* toward
S. *triphylla* - sep in cym. bot. at

7500'

Specularia *perfascia* - very late, mostly
thru blooming - 6000'-7500'

Smihius *gymnocephala* *var* *amplexicaulis*
under rocks among large boulders @ 7500'
Plants 50 cm tall.

Sambucus *neomexicana*

Succowia *longiloba*

Drypetalum *ruineum*

Thlaspi

Prunus *virginiana*

Fendlera rupicola

12 Along Rio Grande S of Hwy 80 bridge
25 May 68

Eustoma growing but not out

Glycyrrhiza lepidota

Pinchus sericea

Apocynum sp.

Psilactis asteroides

Hwy I-25 @ Tonkos 26 May 68

Dysosmia sp.

Senecio lugubris

Hypoxis sp. (Engelm.) Hymenopappus

Baileya

Rim Hill

Aster tagetinus Melampodium

Aster tenuiciliolus Aphonostegia humilis

Gaillardia pulchella Sphaeralcea sp.

Podium Springs

Thelosperma nigropanicum

15 - Karr Canyon 23 July 68

Corallorrhiza Wisteriana

Lonicera arizonica

Ambrosia

Jamesia americana

- Bluff Springs Sec 17, T17S, R12E

Habenaria? Spuria?

Linum (blue)

Dodecatheon

- 1st canyon to east above mouth of

Wright's Canyon Dodecatheon

Corallorrhiza maculata (incl. alba according to Andy)

Goodenia oblongifolia (just in bloom - w/ last years from spike)

- Sena Blanca Sh. Basin N Fork of Rio Puerco 105°48'W, 33°24'N

Habenaria saccata? hyperborea?

Calypso bulbosa (at partial alba) [Every late!]

White violet Viola canadensis

Ribes inornatum?

- Springtime Canyon (upgradient to San Matedo Spring) 7 July 1968

Corallorrhiza maculata in open grove at the Spring Sec 23, T18S, R12E 3000'

Mitchella parviflora (adonisiana)

Castilleja sp.

Potentilla sp.

Polygonum spinifolius

Polygonum barbatum

13 2 June 68 Sect 10, T16S, R13W Grout County

Lower slopes of Signal Peak - Pine Mtns

Spiranthes parviflora - just beginning ~~**~~

Corallorrhiza maculata - just beginning ~~**~~

Corallorrhiza Wisteriana - just beginning flowering

All within 20 feet of one another

Senecio actinella

Camping area just downstream of 2 June 68
Wright's Gita Canyon 3 June

Corallorrhiza maculata Sec 7 T12S R14W Lonicera dumosa Catron County

W. Fork of Gita - just upstream from junction of White Rocks Canyon 2 June 68 Sec 17 Corallorrhiza maculata T2S R14W Catron County

Little Bear Canyon - steep N-facing slope Sec 11, T12S R14W Catron County

Aquilegia chrysanthemum 6 June 68

Habenaria sp. (blue), just beginning ~~**~~

16 7 Jul 68

Gilia aggregata

Anemone sp.

Fragaria sp. Achillea sp.

Paeonia Liliopspermum

Evigeria sp.

Hedysarum sp. Holodiscus dumosus

Clematis sp. (on slope of composed granite @ 7000')

Geranium sp. eremophilum

Orobanchaceae

Stellaria sp. Arenaria fendleri

2 different peas -

Hedysarum sp.

Hymenopappus radiatus

14 Jul 68

Wistaria refraacta - along Hwy 54 (Hawkins)

Indian Creek, Animas Mtns

Bowlesia glomerina

Fauschiera latifolia

Asclepias speciosa

Lotus ✓

Oxalis Grayii ✓

Coccarpus

Pentstemon barbatus ✓

Pentstemon pinifolius ✓

Nearda (2 sp.) montana ✓

Agastache - just beginning ✓

Hedysarum ✓

Yucca schottii ✓

Agave palmeri ✓

14 Sec 16 T16S, R9W

6 June 68 - Wright's Cabin Canyon, Grout County, same location as Habenaria sp. (blue) Horneri Corallorrhiza Wisteriana, finishing flowering ~~**~~ brevifolia

Spiranthes parviflora ~~**~~

July 68 Sec 21 T16S, R9W Sierra Co. Canyon on east slope of Black Range 1/2 mi. below Quarry Pass ~~**~~

Spiranthes parviflora just beginning

Corallorrhiza Wisteriana finishing

9 June 68

Bluff Springs, Sachtles

Corallorrhiza striata ~~**~~ ~~**~~

Habenaria sp. - not yet in bloom

Ribes cereum

Polygonia sp. cacoa

Humulus elegantula

Cleome pseudocalycina

Small canyon on Sunset Road 1/2 mi. N of Ruesta Canyon in Huerfano

Corallorrhiza Wisteriana ~~**~~ ~~**~~

Silver Sage Canyon at Reservoir Boundary

Corallorrhiza striata ~~**~~

Corallorrhiza Wisteriana ~~**~~ ~~**~~

Sec 21 T16S, R9W

16 June 68 Same canyon as 9 June

above in east slope Black Range

S. Parviflora about 100' from flowering - lower just starting

~~**~~ D. Wisteriana in fruit

Lonicera arizonica

Antennaria sp. coccinea

17 21 Jul 68

Wright's Cabin Canyon

Habenaria sp. (blue) var brevifolia (early!)

Scrophularia umbrosa

Along Crest Trail from Encampment to Hillbroke

* Penstemon (Netleaf) - Cross "O" Mtn. Edge

Penstemon pinifolius - open rocky faces

Penstemon barbatus

Pedicularis grayi orangeollonica - Hillbroke Pk

Delphinium nelsonii - " "

Corallorrhiza maculata - " "

Oxalis

Oxalis grayi - 1/2 mi S of Hillbroke Pk Bypass

Phlox diffusus

Holodiscus dumosus

Heuchera - just S of Hillbroke Pk Bypass

Heuchera villosa - Cross "O" mtn - E slope

Viola canadensis - E slopes

Potentilla hippiana - open areas

Draba helleriana var. Bhaueri

Astragalus

Cercidium



18
21 July 68
Aquilegia
Frigeron
Lotus
Sambucus
Rose "O" Mtn

37 July 68 Organ Mtn south from
San Augustin Pass
Mecanopsis sp. ~~lanceolata~~
Aster paniculata?
Phacelia
Phlox sp.
Penstemon barbatus
Castilleja ~~integra~~
Verbena wrightii
Salvia ~~viridis~~ (Corpingia ^{viridis})
Talinum
Stonogilia wrightii
Phacelia sp.
Galium ~~wrightii~~
Mirabilis multiflora
Tradescantia
Ceratostigma brev. flava (or variegata, flowers)
Maurandya antirrhiniflora ^{foliolosa} ~~foliolosa~~
Trifolium ^{sp.} ~~sp.~~ Vigueria multiflora.
Carlowrightia linearifolia
Physalis
Lepidium eastwoodiae

19	Los Atunes Ski Area (Pajarito Mts)	3 Aug 68
	<i>Geod. elong.</i> Blia, in spike, ^{just beginning} yellow	
	<i>Grevillea mucronata</i> - long ix fruit	
	<i>Crat. thia wisterianae</i> - fruit and spent	
	<i>Zygadenus</i>	<i>Actaea</i> in front
	<i>Castilleja</i>	<i>Gilia aggregata</i>
	<i>Campanula</i>	<i>Purshia</i> <i>boliviensis</i>
	<i>Aster</i>	<i>Leontopodium</i>
	<i>Gesneriaceae</i>	
	<i>Pterospora</i>	
	Taos Ski Basin	4 Aug 68
	<i>Aquilegia caerulea</i>	
	<i>Habenaria saccata</i>	
	Sardia Mts	5 Aug 68
	Scrubia Crest	<i>Mertensia</i>
	<i>Heuchera pulchella</i>	<i>Penstemon</i> ?
	<i>Pentstemon</i> (3 sp)	(<i>Geod. elong.</i> ?)
	<i>Aster</i>	so 60,000' at
	<i>Delphinium septentrionalis</i>	Cupid's Spring Canyon
	<i>Pedicularis</i> Grayi	<i>Collomia</i> <i>stans</i> , very late.
	<i>Anemone</i>	
	<i>Potentilla</i>	
	<i>Cotyledon</i>	
	<i>Scrophularia</i> <i>montana</i> ?	

20
 Sacramento Mtns 11 Aug 1968
 Telephone Canyon
Goodera a. blinifolia, just beginning to bloom
Corallorhiza maculata, still blooming
Habenaria epipactis flora var *brevifolia* subsp.
Habenaria ~~lutea~~ in seep spring hillside
 mostly in fruit
 Mimulus
 Pentstemon
 Geranium
Cirsium vindex
 Tradescantia
 Campanula
Monotropa latisquamata
Hymenophyllum radiatum
 Potentilla
 Veronica
 Primula

 Rio Picasso
 Delphinium
Gilia aggregata, scarlet & pink forms

 Nelson Canyon
Collomia maculata still blooming

 Silver Spring Canyon
Cirsium vindex
Collomia striata in fruit
Habenaria epipactis flora var *brevifolia*
Malaxis *Elisanensis*
Spinanthus parviflorus, in leaf w/tubers.
 Heather
 Gaura
 Potentilla
 Aster
 Pentstemon
 Allium

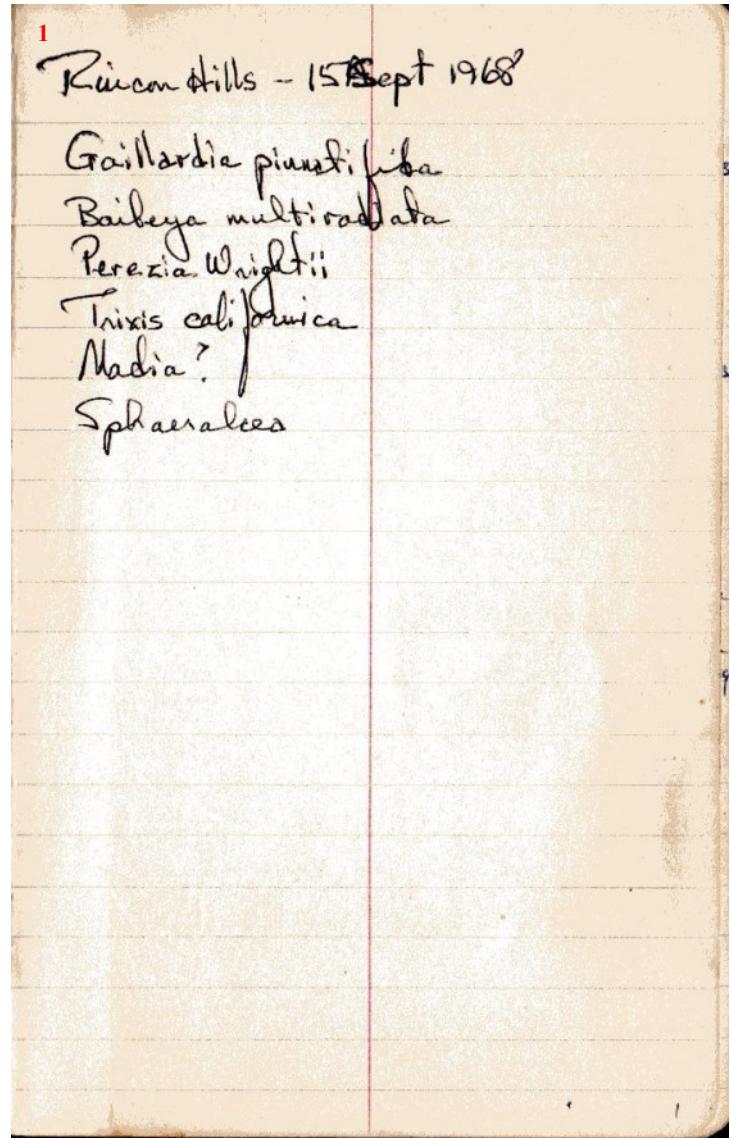
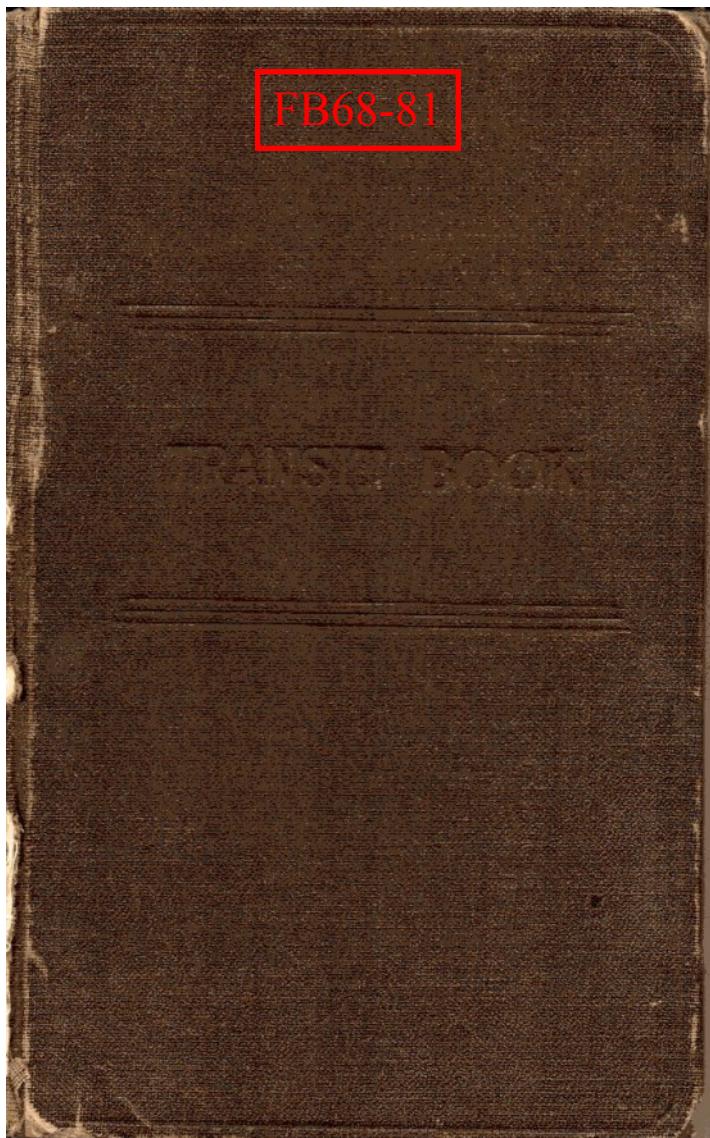
21 Aug 68
Silver Spring Canyon, cont.

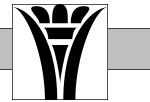
Gallinas Creek @ Devil's Backbone, Black Range
2 Sept 68
68-1 *Scrophularia neomexicana* —
most in fruit — still a few blooms —
68-2 *Sicyos ampelophylax* — mostly
in fruit —
68-3 ~~*Sphaeralcea calycinaeflora*?~~
Sphaeralcea microsiphula
68-4

22
Orchids in the Herbarium @
~~See~~ Southwestern Research Station
Portal, Arizona

1. *Malaxis Ehrenbergii*, Long Park, Chiricahua Mts, 9,325', 12 Aug 59
2. *Corallorkiza esculata*, SE slope of Fly Peak on Summit Trail, Chiricahua Mts, 12 Jun 58
3. *Corallorkiza striata*, Greenhorn trail, Chiricahua Mts, 7800', in front, 13 Aug 65
4. *C. striata*, W slope Fly Peak, Chiricahua, 9,000', 19 June 58
5. *C. Wisteriana*, E. Turkey Creek, Chiricahua, 6500', 3 May 65
6. *Goodyera oblongifolia*, betw S fork of Middle fork of Cave Creek and Anita Park, Chiricahua, 8000', 12 Aug 65

23
Cave Creek 28 Sept 68
@ 6000', 1/2 mi above Herb Mather
Malaxis Soulei
~~Lobelia cardinalis~~ at Little Darn
Higher up ~~old~~ trail to
Chiricahua Peak
Stevia serrata
Mandragora latifolium
Silene laciniata



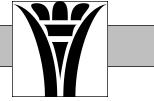


2	Date	Location	Tentative idea	Identification	Remarks
1	26 Jan 69	1 mi S of Mahoney Western Mts		<i>Thlaspi</i>	
2	26 Jan 69	"		<i>texana</i>	
3	2 Feb 69	Mouth of Long Canyon Organ Mts		<i>Baccharis</i>	
4	2 Feb 69	"		<i>sarothroides</i>	
5	9 Feb 69	Bishop's Cap		<i>Sedum</i>	
6	9 Feb 69	"		<i>griffithii</i>	
7	9 Feb 69	"		<i>Phoradendron</i>	
8	9 Feb 69	"		<i>bellidifolium</i>	
9	9 Feb 69	"		<i>texana</i>	
10	9 Feb 69	"		<i>Thlaspi</i>	Specimen to NMW Herbarium
11	9 Feb 69	"		<i>Agave</i>	Will be in bloom in abt 2 wks on S slope in canyons
12	9 Feb 69	"		<i>Agave</i>	
13	16 Feb 69	"		<i>Agave</i>	
14	23 Feb 69	Sm E of Cleardale Rd on Johnson Ranch		<i>Thlaspi</i>	
15	23 Feb 69	Johson's Lower Ranch		<i>texana</i>	
16	23 Feb 69	Guadalupe Canyon		<i>Anemone</i>	
17	23 Feb 69	Peloncillo Mts		<i>Tuberaria</i>	
18	23 Feb 69	Peloncillo Mts		<i>Succowia saligna</i>	New for D.C.
19	1 Mar 69	Shallow Hills		<i>Arctostaphylos</i>	New for New Mexico?
20	1 Mar 69	"		<i>pringlei</i>	
21	1 Mar 69	"		<i>Thlaspi fendleri</i>	
22	9 Mar 69	Scal of Organ Mts Canyon just W. Long Canyon			
23	"	"			
24	"	"			
25	"	"			
26	"	"			
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29	"	"			
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6	and	SE 7, 15, 16, 17 T 34S, R 21W Sec 11, 12, 14 T 34S, R 22W		
7				Rocky hill sides, is short pedicled.
4 Apr 69	Guadalupe Pass	Dichelostemma	pulchellum	
"	and Canyon	Plagiothrix	argenteus	
42	"	Aster	hirtifolius - arenosus	
43	"	Erigeron		
44	"	Gomphrena	caespitosa	
45	"	Linum	lewisii	
46	"	Corydalis	caerulea	
47	"	Astragalus		
48	"	Malacothrix		
48A	"	Lupinus	hirsutus?	
49	"	Ceanothus		
50	5 Apr 69	T 34S, R 22W	Greggii	
50A	"	"	microphyllus	
51	"	Dryopetalon	multicarpellum	
52	"	Zizadium		
52A	"	Sericea	ciliolatum	
53	"	Lupinus	calycosus	
53A	"	Grindelia	concolor?	
54	"	Phacelia	arizonica	
55	"	Encelia		
55A	"	Strobilea	microcarpa	
56	"	Psacelia		
57	"	Metzgeria	affinis or albicans?	
58	"	Descurainia		
59	"	Thysanocarpus	scopulicola	
59A	"	Composite		
		Succowia	monensis	
		Lotus	hirsutistatus	Solitary sessile flowers around

8	SE 14, T 24S, R 31E	Plantago		9
60	5 Apr 69	Vanguardia, Ariz	Critha	Eriogonum diffusum
61	"	"	Thunbergia	texana
62	"	"	Gomphrena	
63	"	"	Eichornia	
64	"	"	Maurandya	sp
65	"	"	Umbelliferae	not in bloom - single straight central, 5-lobed, tubules not grooved
66	"	"	Brassicaceae	
67	"	"	Lesquerella	Fendleri
68	"	"	Linum	puberulum
69	"	"	Allium	macrostylum (deserticola)
69A	"	"	Dalea	pegoranthera
70	20 Apr 69	Bishop's Cap	Psidium	Houstonia
71	"	"	Ayenia	microphylla
71A	"	"	Spurredaceae	teucriifolia
72	"	"	Thlaspi	repens
73	"	"	Dalea	wrightii
74	"	"	Lesquerella	purpurea
75	"	"	Sebania	longilobus
76	"	"	Lappula	texana
77	"	"	Cryptantha	
78	"	"	Phacelia	intermedia?
79	"	"	Dyssodia	
80	"	"	Euphorbia	(Chenopodiaceae) fauriei var. chesterensis?



10				11
#				
9-81	26 Apr 69	Guadalupe Mts on Rio Grande	<i>Aphenostephus humilis</i>	
9-82	"	"	<i>Gaura parviflora</i>	This would be "canescens"
9-83	"	Imi So of Mesilla Bridge	<i>Anogra runcinata</i>	Common all along river
9-84	"	Rio Grande	<i>Heliotropium xerophilum</i>	
9-85	27 Apr 69	Organ Mts on Rio Grande	<i>Tragia stylaris</i>	Among rocks, along w/ <i>Cirsium</i>
9-86	"	"	<i>Tragia neptaeifolia</i>	Bare hillside
9-87	"	"	<i>Cirsium pallidum</i>	Same place as last year.
9-88	"	Hillside above Organ, NM	<i>Nolina texana</i>	Sec 1, T22S, R3E
9-89	"	Indian Hollow	<i>Cirsium neomexicanum?</i>	Organ Mts type local
9-90	"	"	<i>Penstemon feuderii</i>	Sec 20, T22S, R4E
9-91	"	"	<i>Delphinium virescens</i> var <i>Wootoni</i>	Sec 20, T22S, R4E
9-92	"	"	<i>Verbena wrightii</i>	Sec 33, T22S, R4E
9-93	"	Aguere Spring Read	<i>Verbena canescens</i>	Pale purple, dries purple
9-94	"	"	<i>Ipomoea</i>	Blue purple, dries blue
9-95	"	"	<i>Dysodcia acerosa</i>	Sec 5, T22S, R4E
9-96	"	Indian Hollow	<i>Aster arenosa</i> = <i>hirtifolius</i>	Sec 5, T22S, R4E
9-97	"	"	<i>Lotus rigidum</i> <i>numularia?</i> hybrid?	This is the early spring to with glandular spars on leaf surface
9-98	"	"	<i>Lupinus caninus</i> (Karp)	<u>micros</u> in W+S
9-99	"	"	<i>Erigeron</i>	
9-100	"	"	<i>Thlaspi</i>	Variable - flower color - leaf
9-101	"	"	<i>Lepidium</i>	out shape - capsule sinus
				Organ Mts out, type local

12	Date	Locality			13
1	27 Apr 69	Indian Hollow	<i>Galium aparine</i>	Sec 33, T22S, R4E	
2	"	"	<i>Galium microphyllum</i>	Hooked hairs on fruit	
3	"	"	<i>Euphorbia albonigra</i>	>5 leaves in whorl	
4	"	"	<i>Gilia sinuata</i> (<i>cinerea</i> picado)	Sec 29, T22S, R4E	
5	"	"	<i>Malacothrix</i>		
6	"	"	<i>Calycoseris</i>		
7	"	"	<i>Calycoseris wrightii</i>		
8	"	Aguere Spring Read	<i>Evolvulus pilosus</i>	Sec 7, T22S, R4E	
9	"	"	<i>Microseris linearifolia</i>	Sec 7, T22S, R4E	
0	"	"	<i>Aplopappus spinulosus</i>	Sec 17, T22S, R4E	
1	"	Indian Hollow	<i>Castilleja integra</i>	NE 4, Sec 29, T22S, R4E	
2	"	"	<i>Mentzelia albicans</i> (var <i>parviflora</i> ?)		
3	"	"	<i>Astragalus humistratus</i> var <i>sonorae</i>		
4	4 May 69	Minores River near Stone Giants	<i>Hybanthus verticillatus</i>		
5	"	"	<i>Tournefortia strigosa</i>		
6	"	"	(<i>Allionia</i>) <i>Oxybaphus linearis</i>		
7	"	"	<i>Veronica Americana</i>		
8	"	"	<i>Hymenocallis metonii</i>		
9	"	"	<i>Dalea jamesii</i>		
10	"	"	<i>Aster phoeniceus</i>		
11	"	Gallinas Creek off way to S. of Kingston	<i>Prunus emarginata</i> var <i>crenulata</i>		

14				15
9-122 4 May 69	Collins Creek W.	Quercus	reticulata	
9-123 "	Black Range clay fissary	Viola	canadensis	
9-124 "	"	Viola	reprophylla	
9-125 "	"	Dreba	moehringia	
9-126 "	"	Brassicaceae	bursa-pastoris	But the basal leaves are obtuse, not pinnatifid.
9-127 "	"	Capsella	microphyllum?	
9-128 "	"	Galium		
9-129 "	"	Astragalus	Stellaria	
9-130 "	"	Lupinus	jamesiana	
9-131 "	"	Senecio	cobrensis	
9-132 "	"	Veronica	wootanii (microstachys)	
9-133 "	S. Purple Creek, S. of W. of Kingston	Smilacina	Valeriana acutiloba var. ovata	
9-134 "	Highway north of Dust	Sophora	stellata	
9-135 16 May 69	Aguino Springs Rd	Eriastrum	sericea	
9-136 "	Hill above Organ	Phlox	diffusum	
9-137 "	"	Dalea	usneoides	
9-138 "	Aguino Springs Rd	Sida	jamesii	
9-139 "	Hill above Organ	Racemicaria	procumbens	
9-140 "	"	Nolina	pteranoides	
9-141 17 May 69	Hwy 70	Peganum	texana	
			hermala	In fruit from near Dona Ana Mts. to to Alamogordo

16				17
142 17 May 69	Thay 70 near MATR	Psilotrophe	probably tagetina	
143 "	Thay 70 - White Sands Natl	Hypolepappus	arenosus	
144 "	"	Coumandra	pollicida?	
145 "	"	Brassicaceae		
146 "	"	Poliomictella	incana	
147 30 May 69	Trail to Ash Spring	Conopholis	mexicana	
148 "	Near Little Dam	Tragia	stylosa	
149 "	"	Euphorbia	chamaesula	
150 "	"	Coumandra	pallida	
151 "	"	Dalea	wislizenii	
152 "	"	Samolus	vagans	
153 "	Trail to Ash Spring	Senecio	neomexicanus	
154 "	Paradise, Ariz	Hypolepappus	spinulosus	
155 "	South Fork Canyon road	Acacia	angustissima	
156 "	Onion Spiddle Ranch at East Turkey Creek	Ceanothus	integerius	
157 "	East Turkey Creek	Galium	Aparine	
158 "	"	Mimulus	gettatus	
159 "	"	Menchera	parvifolia var. (orionica?)	
160 "	"	Coralrootiza	wisteriana	
161 "	"	Senecio	neomexicanus	
				Not specimen dried out This is quite late

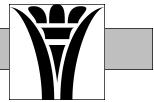


18	Date	Location	Identification	Remarks	19
62	30 May 69	Rutter Park	Corallorrhiza	just blooming	Chicahua
63	"	"	Spiranthes	one to two weeks early	
64	"	"	Senecio		
65	"	"	Lupinus		
66	"	"	Thermopsis		
67	31 May 69	SW Pea Star	Racelia		
68	"	Onion Saddle	Spiranthes	5 locations from 7800' to	
		to Rutter Park	Acetosella	8500', lower ones in bloom	
69	"	Onion Saddle	Euphorbia	On SW white pine	
70	"	Palo Portal and Paradise	Thlaspi		
71	"	"	Corallorrhiza	Found by TAT - w. feelings stop	
72	8 June 69	Shotfield Canyon, 1 mi from Rio Puerco	Phlox	in heavy stuff - NW 4, Sec 13 R 10 T 1	
73	"	Russia Canyon	Lapatharia		
74	"	"	Calostoma		
75	14 June 69	Edna Tunnel south of Rte 22, 8130', 7155	Senecio	North facing 1/1 meadow, face 3	
76	"	Silver Spring Canyon	Erigeron	finished	
77	"	"	Spiranthes	Liverflowers fruiting	
78	"	"	Trilepidium	larch bog	
79	"	"	Senecio	At edge of bog	
80	"	"	Erigeron	12 30 41	
81	"	Sec 32, R 14 E, T 15 S	Senecio	Just beginning	
82	"	Sixteen Spring Canyon	Senecio		

20				21
83	15 Jun 69	Sac Mtns Lucas Canyon	Osmunda	obtusa
84	"	"	Mimulus	gratitatis
85	"	Benson Ridge Rd Sac Mtns	Rumex	variegatus
86	"	"	Coptis	acutiflora var. floridana
87	"	Canyon	Dentherium	Mo 1/4 Sec 36, R 14 E, T 15 S
88	"	Hwy 70 near Coulter	Phacelia	taraxacoides
89	"	Cerro Canyon Loop	Athyrium	alba
90	"	"	Sphagnum	acaulis
91	"	Rio Bronto - Big Bear Canyon	Thelypteris	sericea
92	"	"	Spiraea	Hydrophyllum occidentale
93	"	"	Rubus	Cirsium alpinum
94	"	"	Coronilla	neomexicana
95	"	"	Heuchera	stolonifera
96	"	Sec 32 Hklm Rd	"	wootoni
97	"	Sm S of Captain	Cirsium	Frigia poliflora
98	"	Captain Gap Park	Verben	Cordulus nutans
99	"	"	Vorben	subcordifolia
100	"	"	Oenothera	perennig
101	"	"	Polygala	taraxacoides
102	"	"	Gaura	
103	"	"	Polygonum	tenuifolius?

22	23
203A	
204 15 Jun 69 Sop. on Gap Rd	<i>Thelysperma</i>
205 " Hwy 70, near Nidec	<i>Sphaeralcea</i>
206 " " <i>Norma</i>	<i>longipes</i>
207 " Sop. in Silver Springs Canyon, 2 mi. west of Hwy 70	<i>lignata</i>
208 " " <i>Kingia</i>	<i>variegata</i>
209 " Rockhouse Sprg	<i>biflora</i>
210 " Near Narrows	<i>sparsiflora</i>
211 " " <i>Salvia</i>	<i>wallflower</i>
212 " " <i>Torreyophytum</i>	<i>remosissima</i>
213 " " <i>Phytolacca</i>	<i>Arenaria confusa</i>
214 " Filmar Canyon, just below mining camp	<i>hesquariella</i>
215 " Filmar Sprg	<i>Tradescantia</i>
216 " " <i>Agave</i>	<i>occidentalis</i> var. <i>scopulorum</i>
217 " North of La Cueva	<i>Stachys</i>
218 " " <i>Composite</i>	<i>chrysanthia</i>
219 13 July 69 Fossil Canyon	<i>Lotus</i>
220 " 1 mi. N of Hwy 20	<i>Talinum</i>
221 27 July 69 Hwy 70 on mesa east	<i>angustissimum</i>
	<i>Eustoma</i> <i>exaltatum</i> (<i>Crusellianum</i>)
	<i>Dysosmia</i>
	Along Rio Grande v. bank

24	25
SE 1/4, Sec 18, R 4 E, T 25 S	
22 27 Jul 69 Canyon just north of Hwy 70	<i>Agrostache</i>
23 " " <i>Chrysopsis</i>	caua 6000'
24 " " <i>Gutierrezia</i>	
25 " " <i>Balbia</i>	
26 " " <i>Polygala</i>	
27 " " <i>Erysimum</i>	<i>sp.</i>
28 " " <i>Penstemon</i>	<i>linearioides</i>
29 " " <i>Penstemon</i>	<i>barbatus</i>
30 3 Aug 69 1/4 mi S of US 66 on the Quebrada Road	<i>Penstemon</i>
31 " " <i>Penstemon</i>	<i>barbatus</i>
32 " " <i>Penstemon</i>	<i>ambiguus</i>
33 " " <i>Portulacaceae</i>	
34 " " <i>Anthyllis</i>	<i>torreyi</i>
35 4 Aug 69 betw Pecos River	<i>Arenaria</i>
36 " " <i>Ratibida</i>	<i>obtusiloba</i>
37 " " <i>Phlomis</i>	<i>columnaris</i>
38 " " <i>Castilleja</i>	
39 " " <i>Pedicularis</i>	<i>bicornuta</i>
40 " " <i>Senecio</i>	
41 " " <i>Eriogonum</i>	
42 " " <i>Aster</i>	
	On N. facing shaded cliff



26				27
242A	4 Aug 69	As below	Corallorrhiza : striata	in fruit
243	4 Aug 69	Along Pecos R. below Tributary & Pecos	Epipactis?	
244	"	Gloriosa	Lemuria (white)	
245	10 Aug 69	Tunnel Sodder Roadside just below	Tetradymia Pilifolia	Not in flower (pre flowering)
246	"	"	Aster	
247	"	"	Staphysagria	
248	"	"	Solidago	
249	"	"	Solidago	
250	17 Aug 69	New road Russia Canyon	Solidago	
251	"	"	Macrorhiza	
252	"	"	Erigeron	
253	"	"	Erigeron	
254	"	Roofline near Nehalem Canyon	Erysimum	
255	"	"	Scrophularia	
256	24 Aug 69	Middle Pecos above Kingston	Astragalus : tephrodes?	Very common
257	"	"	Senecio	
258	"	"	Ipomoea	
259	"	"	Bidens	
260	"	Wright's Cabin Canyon	Scrophularia	
261	"	Gallinas Creek	Scrophularia	
262	"	"	macrantha	
263	"	"	Anthrenium	
264	"	"	torreyi	
265	"	"	Asperula Erigeron platyphyllus	
266	"	"	Erigeron Readulus	

28			29
271	24 Aug 69	Gallinas Creek	Erythrina
272	"	"	Erythrina
273	"	"	Cucurbit
274	"	"	Pink
275	"	"	Erigeron
276	"	Rootside below Goldblatt and Cebolla	Xanthoceras
277	"	"	Wrightii
278	"	Middle Pecos	Asclepias
279	31 Aug 69	SW Pecos St. Portal Ariz.	Petalostemon
280	15 Sep 69	Slope of Gull Creek	Pectis
281	"	Chilicola Mtns	Mahinis
282	6 Sep 69	Wet Canyon Cirque and Pinon Mtns, Ariz.	Scrophularia
283	12 Sep 69	Slope of Organ Rock	Scrophularia
284	"	"	lanceolata
285	"	"	Gilia
286	13 Sep 69	The Narrows, Filmore Canyon	Senecio
287	"	"	McDougalii
288	"	"	Perityle
289	"	"	Sedum
290	"	Filmore Spring	Allium
			Ceratostigma
			Phacelia
			Aster
			oxilis

Battered by hail, much insect damage
a bed gear for specimens.

30				31
291	13 Sep 69	Fillmore Spring	Bidens	bigelovii?
292	"	Hillside above Fillmore falls	Cilia	brachysiphon
293	"	Flat near La Crosse	Pectis	prestabilis
294	21 Sept	Cloudcroft	Bidens	teniasecta
295	"	Bear's Well, Tularosa Basin Thru 70	Santolina	flavescens
296	"	Nogal Canyon near Bent, NM.	Aster	(Machemeranthus)
297	"	"	"	"
298	"	"	Rosa	stellata
299	"	"	Fraxinus	velutina
300	"	"	Dalea	
301	"	"	Polygala	alba
302	"	"	Chrysanthemus	
303	"	"	Eupatorium	herbacaceum
304	"	"	Phacelia	
305	"	"	Mentzelia	
306	"	"	Oenothera	
307	"	"	Composite	
308	"	"	Solidago	
309	"	"	Salvia	
310	27 Sept 69	Rockside betw Crusoe & Chinkie, Ariz	Eriogonum	aztecum

32				33
11	27 Sept 69	McGaffey, near Gallup	Coreopsis	cordaturae-folia
12	"	"	Agastache	pellidiflora
13	"	"	Aster	radicans & aquifolius
14	"	"	Aster	commutatus var crassulus
15	"	"	Altman	Geyeri
16	28 Sept 69	Red Wash 15 mi w of Shiprock	Eriogonum	leptophyllum
17	29 Sept 69	"	Chenopodia	
18	"	"	Gilia?	
19	"	Monument Valley near Bluff, UT	Eriogonum	corymbosum, & var. — Cat Comb Ridge, U
20	"	Comb Ridge	Aster	
21	"	"	Hymenocallis	panciflora
22	"	"	Cordylanthus	

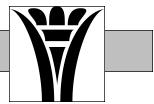


34 1 Nov 71		35	
251	Pecos Creek Ls x 2 mi W of Hillsboro	Saponaria	officinalis
52	" Gray Eagle Mine - Stork Pecos Creek, Black Range	Agastache	cana or rupestris?
53	"	Saussia	neomexicana?
54	"	Erigeron	macrorhiza?
55	"	Valeriana	arizonica
56	"	Penstemon	torreyi?
57	"	Astragalus	(Tephrodes?)
58	"	Achillea	lanceolata
59	"	"	borealis
1972 ✓		Erigeron	
Feb	- Eschscholtzia mexicana in bloom near Parker Well just east and south of intersection of Hwy 70 and WSMR	access road. Also near 100K stand of WSMR	
Feb	- near 300K stand - Eschscholtzia mexicana, Mentzelia (parviflora?), Gilia, 2 Descurainias, Oenothera, other Brassicaceae, Touchettea , Linaria texana		
	2 Cryptanthus, Draba ^{var. mi} varva, Erodium, Chrysanthemum corymbosum up but not in bloom yet]		
Feb	- rocks near mouth of Soleada	canyon - Eschscholtzia mexicana, Echinocactus	
	intertextus, Acacia tenuifolia, Gilia sp., Malvastrum, Erigeron, Descurainia, Lepidium, Draba ^{var. mi} varva, Mimulus rubellus, Oenothera		

36		37	
1 Feb	Soleada Canyon cent - Androsace		
20th	borage		
2 Feb	New 500K at WSMR	EUCYRYSIA MI GRANITA	at 1 March
2201			
2202	WSMR	ASTRAGALUS sp.	
203	1 Mar 500K stand	STREPTANTHUS	= $106^{\circ}28'17''W$ $32^{\circ}20'34''N$
204	3 Mar 500K stand	PHACELIA	
205	" "	LATHYRUS	
206	" "	CECIUM	
207	9 Mar ^{Y. m. S. of Bear Creek} ^{E slope of San Andres}	Denothraea Comossonia	Limestone hillside @ 4000
208	" "	Lupinus concinnus	"
209	" "	Phacelia	"
210	" "	Dyssodia pentachrysia	"
211	" "	Malva ^{Malva} Salix ^{Salix} pendula	"
212	" "	Orchidaceae yellow	"
213	" "	Calycocephalus wrightii	"
		Patrinia scouleriana	"
		also in bloom	
		Echinocactus triglochidium, Dalea, Draba, Descurainia, Neriifolia, Oenothera, Cryptantha (Tecoma stans-not in bloom)	
214	16 Mar Mouth of Bear Creek	EUCRYPTA MICRANTHA	
215	" "	OENOTHERA CHAMANAEROIDES	
		Also Descurainia, Gilia, CRY...	
		, Colocasia, Allionia	

38	19 Mar	San Augustine Pass	Astragalus humistratus var. sonorae	39
	16 Mar	W. NE Main Basa Shallow Hils	Machruwathra tanacetifolia	
216	18 Mar		Oenothera chamaenerioides ^{4300-4400'}	Almost done
217	"	"	Eurypta micrantha ^{4500'}	"
218	"	"	Hedysarum	^{4500'}
219	"	"	Brassicaceae	^{4500'} At base of east-facing limestone cliffs under rocks
220	"	"	Chenopodiaceae	^{4500'} "
221	"	"	Astragalus ^{metalliferus} ^{? 4300'}	
222	"	"	Eriogonum rotundifolium	4300'
223	"	"	Eriogonum	4500'
224	"	"	Eriogonum texanum	4300'
225	"	"	Polygala	4500'
226	"	"	Gilia	4500'
227	"	"	Stemodiium barbatum	4300-4500'
			Also in bloom - Descurainia, Streptanthus, Lepidium (Draba past), Ephedra, Dalea formosa, Echinocereus triglochidiatus, Viguiera, Melampodium, 2 Phacelia's, Nerisyenia, Yucca baccata, Sphaeralcea, Dyssodia, Hibiscus,	
228	19 Mar	McSorley-Mimbres Lopines	Grant Co. See 22 T19S R10W	5300'
229	"	"	Astragalus ^{metalliferus?}	Ruby/Snowy hillside
230	"	"	Astragalus stephensii	"

40	7L		41
2231	19 Mar	Mimbres R-Gravel.	Phacelia arizonica?
2232	"	"	Townsendia
2233	"	"	Hybanthus verticillatus
2234	"	"	Boopis Lithospermum incisum
2235	21 Mar	Yerba Seca Canyon	Salvia leucyi
2236	"	"	Erigeron
			Following on 24 March ^{South Slope of Block Mountain at S end of San Andres} ^{Exposed granite hill side} Altus @ 5500 - in bloom Melia pumila, Nolina texana, Eschscholzia, Allium
2237			Aster arenosus
2238			Erigeron
2239			Erigeron
2240			Purshia ^{leptophylla} fendleri
2241			Lotus
2242			Astragalus humistratus sonorae
2243			Lupinus concinnus
2244			Lathyrus?
2245			Haplopappus
✓			Also in bloom Oenothera chamaenerioides, Rhus microphylla, Baileya, Sphaeralcea, Gilia, Verbena wrightii,



42					43
246	3 Apr 72	Millcreek - NM 42 S of Willard	Astragalus	pictiformis	Scattered along roadside
247	9 Apr 72	Rocky Mtn Hwy - Hwy 54 - not Arizona	Astragalus	Chemistatus? nuttallianus?	
248	6 May 72	Gila R. valley S of Gila	Sophora	nuttalliana?	
249	"	Gila R. valley above CliffatNM Fort Verde	Lupinus	coccineus?	
250	"	"	Penstemon	pseudospectabilis?	
251	"	"	Astragalus		
252	"	"	Abronia		
			Anisocoma		
252	A 14 May 72	Canyon 3.7 mi E of Kingston	Anisocoma	resinosa or tessellata	
253	17 Jun 72	Santuario Pass + South	Petalostemon	cardinale	
254	"	"	Engelmannia	planifida	
"	"	"	Apodanthera?		
"	"	"	Melampodium	leucanthemum	
"	"	"	Hotzpeplus	haustratus	
"	"	"	Castilleja		
"	"	5400'-5500'	Phaseolus	angustissimus	
"	"	"	Verbesina	eschscholtzii	
✓	18 Jun 72	Black Mtn	Fendlerella	wherryi (in bloom)	
"	"	" 5500'	Choisya	lunosa (not in bloom)	
"	"	" 5500'	Petrosphytum	cuspitatum (not in bloom)	
✓	"	" 5400-5500'	Perityle	stearophylla	Nostyflower blooming

44					45
		NW 1/4 Sec 5 RSE, T21S.			
256	18 Jun 72	Black Mtn 5400-5500'	Mortonia	scabrella (in bloom)	
"	"	" 5500'	Forselia	spinosa (late bloom)	
257	"	5400'	Castilleja	(scarlet & pale pink forms)	
258	"	5500'	Polygala	rimicola	new to N Mex **
258A	"	5400'	Menodora	scabra (in bloom)	
259	"	5400'	Tecoma	stans (in bloom)	
260	"	"	Galium		
"	"	"	Trixis		
"	"	"	Rhus	choriophylla	
"	"	"	Nicotiana	trigonophylla	
"	"	"	Maurandya		
261	"	5300'	Zexmenia	brevifolia	new location **
"	"	"	Eriogonum		
62	24 Jun 72	Skillet - Kino Canyon	Perityle	stearophylla	No flowers - hundreds of
"	"	"	Thelypodium	wrightii	plants - 1000-2000', 1-3
"	"	"	Cirsium	ochrocentrum	Just beginning to bloom
263	"	"	Caudalia		
264	"	"	Oenothera		
"	"	"	Forselia		
"	"	"	Menodora		
"	"	"	Hibiscus	denudatus	



46	5 24 Jun 72	Scillett Skeleton Knob Canyon	<i>Galinum</i> <i>Rothrockii</i> = <i>Wrightii</i>	
6	"	"	<i>Stephanomeria</i> ?	
7	24 June 72	Rhodes Canyon 11 mi w. of Read 7	<i>Perityle st. euryphylla</i>	Out in open part of about 100 big rug flowers, 2 w/1, 1 w/2, 1 w/3; all others none.
8	"	"	<i>Hedoma</i>	In canyon bottom.
9	23 Jun 72	East facing cliffs 1 mi West Long Canyon	<i>Perityle cernua</i>	5500' This is almost at the peak (see far
10	"	East side Paul's Mesa	<i>Phyllospadix</i> ?	
11	"	"	<i>Polygonia</i>	
12	21 Jul 72	Seehorn mouth of Hedgecamp Canyon	<i>Polygonia</i> <i>macradenia</i>	On limestone hill - east of of San Andres Mts.
13	29 Jul 72	North Slope - 1000 ft Hito Mts	<i>Malaxis</i> <i>Soulei</i> (<i>macradenia</i>)	
14	"	"	<i>Macrorhynchia</i> <i>pictorum</i>	
15	30 Jul 72	Wright Cabin Camp Verde - Black Range Hedgecamp Canyon	<i>Sisyrinchium</i> <i>arizonicum</i>	
16	13 Aug 72	San Andres	<i>Perityle st. euryphylla</i>	NE 1/4, Sec 27, R 4 E, T 1 S.
17	14 Aug 72	Peropah, just S. of South Posse	<i>Asclepias</i> <i>incorrupta</i>	
"	"	"	<i>Eustoma</i>	
"	"	"	<i>Limnophyllum</i>	
"	15 Aug 72	05 Hwy 84 just S of Kamelerville	<i>Liatris</i>	
"	"	Reeds, de 10 mi E. of Maxwell	<i>Ipomoea</i> or <i>Convolvulus</i>	
"	"	"	<i>Dalea</i> <i>lanceolata</i>	
"	"	"	<i>Tournefortia</i>	
"	"	"	<i>Melampodium</i>	

48		in bog		49
8	16 Aug 72	twining - Pereskia <i>Habenaria hyperborea</i> var. Springfield - 1 mi. above twining (S)	<i>Habenaria</i>	- Late -
9	25 Aug 72	St Andrews - 5 slope of Black Mt.	<i>Perityle strobophylla</i> Lat 32° 29' 45" N Long 106° 29' 12" W On NW facing limestone	- Past -
10	2 Sep 72	S Fork - Cave Creek Chiricahuas	<i>Martonia scabrella</i>	
11	"	"	<i>Fulcherella atakensis</i>	
12	"	"	<i>Perityle cochiseensis</i>	
13	26 Aug 72	Silver Springs Head Creek Canyon	<i>Scrophularia parviflora</i>	
✓	27 Aug 72	Foot of St Andrews	<i>Mimulus rubellus</i>	
14	11 Sep 72	Maple Camp - S Fork of Cave Creek, Chiricahuas	<i>Aquilegia</i>	
15	"	"	<i>Habenaria speciflora</i> var <i>brevifolia</i>	
✓	14 Oct 72	Sheep Mtn, St Andrews	<i>Polygala macradenia</i> obs a	Two plants
✓	"	"	<i>Brachystigma wrightii</i>	
✓	"	"	<i>Perityle</i> sp <i>cochiseensis</i>	East facing cliffs &
✓	"	"	<i>Perityle strobophylla</i>	overhangs talus?
✓	"	"	<i>Salvia hemionis</i>	SW 1/4, Sect 5, T 26 S, R 115 E, 5750 - 6000'
✓	14 Oct 72	Johnson Park Canyon St Andrews	<i>Perezia wrightii</i>	
✓	15 Oct 72	North slope - Salt Creek Park	<i>Perityle strobophylla</i>	NW 1/4, Sect 5, R 25 S, T 10 S
✓	"	"	<i>Ribes leptanthum</i> (?) <i>mascelatum</i> ?	Upward glandular black fruit
✓	"	"	<i>Cosmos parviflorus</i>	glandular petioles, fruit & leaves
✓	"	"	<i>Macrorhynchus bigelowii</i>	
✓	"	"	<i>Sedum</i>	
✓	"	"		



50					51
89 15 Oct 72	Soil slope Saline Park	Perityle st-	macrophylla var. hornei	Horn	Above Sweetwater Spring SE 1/4 Sec 7, ESE, T 12 S, 6250'
90 28 Oct 72	Bear Canyon	"	"		
91	" "	"	"		
	" "	Pellaea	mitrata		Up canyon where Pine tree is at bottom of canyon
89A 23 Sept 72	Asp Canyon North Lost Man Canyon	Perityle	st-		NE cliff high above
89B	"	"	"		Mouth of canyon on
89C 24 Sept 72	Lost Man Canyon	Perityle	st-		NE cliff high on
92 22 Oct 72	Full Pasture Trail Hio Mtns. AZ.	Perityle	macrophylla		South side of canyon on
93 19 Nov 72	Quartz Mtn San Andres	Perityle	macrophylla		Cliff above Marker 1b, Organ
94 28 Jan 73	Footills NE of San Augustin Pk	Astragalus	mollissimus		Pine/Cactus Mtn, Hwy
95 17 Jun 73	James Creek	Mimulus	floribundus		Elev 5800', S.E. Sec 7 R4E, T22
96	"	Limosella	aquatica		on E limestone cliff.
97 24 Jun 73	Above 3 Rivers Campground	Penstemon	cardinalis	Early bloom 5500'	At edge of ponds &
98	"	Valeriana	texana		streaks 5000'
99	"	Corallorrhiza	striata	"	"
00	"	Hieracium	fendleri		On granite cliffs 7500'
01	"	Astragalus	flexuosus		
02 4 Jul 73	1 mi N of Radium Springs	Centauraea	repens		Under pine-spruce-fern Oak 8000'
03 26 Aug 73	Slope Sweetwater Mtns John Wayne Mtns	Hippophaea	crooksi		Pine-Oak 7500'
04 3 Sep 73	Guzdulape Canyon	Polygonum	macrocephalum		Oak-juniper 6000'
					Ballast of railroad ties siding. 4200'
					Young granite boulders 5100'
					In sandy canyon bottom 4400'

52					53
05 3 Sep 73	Guzdulape Canyon	Dates	polygonifera?	In sandy creek bottom 4400	
06	" "	Macrorhynchus	tagetina?	" " " " "	
07	" "	Gnaphalium	chilense?	" " " " "	
08	" "	Agastache	wrightii?	At base of cliffs 4400	
09	" "	Silene	neomexicana?	" " " " "	
10	" "	Erigeron	?	" " " " "	
11	" "	Maurandya	wrightii?	Under shrubs & trees "	
12	" "	Sageretia	humbilis	Thickets at base of cliffs "	
13	" "	Rivina	?	In sandy bottom 4400	
14	" "	Condalia?	?	At base of cliffs "	
15	East slope Petenillo Mtns along Rd 63	Gilia	multiflora	6000'	
16	" "	Hedera	hyssopifolia	"	
17	" "	Linum	neomexicanum	"	
18	Guzdulape Canyon	Cactus	?	Under oaks 4400	
19	East slope Petenillo Mtns along Rd 63	Allium	kunthii?	5500' 6000	
20	" "	Cirsium	ridulum? arizonicum?	" 6000	
21	" "	Monarda	aurea?	" 6000	
22	" "	Agastache	breviflora	" 6000	
23	" "	Eryngium	?	In seeping areas. 4400	
24 9 Sep 73	South Oscuro Mtns	Chenopodium	downum?	Canyon bottom 6000	
25	"	Mitchella	aguifolius?	" "	

54

Cajon Bonito, NE Sonora, 30 Apr
Plants seen in bloom

Mimulus guttatus

Senecio salignus

Rhus radicans

Tillandsia recurvata

Prosopis juliflora

Amiscanthus thurberi

Epipactis gigantea

Adonis vernalis

Rhus integrifolia

1001 *Mimulus corniculatus* c. 7500 in deep narrow box

1002 *Astragalus humistratus* var. sonoriensis?

1003 *Grindelia*

1004 *Eriogonum* by stream

Conopholis mexicana 1 May at Rancho San Antonio in foothills of San Luis Mts.

2 May, Cajon Bonito

Astragalus allochrous

Lupinus concinnus

Samolus floribundus

Trip w/ Vince Roth, SWRS; 55
Dr. Chas (Chuck) McMoran, Sierra Vista
Gail Monsen, Sept. AZ-Sonoran Desert Museum

Tillandsia recurvata in fruit.

56

Cajon Bonito, cont.

Pansterium parryi

Astragalus sp.

Nicotiana

Stevia?

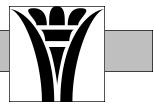
Tetramerium hispidum

Leafless, verbeno-like

Scutellaria

Eschscholzia mexicana

57



58	Cajon Bonito 30 Sept and 2 May 1974	59
1001	<i>Mimulus cardinalis</i> - at base of cliffs in box canyon immediately above creek.	
1002	<i>Astragalus</i> sp. - in sandy areas of creek bottom	
1003	<i>Gramineae</i> sp. - in soil pockets below waterfall in side canyon	
1004	<i>Eriogonum</i> in moist edge of creek	
1005	<i>Tetramorium hispidum</i> - crevices of rhyolite cliffs and in rhyolite spelling between cliffs.	
1006	Composite sandy creek bottom	
1007	<i>Microrhiza</i> ? moist edge of creek	
1008	<i>Maurandya antirrhinoides</i> common in soil pockets and below cliffs - mostly shaded.	
1010		
1011		
1012		
1013	<i>Eriogonum</i> Sandy creek bottom - spreading by underground rhizome	
1014	<i>Vicia leucophloea</i> Sandy creek bottom under cottonwood.	
1015	<i>Samolus floribundus</i> Wet edge of creek	
1016	<i>Astragalus</i> Sandy, rocky, creek bottom.	
1017	<i>Scutellaria</i> Shaded gravelly side areas under oaks.	
	<i>Pentstemon parryi</i> Sandy creek bottom - occasional	

60	Cajon Bonito	61
017	<i>Stevia</i>	{ side canyon near waterfall
018	<i>Nicotiana</i>	base of slope.
019	<i>Mimulus</i>	
020	<i>Elytraria imbricata</i>	Below waterfall
021	<i>Pezavine hirsuta</i> 11 May 74	I 10 roadside, 1 1/2 mi E of Gary bypass - Hidalgo Co.
022	<i>Elytraria imbricata</i> crevices in rhyolite	Guadalupe Canyon I mi below Johnson's Ranch 11 May 74
023	<i>Pedicularis</i> pseudoquadrifolia sandy base of cliffs	
024	<i>Hydrostachys verticillata</i> (lawn) in canyon bottom	
025	<i>Comandra pallida</i> at base of oak.	
026	<i>Astragalus</i> sandy loam bottom	
027	<i>Bridelia venosa</i> ?	
028	D	
029	<i>Samolus canescens</i> Dog Canyon 4 July 74	
	Saw Peatyle everywhere on Black Mt-n & Dog Canyon	
	<i>Petrophytum cespitosum</i> on both Black Mt-n & Dog Canyon	
	Polygala on Black Mt appear to not rival <i>C. canescens</i> says Tom Wendt.	
	July 74 - Big Hatchet Mtn, Sec 6, T 31 S. - Extra dry - getting better.	
030	Peatyle lemnoid, cliffs on n. slopes of Big Hatchet Rock	
	<i>Petrophytum cespitosum</i> in great masses	
	Tom Wendt collected Polygala (twice) at 5500' and at 7000'	
	<i>Quercus</i> undulata everywhere	

62	<i>magnicamporum</i>	63
9141- <i>Spiranthes</i> (magnicamporum) - 14 Sep 74 - in bog on west side of US 85 about 1 mile south of the railroad overpass just south of Isleta - elevation 1500 meters - about 50 plants seen SE 1/4, Sec 27, T8N, R2E		
1 Sep 74 Next up canyon S of Dog Canyon - <i>Wheeleria cernuus</i> , <i>Aster</i> , <i>Parityle stenophylla</i> , <i>Samolus cuneatus</i> , tall in bloom - Plants of <i>Epipactis</i> in front - Peculiar		
Apr 75 ✓ Center canyon, east side of Cerro Mt, San Andres ✓ In bloom - <i>Chrysanthemum</i> (semi-), <i>Fendlera rupicola</i> , <i>Fendlerella utahensis</i> , <i>Eschscholzia mexicana</i> , <i>Lesquerella</i> , <i>Veronica</i> , <i>Astragalus</i> ✓ <i>Calochortus</i> , <i>Lupinus</i> , <i>Liatris</i> sp., <i>Phacelia</i> , ✓ <i>Thlaspi</i> , <i>Thlaspi texana</i> , <i>Arenaria</i> , <i>Deiphineum virescens</i> , ✓ <i>Gilia sinuata</i> , <i>Hippocratea</i> , <i>Polygonum neomexicanum</i> , ✓ <i>Oenothera</i> , <i>Rhus</i> , <i>Ephedra</i> , <i>Verbena ambrosiifolia</i> ✓ <i>Verbena wrightii</i> , <i>Nama hispida</i> , <i>Mimulus luteus</i> , <i>Lithospermum</i> , ✓ <i>Lepidium</i> , <i>Sisymbrium</i> , <i>Phacelia</i> (4 kinds), <i>Montezumia</i> , ✓ <i>Cryptantha</i> , <i>Lopidea</i> , <i>Erythrina</i> ,		
Apr 75 North side San Andres Mts - <i>Eschscholzia</i> , <i>Astragalus</i> , <i>Phacelia</i> , ✓ <i>Lesquerella</i> , <i>Veronica</i> , <i>Thlaspi</i> , <i>Thlaspi texana</i> , <i>Deiphineum</i> , ✓ <i>Wrightii</i> , <i>Polygonum</i> , <i>Lithospermum</i> , <i>Vicia</i> , <i>Corydalis</i>		

64		65
3 Apr 75 (cont.) Dry petalae rupicola, Drymaria? flora? <i>Astragalus</i> <i>hemiceras</i> , <i>Stropharia</i> <i>lutea</i> (bigelovii), <i>Gilia sinuata</i> , <i>Chenopodium</i> <i>strobioside</i> , <i>Phacelia</i>		
May 75		
55241 <i>Psathyrotes scaposa</i> - side of railroad cut on NE side of Cerro Maderos (Mt. Christo Rey) - S end of Dona Ana County - Elev. ^{1200m} 1150m . - limestone gravels.		
55251 <i>Tetraselaea coalteri</i> - NE facing hillside in limestone crevice		
55252 <i>Polygala macrostachya</i> - SE limestone hillside		
55253 <i>Erigeron</i> - N E facing hillside in grasses		
55254 <i>Hedysarum usneoides</i> " " " "		
6 May 75 - San Andres Mts near Poblan Canyon R2E T13S		
55261 ✓ <i>Salinaria brevifolium</i> - Sec 4 on rocky hillside (limestone) 6700'		
55262 ✓ <i>Rosa stellata</i> - all over.		
55263 ✓ <i>Phlox</i> name - all over		
55264 ✓ <i>Astragalus pictiformis</i> - Sec 4 - flat pastureland @ 6600'		
55265 ✓ <i>Eriogonum</i> <i>platatum</i>		
55266 ✓ <i>Eriogonum</i> <i>trichophyllum</i>		



66	67
26 May 75 (cont.)	
✓ 55267 <i>Erodium</i> ^{atropurpureum} var. <i>angustifolium</i>	- open flat washes - Sec 4 6700'
✓ 55268 <i>Lycium pallidum</i>	- open canyon bottoms + ridges - Sec 4, Sec 9 6600'-7200
✓ 55269 <i>Salvia henryi</i>	- Canyon bottoms - Sec 4, Sec 9 6800'-7200
✓ 552610 <i>Allium</i>	- not yet in bloom - Sec 4, Sec 9, Sec 10
✓ 552611 Unk ^{for} <i>Pseudocymopterus montanus</i>	
✓ 552612 <i>Castilleja integrifolia</i>	hillsides See 4, Sec 9
✓ 552613 <i>Oenothera</i> ^{occidentalis}	Ridge under Pinon-Juniper Sec 10 7400'
✓ 552614 <i>Scutellaria</i>	Canyon bottom in wash See 4 6600'
✓ 552615 <i>Heuchera</i>	Ridge among limestone Sec 9 7300'
✓ 552616 <i>Styrax oxyphyllum</i>	Meadows, hillsides, ridges See 4, Sec 9, Sec 10
✓ 552617 <i>Hedysarum occidentale</i> ^{glance}	(over) Meadows See 4 6600'
	rostrate), no stems
✓ 552618 <i>Henckelia</i> ^{probably} <i>versicolor</i>	or <i>leptophylla</i> See 9 ^{Eastern} Cliff face @ 7200'

68	69
16 May 75	Mesa 5 mi S of Bloom field beside Hwy 49
	<i>Gilia</i>
	<i>Gilia Phlox</i>
	<i>Asclepias</i> <i>tridentata</i>
	<i>Castilleja</i> <i>lineigera</i> ?
	<i>Streptanthus</i> <i>longirostris</i> ?
	<i>Thlaspi</i> <i>rotundifolium</i> ?
	<i>Astragalus</i> <i>lanceolatus</i> (<i>amphioxys</i> ?)
23 May 75	
	Gila Canyon Dam
	<i>Lupinus</i>
	<i>Oxybaphus</i>
	<i>Astragalus</i> <i>amphioxys</i> ?
22 Jun 75	
	Peganum harmala - 1.8 mi. W. of Las Cruces Airport entrance on shoulder of old highway - these are the first plants I have seen in D.A. County ^{except} _{at eastern border}
	three plants only.
	<i>Linum aristatum</i> , <i>Gilia longistylis</i> , <i>Dalea pogonathera</i> , <i>Baileya multiradiata</i> ,
	<i>Nama hispida</i> , <i>Viguiera</i> , <i>Senecio longifolia</i> ,

70

Sep 15 - Long Canyon Box just above Falls

Perityle cernua and *Perityle coronopifolia* delta growing intermixed! Only such occurrence I have seen. *Silene planktii* mostly finished blooming.

961 - *Eupatorium griggii* - among grass and rocks

962 - *Perityle coronopifolia* - on cliffs & boulders

963 - *Stachys coccinea* - in box under oaks.

964 - Composite or amaranth - rock crevice - *Tragia heterophylla*?

965 - *Macrorhynchus*

966 - Composite

967 - *Agastache cana* - cliffs above Long Canyon on west side @ 6500' NW 1/4, Sec 7

968 - *Perityle cernua* - " " " " " " " " " " "

969 - only a half dozen plants seen - also many

969 → more *Silene planktii*

9610 *Bidens* - upper Long Canyon bottom

9611 *Talinopsis frutescens* - 2nd Canyon west of Long Canyon - NW 1/4, Sec 7, T24S, R4E - 5500'

71

72

19 Oct 75

North San Andreas Peak

SW 1/4 of SW 1/4 Sec 21, R4E, T18S

elev 6700 - 7000' (i.e. ca 2100 m)

10191 *Petrosymum coccineum*

10192 *Pinaropappus parvus*

10193 *Cirsium perenne*

10194 *Ostrya ignotiflora*

10195 *Perityle stansphylla*

10196 ? Borage?

10197 *Phacelia*

10198 Mint - growing appressed to
cliffs = *Silene suave*

73

12 Aug 76

- NORTH OF MOCKINGBIRD GAP

~~Psathyrotes~~ **PSILOSTROPHE**

Linum

Oenothera runcinata?

- RANGE ROAD 8, 16 MI. W OF OSCURO,

SOUTH FOOTHILLS OF OSCURO MTS

Verbena

- MALPAIS SPRING

Eustoma

ALLENRODGE

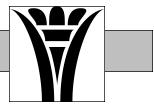
Limonium

Samolus

Zannichellia?

- CA 1 MI S OF MALPAIS SPRING ALONG
ROADSIDE (RANGE ROAD 9)

Frankenia



74

3 January 1976

301031 *Peritrope Stansfeldia* Bug Scuffe Canyon 4800 ft NE $\frac{1}{4}$ Sec 29, T19S, R11E
 301032 " " Grapevine Canyon 4800 ft SE $\frac{1}{4}$, Sec 29, T19S, R11E

75

21 Aug 76

- Bearion Canyon - between two Inj or springs just above junction of Rio Puerco - subsp of *Co. rotundifolia* (*Co. aculeata* or *wilcoxiana*) and plants of *Pleotheca brachyfolia*.
- At junction of Forest Roads 433 and 437 in Sec, 11 R12E, T18S at abt 9300 ft under spruce; plants of *Goodyera* not in bloom. In same area in mature spruce - *Zigadenus elegans* (760821-1)
- On Forest Rd 64 just north of junction with Russia Canyon Road
 - *Cirsium pallidulum* (760821-2)

3 June 76

- Akela overpass on I-10 and near Tucumcari I-25 - *Penstemon* and *lignes*
- State Highway 90, Black Range, 2 mi E of Emory Pass - *Chrysanthia petiolaris*
- 1 mi E of Emory Pass - *Spiraea parasitica*, *Ceratostylis viscidula*, *Antennaria aploidea*
- Along Highway 90 from Galisteo Creek to Grey Eagle Mine - *Robinia neomexicana*.

76

27 May 77

Small rocky hill NE of Rough and Ready Gap - *Brickellia coulteri*,
Allium macrostylum, *Eryngia microsiphia*, *Erigeron* sp.,
Linaria texana, *Borage*, *Townsendia* sp., *Phacelia* sp.,
Malacothrix sp., *Patensia*, *Gilia* sp.

77

28 May 77

Indian Cooch honeysuckle ~~lumosa~~ *Symplicia* sp., *Eigeron* sp.,
Echinocereus triglochidiatus - bluish phase,
 On Animas Peak *Senecio wootonii*, *Senecio* sp., *Arenaria* ~~ver~~ ^{var} *merriamii*?,
Lonicera arizonica, *Robinia neomexicana*, *Antennaria* sp., *Thermopsis*?,
 Aspen, *Castilleja* sp., ~~Heuchera~~ *Heuchera glomerata*

Everything terribly dry!

5 Jun 77

- ✓ NE side of Black Mountain, San Andres, SW $\frac{1}{4}$ Sec 32, T20S, R5E ¹⁵⁰⁰ ~~1500~~ - ^{1550 m.}
 ✓ On vertical strictly N facing cliff, 40 plants of *Polygalopsis* ^{versicolor} ~~versicolor~~ ^{merriamii} ~~merriamii~~ ^{var} ~~var~~ *sauvagesii*
- ✓ In canyon bottoms in rock crevices, *Penstemon laevigatus*, 11 different canyons,
- ✓ few plants @ any location, already in fruit,
- ✓ *Texomaria* just beginning to bloom
- ✓ *Philadelphus* like Ash Canyon and Dog Canyon more like *Ernestii*; then *Mearnsii*, already mostly bloomed. In three of 4 canyons

78

5 Jun 77 (continued)

- ✓ *Perityle stenophylla stenophylla* in full bloom, quite a bit in each canyon.
- ✓ *Castilleja* ca 8 dm tall in arroyo.

79

21 Aug 77 Most plants collected were in a narrow steep canyon on the north face of North Organ Needle from 7000 - 8000'. Evergreens mostly Douglas, ^{other trees} mostly Gambel oak and *Acer grandidentatum*. Soil was damp although there was little moisture lower down. Bare rock showed ~~Pine~~, *Siem. laevigata*, *Perityle cornuti-folia*, etc. Steep boulder slopes had *Pericome canescens*, *Urtica*, *Scrophularia leavis* (this canyon had the largest population I've seen - no where heavy, but scattered up and down the canyon) other things in bloom - *Oxalis*, *Heuchera leptomeria*, *Maianthemum*, *Arenaria*, Canyon is in SE 1/4, Sec 31 and SW 1/4, Sec 32, R 4 E, T 22 S

80

4 Sep 77

Hike to Winn Falls from Herb Marfry Campground

Just above campground on open southeast facing hillside with oak - Milla biflora -

Brychytigma -

On way up - *Salvia nemorosa*, *Stachys coccinea*, ~~Pa~~

Trichostema sp was in pocket on open steep face, south east facing.

At Falls - *Pinon pappas*?, *Elymus*, *Astianthus pedatum*, *Mimulus* *cordigalpis*, *Pericome canescens*, *Eupatorium*, *Brickellia*,

Rubus, *Venetrum*, *Cornus stolonifera*, *Amelanchier alnifolia*, *Thalictrum* sp., *Heuchera sauvagesii*, another *Heuchera* sp.)

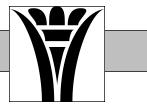
81

3 June 78

Walked up Little Creek from the ~~Grila~~ Little Creek Box seep area. *Pestemus pseudospectabilis* in bloom all along. In seep 50-100 *Cyp. cataphractus* var *pubescens* (dwarf form) in bloom. Also in bloom *Viola nephrophylla* var. *arizonica*, *Senecio querculus*, *polycephalus*. *Rubus parviflorus*, *Achillea millefolium*. Saw an *Ag. trifolia* beside stream. *Pleurothallis* in seep so thick in places no grass was growing - but not in bloom yet. Things were really dry though the stream was running nicely.

11 Jun 78

Went up to Little Creek again to look for my last lens. Went the mesa route. Very dry. A few *Pestemus barbatus* and an *Elymus*. 3 hrs to seep because



82

I went around west side of hill and came down above but so had to climb back out. *Cyp. calocarpa* almost gone. *Peltaria sparsiflora* (some huge plants) now with half spikes in bloom. *Zigadenus virescens* with flower stalks up but not developed. *Vitis nephrophylla*, *Agave chrysanthia*, *Rubus parviflorus* still blooming. *Aeonium californicum* just beginning as was *Saxifraga arguta*. 2 hrs to go back along east side of hill. Temp in high 40's. *Mimulus guttatus*, watercress, also in bloom at sea.

83

16 Jun 78
Erythrina flabelliformis in Texas Canyon
 Walked up about 1/2 hr to Ranch in Ramsey Canyon, San Geronimo Mtns. *Philadelphus microphyllus* var. *stramineus*?
Bouvardia glaberrima
 Noted *Arbutus arizonicus* past bloom
Perityle coronaria folia not in bloom
Hexaleptis!! almost in bloom
 just above cliff face that have golden eagle nest.
 17 Jun 78 Up Ramsey Canyon onto Forest Service land.
Lilium ~~Poppy~~ in Box canyon
Habenaria blimosa along stream just beginning
Corallorrhiza Wisteriana on Forest land long past (in fruit)

84

18 Jun - Went up Carr Canyon (west south of Ramsey) *Erythrina flabelliformis* along road. *Jatropha macrocarpa* also under oaks. Went up to granite cliff face - only *Perityle coronaria*. *Agave chrysanthia* past bloom. *Penstemon barbatus* var. blooming. *Dalea ordii*? also. Everything very dry.

14 Jun 78 - Up east side of Cook's Range to see Arizona cypress stand. No *Perityle* on east facing limestone cliffs. On way up saw *Penstemon ramosus* and *Hymenoxys quinquesquamata*, both characteristic of SE AZ and further showing the affinity

85

of Cook's Range with AZ. Also in bloom *Hymenoxys radiatus* *Ptelea* in fruit

2 Jul 78
Peganum horrida along road
 3 mi east of Trona in
 San Gorgonio County

18 Jul 78 - Gila Wilderness or River
Lytthrum californicum
Epilobium sp. *Houstonia*
Penstemon - 2 sp.
Agastache rupestris
Mentha spicata
Polygonum *Salicifolium*
Pellaea *limonifolia*?
Lomatium nudicaule?
Perityle coronaria
Adonis *Engelmianiana*



86

21 Jul 18 Rough & Ready Hills
Eschscholzia Schaefferi var *microcarpa* has
 a ~~seed~~ fruit, not yet ripe. Check again
 in August. Also saw the following:
Mesodora scabra var *scabra*
Zinnia grandiflora
Pectocaria wrightii
Trixis
Stephanomeria
Hoffmannseggia
 Taxed *Pectocaria laevisifolia* Benth.
 in Gray's & Underwood's. Apparently
 currently accepted epithet is
P. pauciflora Greene
 = *P. pauciflora* Greene
 See Crosswhite, Sida ii, 266. 1966.

87

29-30 Jul 78
 Went to SW corner to check
 on *Hexaleptis* in Anza Mts w/
 Andy. Given map key by Mrs Burris
 so didn't take time to get in. Went
 to Cross Ranch and west on Cross
 property to Sec 8, R 21 W, T 33 S.
 Walked toward Guadalupe Spring across
 into what would be Sec 12, R 22 W, T 33 S.
 In Sec 12 collected *Pitcairnia nodosa* in
 tank. Also collected 4 herbs in Sec 7
 including what appears to be *Chileanthus*
wrightii. Also in Sec 7, *Pectocaria*
linearioides. Very little in bloom.
 Crossed Geronimo Trail & camped
 on Cottonwood Creek @ Miller Spring.
 Walked up right fork (south) past
 Silvertip Mine into N. Mex. Everything
 dry but just starting a little.
 Then west to Rosewood Hills on

88

Guadalupe Canyon Road (AT, Sec 1,
 R 31 E, T 24 S). Found
Amolexia, *Polygonum tweedyi*,
P. macrocarpum, *Adonis coulteri*,
Mammillaria sp., in bloom.
New guyeri - like *Mammillaria* not
 in bloom - Andy found 4 more.
Jatropha macrocarpa also in bloom,
 subsoil moist.

89

Mimosa, *Acanthothamnus*?, *Chrysopa*,
Graviera, *Trixis*, *Croton*, *Euphorbia*,
Hediondila, *Sabicea*, *Condalia*?

Everything extremely dry - most
 forbs and grasses brown & withered.
 Perennials & shrubs primarily green
 things.

3 Aug 78 Plants seen above HTA
 @ South end of San Andres at Bear
 Peak. *Juniperus deppeana* & *monosperma*,
Berberis *Pinus edulis*, *Quercus*,
Coryphantha (*Eschscholzia*?), *Mammillaria* sp.,
Echinocactus *intertextus* & *leucacanthus*,
Echinocactus *triglochidiatus*, & *thoracanthus*,
Opuntia (*akloha* + *prickly*), *Stropharia* *verrucosa*,
Heliotropium *Fendlerella*, *Stephanomeria*,
Eriogonum (two species, at least)

14 Aug Rhodes Canyon
 Mtns due S of Hildre Ranch
 387 A 3.2 Miles E
 Rhodes Canyon Range (3887 A)
 Noted in bloom along Rhodes Canyon
 Road *Zinnia grandiflora*, *Pistostrophe* *aggregata*
^{2 sp. 1 sp.} *poneraria* *aggregata*, *Cirsium* sp.,
 On sheer N.E. cliff face @ 7400 in
 Sec 34, R 2 E, T 12 S - *Petrosphytum* *cepsitum*,
Perityle *stansburyi*, white Mustard *Lesquerella* *montana*
 on white mountainside down to road



90

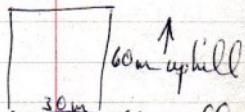
was Scutellaria tesselata (resinosa?).
also, particularly under pines - was
Hymenoxys sp. - noted on
mountainside Hymenopappus radiatus,
a few Spiraea aggregata, Senecio sp.,
Polygala sp., Gilia sp.,
By road Pentstemon Jamesii, Montessori sp.,
In shaded narrow draw at 6800 ft
on NE slope, a suffrutescent plant
or Ligustrum I've never seen before.
Also on slope 1 sp Chrysanthemum,
Solidago sp., Brickellia sp.,
Pistia sp.

Hedema

This is the new Salvia -
habitat - north facing & gypseous
limestone slope w/ pinyon, juniper,
scrub oak, Ceanothus sp., (a 6800
in Sec 34, T12S, R 2 E,
Returned to location 18 Aug 78 - Found
on single hill - not on 5 similar hills

close by - may be up higher - since some
already in seed apparently blooms at
least as early as July & possibly in
May - probably related to rainfall.
Obtained a Cacti lega on some hillsides

4 Sep - returned to location, very few
blooms - saw a hummingbird at the
site but not at the flowers. Again
surveyed site. Plants cut off sharply
on all four sides. Site probably
abf this



Went to next hill south - no
plants.

In meadow by Rhodes Canyon Rd & tank
Salvia reflexa sp., Euphorbia dentata
Sauvitalia abertii ✓
Among rocks under crape myrtle near mouth

92

of Cottonwood Canyon - Polygala
scoparioides ✓
Along Rouge Road 7 south of
crystal beds - Solidago
Also in meadow near Red House
Spring. Berlandiera Erythraea ^{Evergreen} _{yellow}
+ in Rhodes Canyon bottom Petalostemum
Stephanomeria ^{concolor} _{panellifera} hercoglossum

15 Oct 78 - returned to Hedema site to
gather seed. Found 12 seed in
ca 100 calyces, one had two, the
others one. Apparently seed set very
poor. Calyx leathery, tough, with no
room for developing seed which may
limit number that develop. No blooms
at this time.

went to side of Gyp Hills -
found Santolina floridana, a Hedema
probably annual, a Mentzelia (perennialis)

24 Nov 78 Long Canyon
Found many plants of Perityle cernua
in next small canyon west of Long
Canyon Box - only on strictly east and
north vertical cliffs or ledges overhanging
water running in Long Canyon intersected
above Box and over falls - also in
canyon west of Box where there
was Mimulus in bloom plus Iresine
Found Perityle coronopifolia widespread
& still a few blooms, Agastache caerulea
in Box w/ a few blooms, Perezia wightii
still blooming, several Erigeron,
many Maurandya gumaria, Perilla in fruit,
Erythronium still blooming,
Lepidium montanum var. tufti in Box.
Nicotiana growing and blooming.

Phacelia (populi?) blooming
Brickellia renosa (var. wootoni?)
Hymenoxys sp.
Other composites.

93



94

4 Mar 79 - Next hill S of Quartzite Mtn, San Andres - small stream in bottom between two hills - very little in bloom. *Corydalis aures*, *Streptanthus* sp., *Draba cuneifolia* var. *cuneifolia*, *Thlaspi texana*, *Phacelia caerulea*, *Thlaspi microphylla*, *Ephedra*, *Lesquerella* sp., *Cryptantha* sp., *Astragalus nuttallianus*, *Descurainia* sp., - noted *Eschscholzia mexicana* in bloom nr. Organ (also *Astragalus mollissimus* n.s.)

5 Mar 79 - Sec 17, T20S, R3E
1 1/2 mi E of Taylor Well at
W SMR Boundary *Selinia dissecta*
in large numbers

95

28 Mar 79 - Mesa north of Goat Mtn - *Oenothera albicans*, *Oenothera chrysanthemoides*, *Draba cuneifolia*, *Grilia flavescens* or ~~erecta~~, *Descurainia* sp., *Nama hispida*, *Galium proliferum*, *Astragalus nuttallianus*, *Lindernia glaberrima*

East foothills of Goat Mtn, all of above plus *Lepidium*, *Eschscholzia mexicana*, *Erodium texanum* (past blooming), *Echinocereus triglochidiatus* (just beginning), *Desmodium* sp., ~~Calochortus~~ *Calochortus* sp., ~~Malacothrix~~ *Malacothrix* sp., *Dalea formosa* (just starting), *Eucrypta micrantha*, *Phacelia caerulea*, *Lupinus caninus* sp., *Lotus* sp., ~~Lathyrus~~ sp., *Astragalus nuttallianus*, *Hedysarum occidentale*

96

13 Apr 79 - Went out by Taylor Well to Ash Canyon. *Selinia dissecta* scattered from W SMR boundary to Middle Well. At Middle Well, *Tragopogon* and *Grilia* (*Eriogonum*?). On hillside, east facing, above Ash Canyon, *Astragalus castetteri* and *Castilleja sessiliflora* beginning. On west facing hillside above springs, *Anemone tuberosa* still with a few blooms. *Feuerula rupestris* just beginning. *Aquilegia chrysanthemum* just starting. *Elymus*, *Leucadens*, *Lesquerella gooddingii*, *Draba* through, *Lepidium* sp. beginning. There are three Arizona cypresses at Ash Canyon spring, the largest about 1.5" dbh. *Chiono* just starting. There ~~is~~ is lots of water this year. The maiden hair

97

fern is starting to come back from the bad freeze two years ago. *Streptanthus* all over.

Malacothrix sinuata and *Chisholmia villosa* also. *Philelaphus ericetorum* not yet in bloom. *Fraxinus* just leafing out.

6/3/79 - Went into Organs - Achenback to Soleback to North Canyons & return - In bloom *Asclepias speciosa*, *Verbena wrightii* (rare), *Erigeron* sp., *Dalea purpurea*, *Daphne laureola*, *Comandra* sp., *Hypolepis spinulosa* var. *Feuerlini* (last), *Psathyrotes linarioides* (early), *Eschscholzia mexicana* (late), *Polygala tweedyi*, *Oenothera organensis* (North Canyon), *Malacothrix* sp., *Stephanomeria* sp., *Anoda* sp., *Sphaeralcea* sp., *Erythroloma* sp., *Acacia* sp., *Mimulus luteus*,

102

29 Aug 79
 Jornada Range Road
Caesalpinia Jamesii, *Dalea*
surcospa, *Kallstroemia parviflora*,
Palaeoxia, *Gerrardia Diffusa*,
Psilostrophe, *Zinnia grandiflora*,
Lepidium virginicum var *medium*,
Croton, *Baileya*,

103

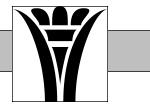
30 Aug 79
 Engle Gate - Rhodes Canyon
Orobanchus multi-flora, *Hedysarum*
drummondii, *Gilia rigidula* *acerosa*,
Solanum rostratum, *Cestrum* *integerrima*,
Polygala alba, *Psilostrophe*, *Viguiera*
Ipanopsis aggregata, *Salvia lucida*,
Asclepias subverticillata,
Chamessaracha conoides, *Sphaeralcea*

104

2 Sep 79
 N side above (north) of Hg Research Ranch
Stachys coccinea, *Trichostema arizonicum*
Hedionia oblongifolium, *Penstemon*
lucidus, *Elytraria imbricata*,
Tradescantia pinetorum, *Polygala*
weedyi, *Stephanandra paniculata*,
Cyperus rotundus, *Chenopodium* *Feei*,
Croton corymbulosus (all over)

105

10 Jun 79
 Lv 1C 0615 80455
 At End of Rd 500 104580610
 Collected *Eriogonum* n. sp. on S-facing
 rhyolite cliff in Sec 28, T11S R10W!
 just above bed of Diamond Creek.
~~There~~ probably < 100 plants.
 Cliffs are tall, white to pink w/
 columns.



106

30 June 81
 Rhodes Canyon Tarns - 8128.55
 Granite Gap - 81264.0
 R. C. Rouge Camp - 81275.3

Collected buds of Hedonea
tschernii at type locality.

Collected buds of the un-described
 var. homo flora of Perityle sturtevithii
 at Granite Gap / the last locality
 that the variety was found along
 w/ a voucher specimen.

Went to Three Rivers Campground
 and walked up Three Rivers
 Trail past 1st two crossings.
 Returned because of threatening
 rain - got soaked. Collected
Polemonium filicinum and
Achillea borealis? or leucolepis?

107

26 Jul 81
 hv hC 0800 81800

@ Hwy 52 - 81878.8

Winston 81989.2

Chlorite Creek 913.2

Collected Medicago, Plantago major,
 composite, Geranium crenophyllum.

At 913.3 collected Phacelia rapistris,
Monarda austroruticana and a small
 mustard.

At 913.4 and 913.55 collected
Maurandilla hegedei, mustard, composite.

Inside canyon at 913.7 collected
Scutellaria, Eupatorium, Thalictrum
faulderi?

At ~~916~~ 916 in wet area collected
Epilobium adenocaulon and Rorippa
sphaerocarpa?

Winston 81923.7
 Las Cruces 1600 - 82033.4,

Botany is the natural science that transmits the knowledge of plants.
 — Cinnaeus