



Fendler (1 - 833)

New Mexico

PLANT
23.4

The species marked with red ink are in sufficient number for Distribution that is to say more than 3 specimens

The red numbers are those finally adopted - the numbers in pencil are those of the specimens

Ranunculaceae
No. 1 *Pleurotheca lippincottii* Nutt.
Santa Fe, 1st - 19th July 1841.
Moro River 15th August.
Creek bottom land, near the water climbing to the tops of trees & shrubs. Also Rio de los Animas between Bent's Fort & Santa Fe.
Fruit: 15th August - 16th January.

No. 2

3 *Astragalus Ochteris* Pall.
Santa Fe, 1st May - 3rd June.
Creek foot of and sides of steep rocks in shady places near the creek. Climbing over shrubs.
2 *Pleurotheca Pitcheni*.
Council Grove, 21st August 1846.
Creek bottom land. = 5

A few miles East of Council Grove. 17th August 1840. High bank of a dried up creek.

4 *Anemone cylindrica*
A few miles East of Santa Fe, Creek valley in the mountains. Shady places, foot of rocks near an irrigating ditch.
16th - 24th June 1847.

Anemone cylindrica - fruit
A few miles South of Kansas Riv. 2nd September 1847.

5 *Pulsatilla patens*.
Santa Fe, Eastern mountain range. 17th - 26th April.
Lesser hills at the foot of mountains on gently sloping northern declivities; tolerably good soil.

6 *Caltha leptosepala* DC.
Sunny margin of the Creek, 6 miles above Santa Fe, (in the mountains). Fertile soil.
3rd June 1847.

7 *Ranunculus tridentatus* Nutt.
Santa Fe, 2nd May - 19th October.
Creek bottom, wet places.
Form large patches by sending off runners in all directions.

8 *R. affinis* B. Hook.
Santa Fe 26th April - 16th June.
Creek bottom, moist places.
Stem upwards of 18 inches high.

9 *Aquilegia Canadensis*
Santa Fe, Creek valley in the mountains; fertile soil between rocks; also sunny side of mountains.
26th April - 3rd June.

10 *Delphinium azureum*
Poni Creek between Bent's Fort and Santa Fe. Bottom-land near the creek among willows.
3rd October 1846.

11 *D. azureum* var.
Banks of Moro River N. Mex. Low fertile soil. 15th August 1847.

12 *Actaea rubra* Willd.
Santa Fe, Creek valley, between the mountains, damp shady places, fertile soil.
20th May - 3rd June in flower
8th July - in fruit.
Sepals white, petal none, stem erect.

13 *Thalictrum comite* L.
Santa Fe, Creek valley, shady places, margin of irrigating ditch at the foot of perpendicular rocks.
13th June - 1st July in flower
19th July in fruit.
Flowers dioecious.

I find no specimen with this number but
suppose a form of the last number,
Trilobium is meant by it
Bottom land of Mora River.
15th August 1847.

Berberidaceae.

14 *Berberis (Mahonia) Aquifolium*

26th April - 15th May 1847.
Upper part of Santa Fe Creek valley,
sides of mountains, near the top
as well as the feet of them; also
on the creek bottom.

Evergreen leaves, most of them eaten
partly eaten by animals.
Fruit ripens by the 28th of July.

15 *Berberis Fendleri*, n. sp.

Santa Fe Creek, foot of steep
and rocky banks, not far from the
water.

Shrubs of from 3-4 feet high.
18th - 31st May 1847.
Some specimens have the lower
leaves sharp serrate.

Ranunculaceae.

One of the varieties of *Argemone*
mexicana; I find no specimen with
this number.
3rd September 1846. At Almaden Creek,
rather low prairie.

Valves of the capsula 4, with
prickles the points of which are
directed towards the apex.

Argemone mexicana, a less
hispid form

27th August 1847. Upper Spring
(Cimarron Riv.) N. Mex.; prairie.
Valves of the capsula 3, 84 with prickles, the
points of which are directed away from the apex.

16 *Argemone hispida*, n. sp.

7th June - 28th July 1847.
Santa Fe. Low, low, sandy pla-
ces, in the neighbourhood of fields.
Stem upwards of 2 feet high.
Socially in great numbers.

Fumeraeae.

17 *Gomphalis aurea*

15th April - 20th July 1847.
Santa Fe, Creek valley, between
rocks, generally near the creek,
also moist gravelly parts of the
creek-bed, exposed to occasional
inundations of the creek.

Cruciferae.

38 *Veronica alpina*, Nutt.

19th April - 31st May 1847. On the
lesser hills West of Santa Fe, stony,
pebbly and dry soil, gently sloping
declivities (both sunny & northern),
amongst stones.

Fruit. 29th April - 7th June.

39 *V. Ludoviciana*, DC.

Santa Fe, dry gravelly hills,
24th May 1847.

40 *V. Fendleri*, n. sp.

Santa Fe, Lesser hills, 2nd May 1847.
A fruit specimen very different from
those of No. 39, also some difference
in the leaves.

41 *Draba cuneifolia*, Nutt.

15th April - 11th May 1847. Santa
Fe; Creek-bed, in parts exposed
to inundations; gravelly moist
soil; petals 4, white.

42 *D. micrantha*, Nutt.

8th - 24th May 1847. Rio del
Norte, sunny side of ravines.
Siliques more rounded and some
what dotted; stem nearly smooth.

46 *Lepidium alypsoides*, n. sp.

Mountain valleys, from Santa
Fe East to Rabbit Ear Creek
New Mex. 10th - 20th August 1847.
There seem to be 2 different forms
of this plant.

44 *Thlaspi cochleariforme*, DC.

19th March - 5th June 1847.
Santa Fe, Creek bottom on the
mountains, also foot of mountains.
Petals 4, white.

18 *Nasturtium sinuatum*, Nutt.

8th May - 17th August 1847.
Rio del Norte, flat sandy bank,
washed by the water, East to
Mora River.

19 *N. obtusum*, Nutt.

25th May - 23rd June 1847. Santa
Fe, Creek-bottom, low wet places.

21 *N. sphaerocarpon*, n. sp.

29th June - 25th July 1847.
Santa Fe Creek, low wet places
and margin of the creek.

45 *Lepidium nudicale*, L.

16th June - 15th July 1847.
Santa Fe, Eastern mountain
range, near the irrigating ditch
of a field.

20 *N. palustre*, var.

Santa Fe, wet meadows and
moist places of the creek bottom.
27th May - 24th June 1847.

Santa Fe, 12th July 1847. moist
soil near irrigating ditches.

27 *Turritis patula*, Graham

30th March - 15th May 1847.
Santa Fe, Creek valley. Moist
sandy soil on parts of the creek
bed, exposed to occasional inun-
dations. Rarely on hills between
rocks.

24 *Streptanthus linearifolius*,
n. sp.

13th - 18th July 1847. Santa Fe.
Sunny side of a hill, amongst
rocks.

22 *Streptanthus longifolius*, Nutt.

7th July to
10th August 1847. Santa Fe,
Upper part of the creek valley,
foot of mountains.

23 *Streptanthus micranthus*, n. sp.

26th July 1847. Santa Fe Creek,
margin of the water. Flowers
minute.

24 *Streptanthus linearifolius*,
n. sp.

11th August - 15th August 1847.
Mountainous region of, from Santa
Fe to Ogas New Mex.

25 *Arabis hispida*, S. & P.

6th June - 28th July 1847.
Santa Fe Creek, bottom in the
mountains; margin of the creek,
also in shady moist places.

26 *Turritis glabra*, L.

24th June 1847.

32 *Sisymbrium irio*, L.

24th April - 19th May 1847.
Santa Fe; dry gravelly hills;
Petals 4, yellow. Plant rather
socially.

33 *Eryimum asperum*, DC. Hook.
n. sp. fruit.

14th - 17th August 1847. San
Miguel to East of Rock creek
(New Mex.) Spots of fertile and
loose soil on high prairies.

34 *E. asperum*, var.

15th May - 12th July 1847. Santa
Fe, Creek valley, level somewhat
damp ground foot of mountains.
also *E. asperum* var.
35 Rio del Norte, 24th May 1847.
On a ledge of rock high up on the
steep mountain-bank of the
river.

28 *Cardamine cordifolia*, n. sp.

16th May - 16th June 1847.
Margin of Santa Fe Creek
in the mountains.

43 *Draba aurea*;

8th May - 28th July 1847. Santa
Fe Creek, shady steep declivities
and foot of mountains, also rarely
on the creek bottom and low banks
of the creek.

37 *Sisaris nigra*.

21st June - 26th July 1847. Santa
Fe, near irrigating ditches
not far from fields.

29. *Sisymbrium Ippia*. L.
15th August 1847. Bank of Moro River, Rio Arriba.

31. *S. Ippia*.
16th June - 25th July 1847. Santa Fe, margin of the creek, 5 miles East of Santa Fe, in the mountains.

30. *S.?* *indica*.
16th - 24th June 1847. Santa Fe creek, foot of mountains.

Capparidaceae.

36. *Stanleya pinnatifida*. Nutt.
27th September 1846. 15 miles North E. of Rio de los Animos, between Bent's Fort & Santa Fe.

48. *Polemia trachysperma*. Torr. & Gr.
2nd - 28th August 1847. 4 miles W. Colorado to the crossing of the Cimarron R. (New Mex.) rather low places.

47. *Cristatella Lanieri*. Torr. & Gr.
28th August 1847. Between crossing of the Cimarron Riv. and Yellow Star (New Mex.). Deep sandy soil.

49. *Oleum integrifolia*. Torr. & Gr.
7th June - 19th October 1846-7. Santa Fe, low level places near the (somewhat sandy) near the town, also near the creek. East as far as Cow Creek. Annual herb. Flower white, the same

Violaceae.

50. *V. cucullata*.
8th September 1847. Pawnee Fork, steep bank of the river, loose soil.

51. *V. canadensis*.
15th May - 15th July 1847. Santa Fe, creek bottom in the mountains, shady damp places, fertile soil, sometimes margin of the creek.

50. *V. cucullata*.

26th April - 28 June 1847. Santa Fe, creek valley. Margin of the creek and level moist places.

Cistaceae.

52. *Lechea minor*

15th August 1846. 60 miles West of Independence.

Hypericaceae.

53. *Hypericum Scouleri*.

16th June - 28th July 1847. Santa Fe, creek bottom, in the mountains, margin of the creek and moist places.

Caryophyllaceae.

63. *Silene Menziesii*, Hook. & G.

12th May - 25th June 1847. Santa Fe, eastern mountains, creek bottom, near the creek between some hills. Sep. 5; Petals 5, (by abortion 4) cleft, (inside of a petal showing the 2 little elevations near the base of the blade), altern.; Stam. 10, (5 higher than the ovary).

59. *Mollispermum nudum* F.

15th May 1847. Santa Fe, creek valley foot of mountains gently sloping declivities between some (only in one region). Pet. white.

55. *Drymania sparguloides*, Nutt.

Santa Fe, creek valley in the mountains, open level tract, where cattle and horses were always grazing. Also between Santa Fe & New, 28th July - 10th August 1847.

61. *Cerastium nutans*, Nutt.

20th May - 16th June 1847. Santa Fe, creek bottom in the mountains, near the creek. Sep. 5 cleft. Plant. viscid, especially the upper part of it.

62. *Stellaria lanuginosa* Torr.

16th June - 12th July 1847. Santa Fe, creek valley in the mountains between rocks near the creek.

54. *Sagina Linnaei*, Presl.

24 May - 28 June 1847. Santa Fe, creek valley, moist level soil. Flowers minute, Pet. white.

65. *Silene multicaulis*, Nutt. (late - *S. Drummondii*, Hook.)

25 - 14th July 1847. Santa Fe, creek valley in the mountains, margin of the creek.

64. *Silene Antiochia*, L.

15th - 28th July 1847. Santa Fe, creek bottom in the mountains.

57. *Arenaria Fendleri*, n. sp.

14th August 1847. Prairie, 5 miles West of Vegas, New Mex. Flower white.

56. *Drymania tenella*, sp. nov.

14th August 1847. 8 miles West of Vegas, New Mex., woodland on the mountain region, shady place. Differs from *S.* in the size & shape of its bracts.

66. *Silene Scouleri* Hook. & G.

14th August 1847. Woodland 6 miles West of Vegas, New Mex.

58. *Stellaria lanuginosa*, Torr.

11th August 1847. 2 miles East of Moro Riv., at the foot of high rocks.

67. *Silene stellata*

24th September 1847. A few miles South of Fort Laramie.

60. *Drymania cordata*, Willd.

10th August 1847. A few miles East of Santa Fe.

Melicaceae.

68. *Arychida dichotoma*, Nutt.

25th September 1847. Creek bottom about 20 miles East of Moro Riv.

69. *Panicum Lanieri*, Torr. & Gr.

17th September 1846. A few miles East of Big Horn Creek, between crossing of the Arkansas R. and Bent's Fort. High prairie, gravelly soil.

14th August - 17th September 1847. From San Miguel (N. Mex.) to Council Grove, loose soil.

70. *P. axilliflora*, Nutt.

25th August 1847. A few miles West of McVee's Creek, N. Mex.

Portulacaceae.

71. *T. parviflorum*, Nutt.

28th July 1847. Santa Fe, creek-bottom in the mountains, on a level tract of grazing ground.

71. *T. parviflorum*, Nutt.

25th August 1847. Between Rabbit Ear & McVee's Creeks (N. Mex.) Flower: lilac.

72. *Salinum calycinum*, Engelm. in Wild. Report.

3rd September 1847. Sand hills 4 miles South of the crossing of Arkansas Riv. Flower: fine red, the size of a dime.

73. *Portulaca pilosa*, L.

3rd September 1847. Crossing of the Arkansas Riv. sand-hills south of that Riv. Flower red, near the size of half a dime.

74. *Portulaca slossera*

5th August 1847. Santa Fe, common in waste places about town. Flower: deep yellow.

Malvaceae.

75. *Malva brevis*, Nutt.

15th June - 8th August 1847. Santa Fe, yards & waste garden places.

76 *Malva involucrata* Nutt. var.

31st August 1847. A few miles West of Lower Spring (Gimmaron)

76 the same as last

8th September 1847. Banks of Pawnee Fork.

77 *M. involucrata*, var.

24th & 25th August 1847. Low moist places at Rabbit Ear & M. News Creeks, N. P. Mex.

79 *Sidalcea* ~~*N. Mexicana*~~ *N. Mex.*

30th June - 31st July 1847. Santa Fe, moist meadows.

80 *Sidalcea candida*, n. sp.

24th June - 28th July 1847. Santa Fe creek bottom, near the creek.

81 *Malvastrum eococcineum*

5th June 30th July 1847. Santa Fe, neighbourhood of fields & watercourses.

78 *Sphaeralcea miniata*, Spach

1st June 4th August 1847. Santa Fe wet meadows and near the walls of gardens, &c.

82 *Malvastrum eococcineum*.

24th May - 3rd September 1847. Santa Fe, plains & foot of the lesser hills, near ditches. East of Rock Creek. Also, Poni Creek betw. Bent's Fort & Santa Fe.

Linaceae.

Linum perenne

83. 23rd May 1847. Santa Fe level rather fertile tracts; pet. blue.

83. *Linum perenne*

15th - 26th August 1847. (Between Vegas & Moro Riv. (N. Mex.) and a few miles east of Cold Spring (Gimmaron).)

85. *L. Burandii*, var.

1st May - 18th July 1847. Hills about Santa Fe, gravelly dry soil. Flowers fugacious in the highest degree.

This 85 may be a new variety of 84 or a peculiar species which could be named *L. puberulum*; probably

85. *L. Burandii* ^{the first.}

3rd - 11th June 1847. Santa Fe. In an old dry irrigatory ditch.

This plant seems to differ from the preceding one in having the claw of the petal of the same colour as the blade, while the preceding one has the upper part of the claw brown.

85 same as last

9th August 1847. Between Willow Bar & Middle Spring (Gimmaron)

85 same as last.

10th - 26th August 1847. Moro Riv. to Cold Spring (Gimmaron)

84 *Linum Werlandjovi*

29th August 1847. 16 miles East of Middle Spring (Gimmaron)

85 *Linum rigidum*

15th - 20th Sept. 1847. a Prairie, between Turkey Cr. & No. Creek.

Geraniaceae.

87 *Erodium cicutarium*.

15th April - 20th October 1846. Santa Fe, Creek bottom and foot of hills not far from the creek. Found a plant of this kind in flower even as late as 21st March, when the greater part of the creek valley was covered with deep snow.

88. *Geranium* ^{Richard Mini} ~~*psacotatum*~~ *var. albiflorum.*

5th June - 28th July 1847. Santa Fe, Creek valley, shady places, moist soil near the creek. I never found this plant growing in any dry localities.

89 *G. ~~pentagonum~~*

31st May - 28th July 1847. Santa Fe Creek near irrigating ditches at the foot of mountains.

90 *Geranium* ^{Hendler, Anshin,} ~~*pentagonum*~~ *high. plant widely*

18th August 1847. 5 miles East of Moro Riv., bottom land.

89. *G. ~~pentagonum~~* ^{Caspatium (Arenaria)}

18th August 1847. Seems to differ from 89 only in its color. - 6 miles East of Moro R.

Oxalidaceae.

91. *Oxalis Vespatilis*, Torr. & G.

7th July - 8th August 1847. Santa Fe, margin of irrigating ditches, and in low wet places. Marsilea without fructification!

24th May 1847. Rio del Norte. Leaves floating on the surface of the water in shallow places.

92 *Oxalis stricta*

7th September 1847. Between Coon Creek and Pawnee Fork. Road side.

Balsaminaceae.

93 *Impatiens pallida*

14th August 1848. 90 miles West of Independence, ^{at lower part of} creek bottom, rich soil.

Zanthoxylaceae.

94 *Ptelea, angustifolia*, Nutt.

15th May 1847. Rio del Norte steep and rocky banks (trap formation). Shrubs from 7 to 10 feet high. Leaves of an agreeable odor.

95 same as last.

5th May 1847. Rio del Norte. Deep ravines in the mountains.

Tricardiaceae.

96 *Rhus copallinum*

7th August 1847. ^{at lower part of} bottom land, a few miles South West of the upper ferry.

97 *Rhus leucantha*, Torr. & G.

8th July 1847. Santa Fe, Creek valley, steep rocky mountain sides.

26th April 1847. Fruit specimen in the same locality from the preceding year, in the same locality.

98. *Rhus Toxicodendron.*

11th - 21st June 1847. Santa Fe Creek valley in the mountains, shady banks. Upwards of 4 feet high. Sociably.

99 *R. trilobata*, Nutt.

25th May 1847. Fruit specimens. Rio del Norte. Precipices of the mountains and steep rocky banks of the river. Shrub from 3 - 8 feet high, possesses a peculiarly disagreeable odor. The berries of this shrub leave greasy spots on the paper in being dried.

Also, 10th August 1847. Moro River, rocky left side; ripe & unripe.

99 *R. trilobata*, Nutt.

8th May 1847. Rio del Norte. Flower specimens from the same region with 99.

Zygophyllaceae.

100 *Kallstroemia mexicana.*

24th May - 6th August 1847. Rio del Norte and Santa Fe. Open level places, loose soil about town, near fields and waste places; adnate to the ground. The leaves of this plant when wet impart to the paper a yellow dye.

Aceraceae.

102. *Negundo acuminata*, Varr.
male spec: 22nd April 1847.
Santa Fe, Cashton mountain range,
Creek valley, near the margin of
the creek and in low situations
at a small distance from the same.
Large trees; in a part of the trunk
generally very knotty, which
seems to arise from the many
wounds the tree receives early
in spring, in order to draw the
sap from it. This sap is gathered
in holes cut in the trunk of the
tree at a little distance below the
wounded places.

semi-specimens.
Leave & fruit specimens. 30th
April - 1st May 1847.

102. *Negundo acuminata*
Raxinifolia
8th September 1847. Pawnee Fork,
Creek-bottom.

101. *Acer tinpatium*, Nutt.
12th - 28th May 1847. A shrub 15 feet
high, of slender growth, in shady
places near the creek, Cashton
mountains, Santa Fe.
31st May - 6th June, fruit.

Celastraceae.

103. *Saphylea triplata*
17th August 1846. 25 miles East
of Council Grove.

104. *Claytonia scandens*
10th Septbr. 1847. Shady bottom
land of 110 Creek. somewhat
twining.

106. *Beaunites Fendleri*, n. sp.
flowers 4. 24th & 25th June 1847. Santa Fe
Cashton mountains, sunny side.
fruit sp. A shrub about 1 1/2 foot high and
2 feet in diam.
28th July 1847. in fruit.

105. *Creopelia*, Nutt.
Pachystima Myrsinites B. Meyer.
15th May - 3rd June 1847. Santa
Fe, Creek valley in the mount-
ains. Soil of mountain, shady
steep declivities in soil consist-
ing of decomposed rocks intermixed

with vegetable mould. An ever-
green shrubby plant about 1 foot
high. Short roots consisting for the
greater part in the older branches
which by coming in contact with
the ground send down rootlets, and
are therefore but slightly covered
with soil.

Vitaceae.

108. *Vitis*
Vitis quinquifolia
17th August 1847. 2 miles East of
Moravia. at the foot of high mts.

108. the same
28th July 1847. Santa Fe, creek-
valley, between rocks.

107. *Vitis riparia*, Nutt.
25th May 1847. Rio del Norte.
steep desolate places of its high
rocky bank, near the water, with
their tendrils fastened to other
shrubs.

Polygonaceae.

109. *Polygonum Persicaria* L.
13th August 1847. Low prairie,
a few miles West of Logans.

110. *P. alba*, Nutt.
25th - 28th August 1847. From
Rabbit-Car Creek to Willow bar,
road side.

Leguminosae.

111. *Vicia truncata*, Nutt.
14 October 1846. Between Colora-
do & Bermejo creeks, level prairie,
good soil.

111. the same
3rd June - 10th July 1847. Santa
Fe, creek valley, foot of mountain.

113. *Vicia micrantha* Varr?
8th May 1847. Rio del Norte. Shady
places in deep ravines between
rocks.

111. *Vicia truncata*, Nutt.
7th July 1847. Santa Fe, Creek-
valley.

111. the same as last species
17th August 1847. 2 miles East
of Mora River.

112. *Vicia Americana*, Mill.
25th June 1847. Santa Fe, neigh-
bourhood of a field.

115. *Lathyrus polynanthus*
8th May - 25th July 1847. Santa Fe,
Creek valley; most abundant near
irrigating ditches in the lower
part of the valley. Flowers of
different colors, but most generally
of a deep crimson which turns
into deep blue on drying. This
plant is never observed to be eaten
by any domestic animal.
fruit 30th June.

116. *L. palustris* Varr.
31st May - 3rd June 1847. Santa
Fe, lower part of mountain
sides.
flower of a rusty color.

117. *Phaseolus leiospermus*, Torr.
5th Septbr. 1847. 3 miles West of
Fort Starr (near the Arkansas R)
bank of a Creek.

119. *Phaseolus Helvolus* L.
28th August 1847. Willow bar,
low wet bank of the creek.

121. *Glycimeria lepidota*, Nutt.
18th August 1846. Low places
in the prairie, 12 miles East
of Council Grove.
Also: Santa Fe, 23rd June -
4th July 1847. Creek valley and
in waste places about Fawn
and near fields.
Plant viscous, and leaves a

print of its shape in green color
on the paper.

122. *Prunella floribunda*, Nutt.
14th August - 9th September 1847.
From San Miguel to Cow-
Creek, high prairies.

123. *P. angustifolia*, Nutt.
29th August 1847. Between
Willow Bar & Middle Spring
(Cimmaron).

Amorpha canescens
124.
14th October 1846. Santa Fe
vicinity.

125. *Amorpha canescens*.
14th August 1847. 7 miles West
of Logans, woodland. Plants
2 - 3 feet high.

126. *Amorpha fruticosa*, Varr.
17th August 1846 - 8th Septbr. 47.
120 miles West of Independence
to Pawnee Fork. Shrub from
3 to 5 feet high.

127. *Dalea alpestris*, Torr.
10th July - 13th September 1846 47.
Santa Fe, margin of irrigating
ditches near fields. Also
Low prairie near the Arkansas
River.

132. *Dalea formosa*, Torr.
14th May 9th June 1847. Santa
Fe. Dry gravelly hills, sunny
sides.
A shrub of dwarfish growth,
1/2 to 1 foot high; stem and branches
very crooked and confusedly
intangled in each other.
Fruit spec. 21st June 1847.

133. *Dalea Lanieri*, Torr.
21st May 25th August 1847. Santa
Fe, sunny sides and foot of
stony gravelly hills.
East to Mc New's creek.

131 Dalea saxiflora

27th August 30th Septbr. 1847. Upper Spring (Cimmaron) to Walnut Creek. Prairie.

129 D. aurea, Nutt.

15th - 27th August 1847. From Vegas to Upper Spring (Cimmaron) Prairie.

130 D. nana, Torr. & G. Donnell.

29th August 1847. Willow Bar, Cimmaron, sandy soil.

128 Dalea lanata, Spreng.

28th August 1847. Between the Crossing of the Cimmaron R. & Willow Bar, low sandy places in the prairie.

127 Dalea serotina, Nutt. = 141

25th September 1847. A few miles West of Elk Creek. Prairie.

134 Petalostemon villosus, Nutt.

28th - 29th August 1847. Between the Crossing of the Cimmaron and Middle Spring. Sandy soil.

135 P. candidum, Michx.

11th - 26th July 1847. Santa Fe, near fields.

14th August 1846. About 90 miles West of Independence; steep side of a rocky bluff.

20th August 1847. Middle Spring (Cimmaron).

136 Petalostemon candidum

21st September 1847. Prairies a few miles South West of the upper ferry of the Kansas Riv.

137 P. violaceum, Michx.

14th August 1847. 5 miles West of Vegas.

138 P. violaceum, Michx.

13th - 24th August 1847. Between Willow Bar & Middle Spring, Cimmaron. Sandy soil. Also Cjo de Bernal.

139 P. macrostachyum, Torr.

30th August 1847. 18 miles West of Lower Spring, Cimmaron) Prairie.

140 Trifolium involucreatum, Nutt.

3rd October 1846. Boni Creek, between Bent's Fort & Santa Fe. Also: 15th June 1847. Santa Fe Creek-bottom, near the water.

141 Melilotus pariflorus, Nutt.

17th June & 19th October 1846 - 7 Santa Fe, low somewhat wet places about town.

142 Medicago sativa, L.

23rd June 1847. Santa Fe, enclosed field amongst weeds & C. r. talia.

143 Horackia Purshiana.

2nd - 6th Septbr. Between Fort Man (Arkiv) and Walnut Creek, high prairie.

146 Astragalus ^{Diphysus, n. sp.} ~~cyaneus~~

21st April - 9th May 1847. Plains about Santa Fe. Red sandy soil; socially, of rather low depressed growth, but in patches from 1-2 feet tall. I never observed, that this plant had been eaten by any animal at all soever.

147 A. ^{Diphysus} ~~compertus~~, var. fl. albis.

10th - 15th May 1847. Santa Fe. Together with the preceding one, flower white.

171 Sophora sericea, Nutt.

15th - 26th August 1847. Near Moro riv. to Cold Spring, (imad) prairie.

148 Astragalus cyaneus, n. sp.

22nd April - 28th May 1847. Santa Fe; gravelly hills and lesser mountains amongst rocks.

149 A. Missouriensis, Nutt.

8th - 25th May 1847. Rio del Norte and Santa Fe. Stony hills.

151 A. - 2-lobed legum.

Santa Fe. 28th May 1847. Dry gravelly hills.

156 A. Antiochianus, B. Michx. capus.

25th May 1847. Rio del Norte (Near its Bank).

152 Astragalus mollissimus, Torr.

26th August 1847. Between McTeer's Creek and Cold Spring (Cimmaron) Prairie.

153 A. mollissimus, Torr. Lam.

2nd August 1847. Neighbourhood of Cjo de Bernal. (New Mex.)

154 Oxytropis Lambertii, Pursh.

5th August 1847. Moro riv; prairie.

155 O. campestris, B. Michx.

5th August 1847. Between Rabbit Ear and McTeer's Creek.

150 Astragalus hypoleucis, L.

15th August 1847. Moro riv; prairie.

144 A. regalis, n. Phaeo. n. sp. + tall.

21st August 1847. Between Colorado Riv. & Rock-Creek (New Mex) in prairie.

157 Phaca Fendleri, n. sp.

Between Santa Fe & Pecos. Woodland in the mountains. 10th August 1847.

161 Phaca picta, n. sp.

8th - 25th May 1847. Rio del Norte, loose sandy soil not far from the river especially around and between low shrubs. Flower: sometimes white.

159 Phaca ^{gracilentia, n. sp.} triflora, DC.

19th April. 28th June 1847. Santa Fe; sunny and steep declivities of stony hills.

157 the same as the last

28th May - 28th June 1847. Santa Fe.

156 the same as 165

24th May, 1847. Santa Fe.

158 P. gracilentia, n. sp.

11th July 1847. Santa Fe; hills.

160 Phaca macrocarpa, n. sp.

5th - 13th June 1847. Santa Fe; sunny hillside, between rocks under protection of shrubs.

164 L. pedicela capitata

16th Septbr. 1847. Cottonwood Creek to Kansas river; dry prairie.

165 L. pedicela capitata, n. sp.

24th Septbr. 1847. 8 miles South of Fort Lavenworth; gullies along the roadside.

166 Lupinus ^{decumbens Torr.} ~~sericeus~~

8th May - 30th June 1847. Santa Fe. Level places in the neighbourhood of fields & sand irrigating ditches; rather socially. Fruit: 30th June - 2nd August 1847.

167 L. ^{var. angustifolius.} ~~sericeus~~

21st June 1847. Santa Fe; lower light rose color.

168 L. ^{var. ?} ~~sericeus~~

24th June 8th July 1847. Santa Fe, Creek valley in the mountain foot of mountains.

169 L. ^{var. ?} ~~sericeus~~

3rd October 1846. Boni Creek, between Bent's Fort and Santa Fe; low prairie.

170 Thermopsis montana, Nutt.

28th May 3rd June 1847. Santa Fe, Creek valley, 5 miles above Santa Fe. Foot of mountains, and in level moist places.

172 Ceris canadensis

18th Septbr. 1847. Council Grove, Creek bottom.

173 ^{Hippocrepis Lamerii, Torr.} ~~sericea, Nutt.~~

28th August 1847. A few miles West of the head of Cimmaron riv and at Willow Bar, road side.

174 Cassia chamaecrista

31st August 1847. A few miles West of the Lower Spring (Cimmaron).

180. no specimen

14th August 1847. Between San Miguel and Vegas (New Mex.)

179 Desmanthus Lamerii, Torr.

4th Octbr. 1846. A few miles South of Rayado Creek; hills, some sandy soil & some gravelly soil.

10th - 25th August 1847. A few miles East of Santa Fe to the Pecos Riv.

178. *Desmanthus brachylobus*, Nutt.

14th August 1846. Slack creek bank, low prairie.
29th August 1847. Between Willow and Middle Spring (Lincoln).

177. *Chrankia angustata*

21st August 1846. Council Grove grassy hillside.

180. *Mimosa borealis*, n. sp.

27th August 1847. Upper Spring (Lincoln), hillside.

114. *Cicer arietinum*

8th August 1847. Santa Fe, cultivated.

145. *Tragulus canadensis*

11th August 1846. 2 miles south of Kansas river; woods, roadside.

13th August 1846. About 100 miles west of Independence, on the more elevated places of the river bottom.

175. *Cassia marylandica*

21st August 1846. Council Grove; low places. Plant from 4 to 6 feet high.

118. *Apocynum tuberosum*

24th August 1846. Council Grove, sloping bank of the creek and to the bottom land.

120. *Amphicarpa mucronata*

24th August 1846. Council Grove, creek bank.

162. *Desmodium sessilifolium*

16th August 1846. 17 miles west of Independence; upper part of the creek bank.

163. *Desm. Dillenii*

16th August 1846. 17 miles west of Independence; bank of a creek, and in bottom land.

170. *Kentrophyta montana*, N.

7th June 1847. Santa Fe, gravelly hillside, socially.

Rosaceae.

182. *Prunus americana*

22nd August 1847. Rock Creek, creek bottom.

186. *Cercocarpus Virginiana*

17th August 1847. 2 miles east of Moro, Tex. (New Mex.); foot of high rocks.

183. *Prunella vulgaris*?

1 Santa Fe, Creek valley, at no great distance from houses. Trees of about 30 or 40 feet high, branches spreading very much.
20th April 1847. In flower
8th May 1847. in leaf

185. *Cercocarpus demissa*, Nutt.

18th May - 3rd June 1847. Santa Fe Creek, steep rocky banks, at the margin of the creek.
15th July in fruit

187. *Spiraea angustifolia*, V. paniculata

25th - 16th June 1847. Santa Fe Creek, foot of hills. A shrub about 1 foot high.

28th July 1847. in fruit

190. *Geum macrophyllum*, W.

18th May - 12th July 1847. Santa Fe Creek bottom - near margin of the water; in tile soil.

192. *G. rivale*, L.

16th June 1847. Santa Fe, margin of the creek on the mountains.

193. *Hallugia paradoxa*

24th May - 4th October 1840. Rio del Norte and Grayado Park between Santa Fe and Santa Fe. 2 miles at ravines and steep rocky banks of the river. Shrub from 2 to 5 feet high.

195. *Agriemonia Eupatoria* var. ~~alt.~~

30th - 28th July 1847. Santa Fe, creek bottom near the water.

196. *Agriemonia eupatorioides*

17th August 1846. 10 miles south of Fort Leavenworth.

191. *Geum virginicum*

17th August 1846. 15 miles east of Council Grove; creek bottom.

197. *P. fissa*, Nutt.

24th June - 15th July 1847. Santa Fe, creek valley; sunny side of mountains between rocks. 11 miles above Santa Fe. Plant viscid.

201. *P. Pennsylvanica*, B.

16th August 1847. Moro River; hillside.

202. *Potentilla Pennsylvanica*, B. confusa.

25th June - 8th July 1847. Santa Fe Creek valley in the mountains, 9 miles above Santa Fe; foot of mountains, sunny side.

199. *Potentilla crinita*, n. sp.

15th - 15th July 1847. Santa Fe, creek bottom; also foot of hills not far from the creek, sunny side.

203. *Potentilla rivalis*, Nutt.

22nd June - 16th July 1847. Santa Fe, creek bottom, margin of the creek.

198. *Potentilla diffusa*, n. sp.

16th - 15th June 1847. Santa Fe, creek bottom, moist soil.

200. *P. Anserina*, L.

15th May - 24th June 1847. Santa Fe, creek bottom and moist meadows.

197. *P. fissa*, B.

19th October 1846. Santa Fe, damp places.

204. *P. fastigiata*, Nutt.

3rd June 1847. Santa Fe, creek bottom at some distance from the water.

205. *P. Anserina*, L.

16th June - 15th July 1847. Santa Fe, creek valley in the mountains, 9 miles above Santa Fe; foot of mountains.

206. *Fragaria Virginiana*, Pursh.

26th April - 1st June 1847. Santa Fe, creek, sunny declivities of the mountains; more frequent.

at the foot of mountains, and in the valley not far from the creek. Socially, and intermixed with the following one.

207. *Fragaria vesca*, L.

22nd April - 15th May 1847. Santa Fe, creek valley. In similar situations with the former preceding one, though generally not so high up on the mountains.

208. *Rubus Nutkanus*, Moq.

11th - 16th June 1847. Santa Fe, bank of the creek, shady places.
28th July, in fruit.

209. *R. strigosus*, Michx.

11th May - 24th June 1847. Santa Fe, creek valley in the mountains, shady place near an irrigating ditch.
24th June, altern. with red, and at right angles to the soil.

210. *Rosa blanda*, Nutt.

16th - 24th June 1847. Santa Fe, creek, near its margin.

211. *R. blanda*, B.

24th August 1847. Rock Creek (New Mex.) creek bank amongst other shrubs.

212. *R. Woodii*!

22nd August 1847. Rock Creek (New Mex.), bottom land.

212. *Dr*

15th August 1847. Banks of Moro River. (New Mex.)

213. *Amelanchier canadensis*, alnifolia.

12th - 5th July 1847. Santa Fe, creek valley in the mountains, 9 miles above Santa Fe, sunny side of mountains.

184. *Prunus domestica* (cult.)

30th April 1847. Santa Fe, near house, east of house.

Spiraea dumosa, Nutt.

188. *Spiraea (Pentstemon) cespitosa*.
15th July 1847. Santa Fe, upper part of the creek; steep sunny sides of mountains. Shrub about 4 feet high.

189 *Epipactis maculata*

21st August 1847. Rio Colorado (New Mex.), thin layers of soil upon and between ledges of rocks near the river bank.

194 *Epipactis parviflora*, Nutt.

30th July 1847. on fruit. Santa Fe, Creek valley, on the mountains. Steep rocky sunny side of steep rocky mountains. Shrub 8 to 10 feet high.

Lythraceae.

214 *Ammannia latifolia*

24th August 1846. Council Grove creek bed.

214 same

18th Sept 1847. Bluff Creek bottom, about 16 miles East of Council Grove.

20th Sept 1847. Bottom of 110 Creek.

215 *Lythrum alatum*

2nd August 1846. Council Grove.

215 the same

1st August - 1st Sept 1846-1847. 18 miles South of Fort Leavenworth and prairie a few miles South West of the upper ferry of Kansas river.

Enagraceae.

216. *Epilobium angustifolium*.

24th June - 28th July 1847. Santa Fe, Creek Valley on the mountains, in ravines, flowers purple.

217. *E. coloratum*, Nutt.

16th June - 30th September 1840. Santa Fe creek bed gravelly wet place near irrigating ditches, grassy margin of the creek.

Also: Bluff Creek between Bands Fort & Santa Fe, on bottom of the mountains.

230. *R. (Salpingia) Fendleri*, n. sp.

29th May - 18th July 1847. Santa Fe sunny hill side. also: Rio del Norte bank of the river, flower of a sulphur color, which turns to be red in a few days after opening and in drying.

222 *R. cornifolia*, J. Torr.

28th May - 10th July 1847. Santa Fe, Creek valley. on different localities on soil that was dug up in the spring to elevate the side of an irrigating ditch.

Also: on the sunny side of a small hill in places where the soil was full of ants. Petals white but turning into red when drying.

223 *R. pinnatifida*, Nutt.

22-10th July 1847. model of the gravelly soil near the river. Petals white showy. also: Santa Fe. *biennis*, var. *hirsutissima*.

218. *Ruellia Hottelii*

24th June 1847. Santa Fe, creek valley in the mountains, foot and sunny sides of mountains. Plant 2-3 feet high.

219 *Onoclea biennis*?

19th September 1847. Prairie betw. Bluff Creek & 110 Creek.

220. *R. biennis* } *caesca*.

12th August 1846. Low prairie, 20 miles of the lower ferry of Kansas river. Plant 4 feet high.

223 *R. pinnatifida*, Donk.

19th June - 18th July 1847. Santa Fe. In and near fields in cultivated places. Flowers white. b. to same with white flowers.

1st July 1847. Santa Fe.

221. *R. sinuata* v. *hirsuta*.

2-8th July 1847. Santa Fe, hillside near a field.

230 *R. Fendleri*

28th August 1847. A few miles West of the crossing, ford of Cimmaron river.

230. *R. Fendleri* = 237, *foliis angustioribus*.

23-31st August 1847. 7 miles East of Rock Creek to a few miles West of the Lower Spring, Cimmaron R.

228. *R. (Pachylophus) Fendleri*.

16th June - 19th July 1847. Santa Fe, Creek bottom.

229. *R. serrulata*, Nutt.

25th August 1847. McVee's Creek (New Mex.) Wandy hill side.

229 the same as last

21-28th August 1847. Low prairie from Rio Colorado to the Ford of the Cimmaron R.

229. *R. serrulata*, Nutt.

12-15th August 1847. Ujo v. Serrul. to Vegas (New Mex.)

224. *R. pinnatifida*, var. *integrifolia*. the same as 243, fol. integr.

23rd June - 18th July 1847. Santa Fe, near irrigating ditches. Also.

28th August 1847. Between the ford of the Cimmaron R. and Willow Bar, a land.

224 the same as last, more caescent

29th August 1847. About 10 miles East of Middle Spring, Cimmaron

225. *R. speciosa*, var.

1st Sept 1847. Creek bottom, about 20 miles East of 110 Creek.

225 *Onoclea speciosa*.

11th August 1846. 20 miles East of Council Grove, dry prairie.

226 *Onoclea putrescens* var.

24th August 1846. Council Grove, low place.

227. *R. caesca*, Torr. & Frem.

1st Sept 1847. Sand Creek (New Mex) margin of a low swampy place.

231. *Gaura epilobioides*, H. B. K.

17th May - 28th August 1847. Santa Fe near fields. Sep. 4, reflexed; Oct. 4, altern., next rose color changing to deep red.

18th June 1847. Santa Fe. Petals white changed to yellow.

11th July 1847. 30th Sept 1846. Walnut Creek, low prairie.

232 *Gaura villosa*, Torr.

28th - 29th August 1847. Between Willow Bar & Middle Spring (Cimmaron).

233 *Gaura biennis*

12th August 1846. A few miles South of the lower ferry of Kansas River. Bottom land.

234. *Gaura parviflora*, Dougl.

27th August 1840. 30 miles West of Council Grove, creek bank.

15th August 1847. Bottom land at Moss river (New Mex.). Plant upwards of 15 feet high at Middle Bar (Cimmaron).

234. - " -

15th Sept 1846. Between low pr. and Walnut Creek, low prairie. Flower white.

235 *Penstemon virgatus*

21st Sept 1847. 10 miles South West of the upper ferry of Kansas River, prairie. Plant 4-5 feet high.

236 *Ludwigia palustris*

18th Sept 1847. Bluff Creek, bottom land, near the water.

237 *L. alternifolia*

12th August 1846. A few miles South of the lower ferry of Kansas River.

238. *Hippuris vulgaris*.

15th May - 7th June 1847. Santa Fe on the water of a pond near its margin.

189
Spirea cuneifolia

21st August 1847. Rio Colorado (New Mex.), thin layers of soil upon and between ledges of rocks near the river bank.

194
Spirea parviflora Nutt.

30th - 15th July 1847. on fruit. Santa Fe, Creek valley on the mountains. steep rocky sunny side of steep rocky mountains. A shrub 8 to 10 feet high.

Lythraceae.

214
Ammannia latifolia

24th August 1846. Council Grove creek bed.

214
same

18th Septbr 1847. Bluff Creek bottom about 26 miles East of Council Grove.

20th Septbr. 1847. Bottom of 110 Creek

215
Lythrum latifolium

2nd August 1846. Council Grove.

215
the same

11th August - 1st Septbr. 1846-7. 18 miles South of Fort Leavenworth and crosses a few miles South West of the upper ferry of Kansas River.

Cruciferae.

216. *Epilobium angustifolium*

24th June - 28th July 1847. Santa Fe Creek Valley, on the mountains, in ravines, flowers purple.

217. *E. coloratum* Nutt.

16th June - 30th September 1840. Santa Fe creek bed gravelly wet place near irrigating ditches, grassy margin of the creek also.

Raton Creek between Bart's Fort & Santa Fe. Even bottom in the mountains.

230. *R. (Salpingia) Fendleri* n. sp.

24th May - 18th July 1847. Santa Fe sunny hill side. also: roadside to bank of the river, flower of a sulphur color, which turns to be red in a few days after opening and in drying.

222. *R. trichos*

28th May - 10th July 1847. Santa Fe, Creek valley. on different localities on soil that was dug up in the spring to elevate the side of an irrigating ditch.

Also: on the sunny side of a small hill in places where the soil was full of ants. Petals white, but turning into red when drying.

223 *R. pinnatifida* Nutt.

3rd - 10th July 1847. model of 18th Fe. Gravelly soil near the river. Petals white showy. also Santa Fe. *viennis* var *hirsutissima* n. sp.

218. *Ranunculus Holkeri*

24th June 1847. Santa Fe creek valley in the mountains, foot and sunny sides of mountains. Plant 2-3 feet high.

219 *Oenothera biennis* L.

19th September 1847. prairie betw. Bluff Creek & 110 Creek.

220. *R. biennis* } *canescens*

16th June - 1846. dry prairies, 20 miles of the lower ferry of Kansas River. Plant 4 feet high.

223 *R. pinnatifida* Dougl.

19th June - 18th July 1847. Santa Fe. In and near fields in rather elevated places. Flowers white.

6th June - same with white flowers

12th July 1847. Santa Fe.

221. *R. sinuata* v. *hirsuta*

3rd - 8th July 1847. Santa Fe, hillside near a field.

230 *R. Fendleri*

28th August 1847. A few miles West of the crossing ford of Cimmaron River.

230. *R. Fendleri*
= 237, *foliis angustioribus*

23rd - 31st August 1847. 7 miles East of Rock Creek to a few miles West of the Lower Spring, Cimmaron R.

228. *R. (Pachylophus) Fendleri*

16th June - 19th July 1847. Santa Fe, Creek bottom.

229. *R. serrulata* Nutt.

25th August 1847. McVee's Creek (New Mex.) sandy hill side.

229 the same as last

21st - 28th August 1847. Low prairie from Rio Colorado to the Ford of the Cimmaron R.

229. *R. serrulata* Nutt.

13th - 15th August 1847. Ujo u Sernal to Vegas New Mex.

224. *R. pinnatifida*, var *integrifolia*

the same as 243 fol integr.

23rd June - 18th July 1847. Santa Fe, near irrigating ditches. Also.

18th August 1847. between the ford of the Cimmaron R. and McVee's Bar. a land.

224
the same as last, more caesecent

29th August 1847. about 10 miles East of Middle Spring, Cimmaron

225. *R. speciosa*, var.

11th Septbr. 1847. Creek bottom, about 20 miles East of 110 Creek.

225
Oenothera speciosa

11th August 1846. 10 miles East of Council Grove, dry prairie.

226
Oenothera frutescens var

24th August 1846. Council Grove, low place.

227. *R. canescens*, Torr. & Frem.

1st Septbr. 1847. Sand Creek (New Mex) margin of a low swampy place.

231. *Gaura epilobioides* H. B. K.

17th May - 28th August 1847. Santa Fe near fields. Sept 7, reflexed; Oct 4, altern. upright rose color changing to deep red

18th June 1847. Santa Fe. Petals white changed to yellow.

11th July 1847.
3rd Septbr. 1846. Walnut Creek, near low prairie.

232 *Gaura villosa*, Torr.

28th - 29th August 1847. Between Willow Bar & Middle Spring (Cimmaron)

233 *Gaura biennis*

12th August 1846. A few miles South of the lower ferry of Kansas River, Bottom land.

234. *Gaura parviflora* Dougl.

27th August 1840. 30 miles West of Council Grove, creek bank.

15th August 1847. Bottom land at Moss river (New Mex.). Plant upwards of 15 feet high at Willow Bar (Cimmaron).

234. - " - "

15th Septbr. 1846. Between low Bar and Walnut Creek, low prairie. Flower white.

235 *Plenoclypeus virgatus*

21st Septbr. 1847. 10 miles South West of the upper ferry of Kansas River, prairie. Plant 4-5 feet high.

236 *Ludwigia palustris*

18th Septbr. 1847. Bluff Creek, bottom land, near the water.

237 *L. alternifolia*

12th August 1846. A few miles South of the lower ferry of Kansas River.

238. *Hippuris vulgaris*

15th May - 7th June 1847. Santa Fe on the water of a pond near its margin.

Loasaceae.

239 Mentzelia ^{ligonema} ~~sericea~~

1st August 1846. Council Grove on hills between rocks.

242. M. pumila, Nutt. 1847

1st June - 14th July 1847. Santa Fe near fields. Flower very seldom open in the daytime.

240. M. ornata, Torr. 1847

21st August 1847. Between Rio Colorado and Rock Creek, low prairie. Stems 3-4 feet high, much branching.

242 - 266, M. in ...

17th September 1846. Gravelly and pebbly hillsides, from the ford of the Ar. Kansas R. to Bent's fort.

243. M. nuda, var.

17th August 1847. 2 miles east of Moro Riv., low prairie.

240. M. nuda,

25th August 1847. Ste. Peter's Creek, 8th August 1847. Same place; prairie. Stems 4 feet high. Flower vesperite.

Cactaceae.

(Different from M. vivipara?)

244 and ...

8th July 1847. Santa Fe. To Cactus No. 1.

Eastern mountain range at a moderate height and near the foot of 13th May 1847. Santa Fe. To Cactus No. 3. mountains, between pieces of rock.

Also frequently on the road from Bent's fort to Santa Fe on hills and high prairies. Plant not more than 2 inches above the ground. Subglobose or obovate with the upper part hemispherical. Either solitary or in pairs. There are some specimens not so much as several subterranean branches which ramify again & again in elongating, and at they reach the surface where each ramification bears a globose plant at its apex. Spines straight, radiating at right angles to the axis of the

resp. mammiform or conical tubercles, white, thin more like fine needles with the exception of from 2-4 stronger ones, which are mostly of a red color and make larger angles with the rest of their respective tubercles

247. Echinocereus ...

13th May 1847. To Cactus No. 3. Santa Fe. Higher regions of the mountains, steep and rocky rising declivities. Also on elevated plains somewhat sandy.

Plant generally growing in large clusters, the young plants growing from the sides of the old one, on the dividing line of the subterranean part of the stem from that above the ground that is close to the soil. Sometimes in clusters of 14 individual plants.

Alternate ribs and furrows, the ribs well with radiating spines, generally 7 in number nearly in a tangential plain to the apex and a tenth one in the centre, not much longer than the rest and of a darker color. ribs 10 rarely 11.

249. Echinocereus ...

9th June 1847. To Cactus No. 4. Santa Fe, high and somewhat sandy prairie.

Young plants growing from the old ones in the same manner as in the preceding No.

Plants 10 ridges, generally 7 radiating, tangential rather stout spines with a larger somewhat curved and oblique standing one in the centre and pointing more or less towards the apex of the plant. The younger spines are more or less dark colored of a lighter shade near the apex, many of the spines are somewhat flattened.

248. Echinocereus ...

1st May - 13th June 1847. To Cactus No. 5. Santa Fe.

Higher regions of the mountains, steep and rocky sides. Also on elevated broken somewhat sandy plains.

Spines, mostly 3 or 5, somewhat

curved, stout, flattened spines with a large edge and a ridge running on the inside from the base to the apex; length of spines about 1 1/2 inch; - no central one.

251. Opuntia clavata

21st June 1847. To Cactus No. 6. Santa Fe, 20-8 miles south west of the town. Elevated plains, somewhat sandy soil; on grassy clusters of from 2-4 feet diam. never found them in the mountains or on high hills.

250. Opuntia ...

25th May 9th June 1847. To Cactus No. 7 & 8. Santa Fe. Both grow in sandy, stony and generally in stony soil, spreading over spots 2 to 3 feet diam. 7 rows of plants, flat somewhat obovate joints with 7 rows of spiny nodes on each side, each row containing 7 nodes, which are set with fine rigid bristles. The plant of No. 8. has much larger and sturdier joints, which are also as oblong obovate.

252. Opuntia ...

19th June 29th June 1847. To Cactus No. 9. Santa Fe. Foot of mountains, on moderate hills and high prairies. Upwards of 6 feet high and the lower part of the stem in some instances 5 inches diam. Spines straight. Spines lateral as well as terminal, the dry and hard, or soft and yellow.

22nd December 1846. The cotton ball adheres to the branches as strong as ever, and has not changed in its appearance in the least since in 1st November. This kind of cactus seems to survive the cold much better than the flat jointed kind No. 7 & 8. They are sometimes used on the top of mud walls, or the same purpose as broken glass bottles are used in other countries.

4th May - 4 June 1847. To Cactus No. 11. Santa Fe. Eastern mountain range, sunny declivities of the smaller mountains, common rocks.

245. Opuntia ...

15th - 1st May 1847. To Cactus No. 12. Santa Fe. Valley of the lower hills, loose sandy clay, sunnily good soil.

Grossulaceae.

256 Ribes; leaves only = 289

16th August 1847. Moro River rocky hill side.

256. Ribes - leaves only.

30th May 1847. 5 miles south west of Santa Fe. In a dry valley between the lower hills. Leaves viscid and of a yellowish tint.

257. Ribes aureum Pursh.

15th - 22 August 1847. From Moro River to Rock Creek (plain side) bottom-land and near the banks 3 to 5 feet high.

256. Ribes leptanthum, n. sp.

25th May 1847. Rio del Norte. Steep and rocky banks of the river. Shrub about 4 feet high.

254 R. leptanthum, n. sp. = 283

8th 25th May 1847. Rio del Norte ravines.

254 R. leptanthum, n. sp. = 283

29th May 1847. Santa Fe. Shrub 3 feet high.

255 Ribes cereum, Gray

12th May 1847. Santa Fe. mountain

253. *Ribes irriguum* Druel.

11th 28th May 1847. Santa Fe. margin of the creek.

255. *Ribes cereum*

11th 12th May 1847. Santa Fe. Creek. rocky bank, a few feet from the creek. Shrub 4 or 5 feet high.

Cucurbitaceae.

258 *Echinocystis lobata*

14th 14th June 1847. Hickey's farm, about 80 miles N.W. of Indian Creek.

259. *Discanthera dissecta*,

12th 2nd June 1847. Santa Fe. bottom.

260 *Cucumis perennis*

11th 30th June 1847. Santa Fe. margin of a pond, and near fields in hollows.

261 *Cucurbita* sp.

19th 31st July 1847. Santa Fe. fields.

Crassulaceae.

262 *Sedum Rhodiola*?

3rd August 1847. Santa Fe. sides of rocks on the mountains near the creek. A very rich soil.

Stems 5, white; fls. none; Stam. 10. Flower minute; leaves thick fleshy.

263 *Senthorium Sedoides*

18th 21st Septbr. 1847. Bluff Creek. bottom.

Saxifragaceae.

264. *Heuchera parvifolia* Nutt.

16th June - 28th July 1847. Santa Fe. on the declivities of mountains, on rocks. Leaves green above, purple below.

265. *Saxifraga bronchialis*.

12th May - 24th June 1847. Santa Fe. Creek. steep shady rocky banks.

266. *Philadelphus microphyllus* Nutt.

24th June - 8th July 1847. Santa Fe. Creek, sunny slope sides of the mountains between rocks. 11 miles above Santa Fe.

267 *Tamoxia americana*

6th - 22nd June 1847. Santa Fe. Creek. near the water, where the creek is settled in an hollow by high rocks.

Umbelliferae.

268 *Anirola manzanita*

18th Septbr. 1847. Bluff Creek. bottom.

269 *Picuta maculata*

18th Septbr. 1847. Bluff Creek. bottom.

270 *Picuta maculata*

15th August 1847. Santa Fe. bank.

271. *Borula angustifolia* Koch

8th August 1847. Santa Fe. Creek. bottom.

272 *Artemisia Fendleri*.

24th 25th June 1847. Santa Fe. Creek. fertile soil margin of the water.

273. *Heracleum lanatum*.

16th June - 8th July 1847. Santa Fe. Creek. margin of the water.

274. *Fendlera Fendleri*, sp. nov.

Gymnosperm Fendleri, sp. nov. 4th April - 30th May 1847. Santa Fe. gently sloping declivities amongst the gravelly hills. Rather good soil.

275. *Fendlera Fendleri*, sp. nov.

Gymnosperm Fendleri, sp. nov. 24th April 1847. Santa Fe. Socially and together with the preceding one found only in one locality.

206 *Cornus serotina*
278 *utensilis* - Nutt.

276 *Thaspium montanum*, n. sp.

26th April - 3rd July 1847. Santa Fe. Creek, sunny declivities foot of mountains.

277 *Gol*, sp. nov. under

17th August 1847. 2 miles East of Moro River. Elevated rocky region.

Cornaceae.

279 *Cornus stricta*?

20th Septbr. 1847. Bottom land of the creek.

280. *C. thronifera* Michx.

28th May - 16th June 1847. Shady shady steep and rocky bank of Santa Fe Creek, close to the water. Shrub about 10 feet high.

Loranthaceae.

281

4th November 1846, 17th March 1847. Neighbouring hills about Santa Fe and wooded places. I found this plant growing only upon the branches of the so kind of shrub cedar that grows about Santa Fe, and on no other tree. It occurs sometimes in clusters of over 100 diameters and 10 feet high. Whenever they are found they are found on many neighbouring trees, socially. The berry is globose of a light champagne colour, with a tinge of red when dried, glossy. Serves on short bran-bells, 1 or 2 rarely 3 together. The lines of delation of the joint tops of any pair of adjacent joints are at right angles to each other. Branches more or less brittle after than before drying.

282 *Arctostaphylos* Nutt.

24th March 1847. Santa Fe. mountain range; declivities of the lower mountains. Only on Coniferae. In much smaller and thinner clusters than the preceding one. Branches somewhat quadrangular. Leaves smaller, on stiff branches.

of the tree on which this plant grows, seem to be much injured by it.

283 *Arctostaphylos* Nutt.

7th March - 8th April. Santa Fe. mountain range. Lower part of the mountains in ravines. Only found on Coniferae. The branches of the tree, on which this plant grows are likewise injured by it.

Caprifoliaceae.

284 *Symphoricarpos* ?

8th Septbr. 1847. Santa Fe. Creek. bottom.

285 *P. occidentalis*

21 October 1846. Santa Fe. Creek. bottom.

284. *C. A.* var. *ph. incis*

1st July 1847. Santa Fe. Creek. bottom.

280. *Sambucus pubens* Michx.

10th - 16th June 1847. Santa Fe. Creek. margin of the water. A shrubby plant about 4 feet high.

Rubiaceae.

287 *Galium boreale*

16th June - 7th July 1847. Santa Fe. Creek. shady bank near an irrigation ditch.

288 *Galium Fendleri*, n. sp.

Santa Fe. Creek valley. Sunny side of high mountains. 15th - 28th July 1847.

289. *G. asperum*, n. sp.

10th - 29th June 1847. Santa Fe. Creek. wet places near irrigation ditches.

290 *Hephalanthe occidentalis*.

12th - 23rd August 1846. From Santa Fe. Elm Creek. A grove. Leaves are also used as a part of the irrigation water.

291. *Hedyotis (Hondonia) Nutt.*

17th - 30th May 1847. Santa Fe. Creek. West of the creek. Soil of gravelly soil with a little of the soil. Leaves blackish red.

292 *Heliotis strophylea*

1846. 26th Aug. 1847. Between
the New Creek and Cold Spring
(Cottonwood). Prairie.

292 the same as last

19th August 1846. Council grove,
hills in crevices of rocks.

Calceidaceae.

293 *Valeriana edulis*, Nutt.

15th - 18th August 1847. Vegas to
Moro River, New Mex. Elevated
rocky region.

294 *V. sylvatica*, Richard

1 22nd April - 5th May 1847. Santa
Fe Creek. Not at more than
shady spots, sometimes; not in
in crevices of the rocks.

Flower bran. etc. such as it
is not angles from root part now
or above. Inflorescences compound,
small flowers branched in substance
of a tree.

Flaw 5th from crown, near a white
5th June, 47. on fruit.

Compositae.

295 *Anomia verticillata* var.

1 Sept 1847. Ford of the Mohave
200 yds. SW. bank.

296 299 *Liatris punctata*, Hook.

14th - 8th Aug. 1847. San Miguel
in 10th loc. 2. in 10th loc. 2.

Liatris punctata, glabrous

14 August 1846. Flecked, purple,
various. Leaves linear and more
narrow, bracts of the flowers not
pointed.

the same as last

1 30th August - 15th Sept. 1846-7.

2nd Creek to Cottonwood Creek,
dry prairie. Flower spikes more
crowded; bracts of the flowers
more abundant.

the 1st specimen flower white.

300 *L. spicata*.

25th August 1847. Middle Spring
Canyon. Low prairie.
Flaw 4-6 feet high.

301 *Liatris pycnostachya*

11th Aug. 1846. 18 miles south of
Fort Leavenworth; dry prairie

298 *L. squarrosa* L. *intermedia*.

15th Sept. 1847. Prairie between
Turkey Cr. and Cottonwood Creek.

297 *L. squarrosa* Nutt.

11th August 1846. 8 miles south
of Fort Leavenworth.

302 *L. scariosa*.

1 18th August. 10th Sept. 1847. - 46
Region about Council Grove and
Fort Leavenworth. Dry prairie.

Liatris scariosa ramosa

11th Sept. 1847. Council Grove;
high prairie. Inflorescences
different from the preceding one.

Tetradymia inermis,

26th July 1847. Santa Fe; sunny
side of a hill. A shrub 2 feet high,
the only one shrub of this kind
seen by me.

306 *Brickellia grandiflora*,

22nd - 23rd August 1847. Pine Point
Creek; steep rocky side of a
ravine.

Eupatorium ageratoide:

18th Sept. 1847. Council Grove,
Creek bottom.

E. perforatum

4th Sept. 1847. 8 miles south
of Fort Leavenworth, low prairie.

E. purpureum

23rd Sept. 1847. Creek bottom;
North of Kansas River.

303 *Blavisera brachyphylla*, Nutt.

17th August 1847. 2 miles East
of Moro River (New Mex.); foot
of high rocks.

304 *Kuhnia eupatorioides*

17th August 1846, 18 miles East
of Council Grove.

Limnophis grandis B.

23rd Sept. 1846. Bent's Fort;
gravelly dry hills. A shrub
2 to 4 feet high.

305 *Kuhnia eupatorioides*, fructs

11th August 1847. Bottom of
Moro River (N. Mex.). 2 to 3 feet
high.

Kuhnia eupatorioides

11th Sept. 1847. Between Council
Creek and Pawnee Fork. Prairie.

304 *Eupatorium purpureum*

15th August 1846. About 100
miles West of Independence,
creek bottom.

310 *Eup. ageratoide*

15th August 1846. 100 miles West
of Independence, Creek-bottom.

308 *Brickellia* ~~americana~~ *affinis* ^(Mill. & Nutt.) *californica*.

16th August 1847. Moro River;
hillsides between rocks. Also.

18th August 1847. 8 miles East
of Moro River, bottom land.

309 *Brickellia Fendleri*, Nutt.

1 3rd - 28th July 1847. Santa Fe,
Creek, 11 miles above Santa Fe,
foot of mountains, sunny side.

Diplopappus ericoides, Torr.
& *pusilla*.

10th May - 19th June 1847. Santa
Fe, sides of ravines in very
dry places. Also: 2 or 3 plants

Joussaudia sericea.

19th April - 10th May 1847. Santa
Fe, gentle sloping sunny declivity
of hills, less frequently
on grassy places.

Joussaudia Fendleri, Nutt.

11th May - 2nd August 1847. Santa
Fe; hillsides, gravelly soil.

Joussaudia stizosa, Nutt.

4th - 15th May 1847. Santa Fe,
gravelly hills.

307 *Dieteria coronopifolia*.

10th August - 10th Sept. 1840-47.
Faint Creek to the Horn of
A. Kansas Riv.; loose somewhat
sandy soil. Also: a few miles
East of Santa Fe.

Joussaudia eximia, Nutt.

28th June - 15th August 1847. Santa
Fe Creek, sides of high mountains
to Moro River, prairie.

Aster More Anglie

22nd - 25th Sept. 1847. Shady creek
bank and low prairie, 2 feet
miles North & South of the up-
per ferry of Kansas River.

313 *Aster sericeus*

16th - 19th Sept. 1847. 2 or 3 miles
20 miles West of Council Grove
to Fort Leavenworth.

312 *Aster segittifolius*

17th Sept. 1847. Council Grove,
Creek bottom.

312 the same

17th August - 23rd Sept. 1847.
10 miles East of Council Grove,
and a few miles South of the
upper ferry of Kansas River,
Creek-bottoms.

23rd Sept. 1847. Prairies and
banks Creek banks, between
Kansas River and Fort Leav-
enworth.

Do not find this

28th Sept. 1840. Rio de los An-
chos, between B. & Fort &
Santa Fe, bottom-land.

Aster simplex
3^d July - 3^d August 1847. Corners
of a walled in pasture.

The same creek
15th August - 3^d October 1847. 47.
Banks of the Moro Riv. (N. Mex.)
and bottom of Poni Creek (betw.
Santa Fe & Bent's Fort).

310. *Aster laevis*.
28th July 1847. Santa Fe, creek-
valley, in the mountains, 7 miles
above Santa Fe, foot of mountains.

311. *Aster divaricatus*.
3^d Sept. 1847. Ford of Arkan-
sas riv., south side, bottom
land.

319. *A. unimachus* var.
17th August 1847. 2 miles East
of Moro Riv.

318. *Aster miser* var. *divaricus*.
22nd Sept. 1847. Creek banks
and bottoms a few miles North
of the upper ferry of Kansas
River, 5-6 feet high.

311. *Aster azureus*
1st Sept. 1847. Prairies, 12
miles South West of the upper
ferry of Kansas Riv.

Aster multiflorus capitatus
2nd August 1847. Rock Creek,
New Mex. Bottom land.

A. multiflorus
16th - 21st Sept. 1847. Cottonwood
Creek to the upper ferry of Kansas
River. Prairies.

A. oblongifolius
17th Sept. 1847. Prairies and
Creek bottoms about Council
Grove.

27th August - 17th Sept. About
Council Grove, margin of Grk.

17. *Aster cernuus*,
2nd Sept. 1840. Banks of Walnut
Creek.

3211 *A. blaydesii*.
23rd August 1847. 1 mile East
of Rock-Creek (N. Mex.)

A. Fendleri, n. sp.
20th August 1847. Ucate' Creek,
and Rio Colorado.

Egletes Munitis, var. *glabra*
25th May 1847. Santa Fe, Creek-
valley, foot of a hill.

Erigeron cinereus n. sp. B
11th April - 11th May 1847. Santa
Fe, sunny declivities, foot
of hills near waterworks, & irrigating
ditches, socially.

Erigeron canum, n. sp.
17th May - 3rd June 1847. Santa
Fe, gravelly hills, also: foot
of mountains, dry places.

Erigeron macranthum B
28th July 1847. Santa Fe, Creek-
valley, sides of high mountains
10 miles above Santa Fe.

323. *Erigeron canadense*.
19th July - 10th October 1847. Santa Fe
Creek-bottom, margin of the creek.

Corypha subdecurva DC. 23
28th July 1847. Santa Fe, foot of
mountains, high up the creek.

Boltonia glaberrima
16th Sept. 1847. Prairies, a few
miles East of Cottonwood Creek.

Erigeron cinereus B.
24th May - 11th June 1847. Rio del
Norte, low sandy banks. Also:
Santa Fe, Creek bottom, in the
mountains.

Erigeron flagellare, n. sp.
22nd May - 22nd June 1847. Santa
Fe, Creek-bottom, low moist
places.

324 *Erigeron divaricatus*
1st Sept. 1847. Between Coun-
cil Creek & Council Fork, roadside.

325. *Erigeron Bellidiflorus*, Nutt.
28th August 1847. A few miles West
of the ford of Cimarron River,
and Willow Bar, deep sand.

Erigeron macranthum, Nutt.
3rd - 15th July 1847. Santa Fe Creek,
high mountains, 11 miles above
Santa Fe.

Erigeron cinereus, n. sp. Y.
31st May 19th July 1847. Santa Fe,
Creek valley, near irrigating ditches.

Priopsis ciliata, Nutt.
38th August - 1st Sept. 1847. Between
Willow Bar and Low Creek, low
prairie.

Solidago speciosa, B. angustata.
1st - 28th July 1847. Santa Fe, Creek
valley, sides of high mountains.

7th July 1847. Santa Fe, side of
mountain.

Gutierrezia euthamiae.
23rd Sept. 1846. Bent's Fort. Also:
2nd July - 10th August 1847. Santa
Fe, gravelly hills.

Solidago rigida
2nd August 1846. Council Grove,
Prairie.

Gnindelia squarrosa.
24th June - 3rd August 1847. Santa
Fe, Creek bottom, also: moist
meadows and near irrigating
ditches.

Phryopsis villosa
~~canadensis~~, Torr.
11th June - 8th August 1847. Santa
Fe, Creek-valley, sunny hillsides
between rocks. Also:
10th October 1847. A few miles East
of Base.

C. canescens passing into *C. fulvia*.
12th July - 12th Sept. 1847. From
Santa Fe to Island Creek (N. Mex.)
dry prairie.

C. canescens var. *mana*
17th August 1847. 2 miles East
of Moro Riv. (N. Mex.) rocky
slopes.

Heterotheca scabra, B. Nutt.
29th - 31st August 1847. Middle spring
to lower spring (Cimarron), low
prairie.

Aplopappus (Bluff.) gracilis.
19th October 1846. Creek-bottom, San-
ta Fe.

Aplopappus spinulosus, var. *glaber*.
30th August 1847. 16 miles East of
Middle Spring (Cimarron), prairie.
A. spinul., var. *canescens*.
24th May 1847. Between Santa Fe
and Rio del Norte.

Colipta erecta
26th Sept. 1847. Banks of the Missouri
River, below Liberty.

Melantherum (leucanthemum)
cinereum.
17th Sept. 1846. 10 miles East of
Big Sand Creek high prairie,
gravelly soil. Also:
3rd May 1847. Rio del Norte.

Silphium integrifolium
gambroium
22nd Sept. 1847. High prairie,
a few miles South West of the
upper ferry of Kansas River.

Silphium perfoliatum
23rd Sept. 1847. Creek bottom
5 miles South of Kansas River.

Zinnia grandiflora, Nutt.
1st June - 4th October 1846-47. Santa
Fe. Dry gravelly hillside. Also:
Cajado Creek betw. Santa Fe
and Santa Fe, foot of a hill,
gravelly soil.

Euphonia pinnatifida
29th Sept. 1846. Baton mountains.

A. coronopifolia
Santa Fe, near garden with acid
soil. 2nd August 1847.

A. coronopifolia
16th & 17th Sept. 1847. Region
about Council Grove.

The same
26th July 1847. Santa Fe, Creek valley,
near the creek.

Ambrosia longifolia.
6th July - 10th August 1847. Santa
Fe, Creek-bottom and other
level places. Branches much
cumbent, upwards of 1 foot high.

Transea tenuifolia ^{H. B. K.} ~~H. B. K.~~
13th July 1847. 3rd October 1846. Pecos
Creek below Bent's Fort & Santa Fe
low land. 1500. Santa Fe foot
of hills near an irrigating ditch.

Ambrosia artemisiifolia
8th August 1847. Santa Fe,
creek bottom.

Transea acanthocarpa (Nutt.) ^{Muhl.}
20th Septbr. 1846. Dry Creek, 6 miles
East of Bent's Fort, sandy bed
of the creek.

28th August 1847. Willow Bar,
deep sand.

Transea spodiocarpa Nutt.
19th October 1846. Santa Fe near
the creek.

1 *Ambrosia coronopifolia*
2 13th August 1846. dry prairie at
"Stone Clm." camp.
8th Septbr. 1847. Pawnee Fork.

Transea discolor Nutt.
2nd August 1847. Between Rio
Colorado and Rock Creek.

Transea tomentosa Nutt.
3rd Septbr. 1846. Walnut Creek,
high part of the bank.

Iva ciliata
15th Septbr. 1847. Sand Creek
(N. Mex.) Low wet places in
the prairie East to Fort Leaven
worth.

Ambrosia trifida
22nd August 1847. Rock Creek
bottom land.
22nd August 1846 - 2nd Septbr. 1846.
Council Grove to Walnut Creek;
8 to 10 feet high.

Cyrtolobos haughtii
8th August - 17th August 1847.
Santa Fe - 2 miles East of
Moro river, bottom land.
8 to 10 feet high
Cyrtolobos haughtii.

10th - 22nd August 1847. Santa Fe
to Rock Creek (N. Mex.) Bottom land
6 to 10 feet high

Rudbeckia laciniata
3rd June - 19th July 1847. Santa Fe
Creek bottom close to the water.

Rudbeckia laciniata
17th August 1846. About 8 miles
East of Council Grove, creek bottom.

Rudb. sibbaldensis
11th August 1846. 15 miles South
of Fort Leavenworth.

Helianthus ^{lyrata}
Helianthus tuberosus Nutt.
11th - 12th August 1847. Between
Pecos and San Miguel, woodland
on the mountains.

Himantia exaltoides
30th May - 9th Septbr. Santa Fe,
wheat gardens and some other
fields, foot of hills. 1500.
Rio de los Arroyos, Pecos
mountains, among.

Lepachys columbiana (P.) ^{Pursh.}
16th August 1847. 18 miles West
of Pecos, valley.

Lepachys columbiana
10th August 1847. 25 miles Santa
Fe and Pecos.

Helianthus
Lepachys columbiana von Pulch. var.
1st July - 1st October 1840 41.
Santa Fe; wheat fields and
level tracts near water ditches.
Rio de Berail and other
prairies.

Helianthus mollis
13th August & 21st Septbr. 1847. 10
miles West of Council Grove
and Fort Leavenworth.

Helianthus rigidus
3rd July 1847. Santa Fe, wheat
fields place.

H. Maximiliani
2nd Septbr. 1847. South side of
the ford of Arkansas Riv. near
bottom land.

428 *Helianthus lenticularis*
23rd June - 28th July 1847. Waste fields, and
Santa Fe Creek valley, 5 miles above San
ta Fe.

H. petiolaris
29th August 1847. Middle Spring (Lim-
marion), low places in the prairie,
height 8 to 12 feet high.

Bidens ^{caerulescens}
15th August 1847. Bottom land of Moro
River (N. Mex.).

H. trachelium
16th August 1846. Creek bottom, about
20 miles East of Council Grove.

Helianthus multiflorus Nutt.
23rd August 1847. 1 mile East of
Rock Creek, bottom land.

Helianthus loricatus B. ^{pacatus}
26th August 1846. Council Grove, creek
bed, near the water.

Helianthus scaberrimus Gle.
14th August 1846. Hickory point, low
prairie.

Bidens ^{not seen}
25th Septbr. 1847. Dry part of the bed
of Missouri Riv., a few miles
above Liberty.

Lactuca aurea
Hypochaeris aurea Nutt.
6th - 27th August 1847. Between Cold
and Upper Spring (Limmarion).

Bidens ^{not seen}
6th Septbr. 1847. Dry part of the Mis-
souri Riv. bed, a few miles below
Liberty.

Bidens frondosa
23rd Septbr. 1847. Banks of Missouri
river near Liberty.

Bidens connata
17th Septbr. 1847. A few miles West
of Council Grove, low prairie
places.

10th August 1847. Between Santa Fe
and Pecos.

Croesus tinctoria
17th August 1847. A few miles East
of Moro River, low places.

Same as 441
5th 9th Septbr. 1846. 7. Between
Cotton Creek and Pawnee Fork,
shallow hollows in the prairie
said to be made by the Saguaro
or willow.

Bidens frondosa
25th Septbr. 1847. South side of the
ford of Arkansas Riv. bottom land.

Croesus involucrata Nutt.
20th Septbr. 1847. A few miles East
and West of Moro Creek, hollows in the
prairie.

Cosmidium gracile
4th May - 1st Septbr. 1846-47. Santa
Fe, foot of hills near irrigating
ditches. Also Rio del Norte,
low Creek.

- the same as last -
1st October 1846. 3 miles South
of Rio Colorado; valley in the prai-
ries.

Cosmos bipinnatus, Cav.
14th August 1847. 10 miles West
of Vegas, woodland.

Same in fruit,
20th October, 1846. near Santa Fe, creek
bottom.

Bidens tenuisepta, n. sp.
13th October 1846. Pecos Creek, between
Santa Fe and Bent's Fort, margin
of the Creek bank.

Gaillardia pinnatifida
13th June - 26th July 1847. 2 miles
East of Fort of dry stony hills.

G. pinnatifida B.
23rd August 1847. 1 mile East
Rock Creek. Strata, especially
the heads of flowers, much
thinner than the preceding one.

G. pinnatifida var.
24th July 1847. Rio del Norte,
of hills.

Gaillardia pulchella lanceolata
17th Sept. 1846. Between Cow-
and Walnut Creeks.

Gaillardia pulchella
18th August - 8th Sept. 1847. Ford
at the Concession Bar and Paul-
ine Fork.

Palaeoxia Johnstonii B. subridata
5th Aug. - 6th Sept. 1847. Between
rabbit ear creek and Willow bar,
C. and A. also:
Sandy bar - by creek at river
and at Aransas, r. and w. side.

Hymenopappus luteus, Nutt.
5th May - 11th July 1847. Dry hill,
slope of west of hills.

Actinella argentea, n. sp.
14th August - June, Santa Fe
at the same place as
above in the hills, and
20th miles.

Schubertia (Amelanchier) Mexicana
7th July - 6th August 1847. Santa
Fe. margin of fields, near walls.

Syntherisma chrysanthemoides
10th July 1847. Santa Fe. Creek bot-
tom and margin of the creek.

Actinella Richardsonii var.
floribunda
8th June - 13th July 1847. Santa Fe,
sandy hills as well as plains and
creek-bottom.

10th July 1847. A more robust of this
plant, showing the most distinct
of a conical flower-plumage.

Riddellia Lagetina, Nutt.
22nd June - 31st July 1847. Santa
Fe. Creek valley, foot of hills and
irrigation ditches. Also:

7th October 1846. Between the
Miguel and Santa Fe, wood
land near the road.

Melantherum leucanthemum var.
10th August 1847. At the same
place as above.

Hymenopappus flavescens var.
23rd August 1847. A few
of below San Antonio
river.

Hymenopappus flavescens, n. sp.
14th August 1847. Between San Miguel
and Vegas.

H. tenuifolius, Ph.
12th August 1847. On the
to Rock Creek, prairies.

Actinella scaposa, var.
11th August 1847. Between
Miguel, woodland.

Helianthus
17th August 1847. A few miles east
of Mero River, bottom land.

Helianthus autumnalis
20th Sept. 1847. From 100
feet leaves with low flowers in
the prairies.

Psahia oppositifolia
10th - 6th August 1847. 8 miles east
of Santa Fe to Cold Spring (Com-
marron r.) low places and sides
of ravines.

Senecio longilobus Benth.
17th May - 4th Nov. 1847. Santa Fe,
mountain sides, hills and foot of
hills. - to 3 feet high.

= 460
8th June 1847. Santa Fe, hill, among
rocks. On leaves and stem
are scattered, bright shining dots.

Senecio longilobus
20th - 18th - 26th July 1847. Foot of a
hill, Santa Fe.

Senecio longilobus, Benth.
22nd June - 25th July 1847. Santa
Fe. Creek valley. Also:
19th October 1846.

Senecio filifolius B. Armatii.
8th Sept. 1847. Prairie Fork.
27th Sept. 1846. 27 miles south of
Creek's Fork.

Senecio demissus, Richards.
20th October 1846 & - 2nd June 1847.
Santa Fe. Creek-bottom, not far
from the creek.

Senecio aureus
22nd June 1847. Santa Fe, Creek
bottom.

Senecio exaltatus, Nutt. var.
20th April - 5th June 1847. Santa Fe
Creek valley, foot of mountains
10 miles above Santa Fe.

Senecio Handleyi
24th June - 28th July 1847. Santa Fe
Creek valley, foot of mountains.
11 miles above Santa Fe.

Senecio aureus var. *brevifolius*
15th May - 2nd June 1847. Santa
Fe. Creek foot of hills.

Senecio Handleyi, n. sp.
5th June 1847. Santa Fe. foot of
mountains 12 miles above Santa Fe.

Erechtites hieracifolia
4th Sept. 1847. Creek-banks, 3 miles
south of Fort Lavenworth.

Northonella echinata
4th August 1847. Santa Fe, waste
mill.

The same
4th Sept. 1846. Walnut Creek
bank.

Cirsium exaltatum
17th August 1846. High bank of
a creek.

C. canescens, Nutt.?
C. undulatum
15th May - 17th June 1847. Santa
Fe, sunny side of mountains
lower part.

C. ochrocentrum, n. sp.
1st July 1847. Santa Fe. mount-
ain-sides.

Macrorhynchus pruprensus
16th June - 28th July 1847. Santa
Fe. Creek bottom grassy places.

Opuntia umbigua, n. sp.
27 June - 10th August 1847. Santa
Fe, C. and bottom level grassy
place. When the root when
broken there is exuding a
white milky juice.

Rhus tinctoria longipilum
15th Sept. 1847. High prairie
about 12 miles south west of
the upper ferry of Kansas river.

Malacothrix Bonchoides, Fr. & Gr.
1st July 1847. Rio del Norte
river bottom. Low sandy bank.

Laduca elongata V. Sanguinea,
17th August 1847. A few miles east
of Mero River.

Sonchus oleraceus - 506
21st August 1847. Between Rio del
Norte and Rock-Creek. Also:
24th Sept. 1846. Walnut Creek.

Nabalus asper
17th Sept. 1847. 16 miles west of
Council Grove, high prairies,
Plains - 2 feet high.

Mulpurium floridanum
29th August 1840. Council Grove
Creek bottom.

Taraxacum palustre var. *latifolium*
15th May 1847. Santa Fe, Creek bot-
tom near the bank.

The same as next; large
4th October 1840. Council Grove
Creek bottom and Santa Fe,
low prairies.

Pygodesmia purcea
30th June - 12th July 1847. Santa Fe
near about fields. The flowers
consisting generally of 3 ligules
which at the lower part form
ext. ligule containing a
flower-stamens 8 joined at
intermediate space filled up
with chaff.

From this plant when broken
exudes a yellow-greenish juice
which on coming on the atmo-
sphere soon shows the properties
of Indian rubber.

Enveloping scales of the flower
head much larger than the
lower leaves. entire linear.
stem and branches striated.
Flower red and light brown.

Stephanomeria venusta, Nutt.
9th June - 1st July 1847. Santa Fe,
foot of dry hills, although not
far from irrigating ditches or fields.

Aphlopappus spinulosus, DC.
30th May - 5th October 1846-47. Santa
Fe. Sandy and gravelly
little cultivated places, generally
not very far from irrigating
ditches. Also:
About 1000 and 1500 ft.

= 495

15th May - 25th June 1847. Santa Fe, Creek-bottom, near the bank.

= 495

15th - 20th May 1847. Santa Fe, Creek bottom moist fertile soil.

Anchus asper.

1st - 13th June 1847. Santa Fe write places about town and along garden-walls.

Nicotiana longifolia - 489

13th August 1846. 30 miles West of Independence, stony hill.

Lactuca graminifolia var.

3rd July 1847. Santa Fe, Creek valley, 10 miles above Santa Fe, high up the mountains. No var. banded flowers seen by which I could tell its color.

- Same as 504.

8th July 1847. Santa Fe, Creek valley, flowers yellow.

Mulpedium pulchellum.

8th - 23rd July 1847. Santa Fe Creek, hillside facing the creek, loose gravelly soil. Flowers blue.

Sonchus oleraceus.

23rd June - 10th July 1847. Santa Fe, along the inside of field-walls, near irrigating ditches.

11th - 23rd June 1847. Santa Fe Creek valley.

Achillea millefolium

16th June - 20th October 1847 - 10. Santa Fe, Creek-bottom, moist meadows, also also foot of mountains. fl. white

A. - same with rose fl.

13th July 1847. Santa Fe. Flowers: rose-color.

Artemisia Canadensis.

17th August 1847. 2 miles East of Moro River, rocky elevated place. Also:

1st Octbr. 1840. 8 miles South of Rio Colorado (now bank. Ford and Santa Fe).

11. *Artemisia Dracunculoides.*
15th August 1847. Bottom of Moro River.

A. pigida.

3rd Octbr 1846. Poné Creek, prairie.
23rd August 1847. 7 miles East of Rock-Creek (New Mex.).

A. ludoviciana

26th July 1847. Santa Fe, Creek-valley.

Artemisia Ludoviciana.

20th August - 3rd Octbr. 1846. Council Grove to Poné Creek, low prairie.

the same as 573 & 574

17th September 1847. Prairies, a few miles West of Council Grove.

Artemisia filifolia. var.

24th August 1847. Between Rock and Rabbit Ear-Creeks (N. Mex.).

A. discolor. ? (young)

31st July 1847. Santa Fe, foot of a hill.

A. vulgaris?

15th July 1847. Santa Fe, Creek-bottom close to the creek.

Gnaphalium Spragelii.

10th - 14th August 1847. Between Santa Fe and Vegas. Mountain woodland low places.

Gnaphalium var. *puberulum*

23rd August 1840. Council Grove, hill.

Artemisia Divica.

21st May - 3rd June 1847. Santa Fe, hills at the foot of the higher mountains; northern declivities.

Artemisia Divica.

30th May - 3rd June 1847. Together with the preceding one.

Artemisia Divica.

15th May - 3rd June 1847. Santa Fe hills at the foot of the higher mountains, northern declivities, together with the preceding one.

Solidago mucronata

8th April - 2nd June 1847. Santa Fe Creek, hills at the foot of mountains.

Solidago incana, var. *racemosa* ^{capitata}

2nd August 1847. 7 miles East of Rock-Creek.

Dysodia Anypathoides.

14th - 10th June 1847. Santa Fe Creek bottom margin of a irrigating ditch.

Artemisia sphaerocephala, n. sp.

7th - 9th August 1847. Upper Spring, Council Grove, to Middle Spring, low prairie.

Amphicarpus Dracunculoides Desf. ~~*Guthriea* *Zethanella*~~

21st Septbr 1847. High prairie a few miles South West of the upper ferry of Kansas River.

Solidago lanceolata

2nd Septbr. 1847. Road of Kansas River, South side wet bottom land.

1st - 1st Septbr. 1847. Council Grove, the upper ferry of Kansas River.

Solidago ulmifolia

1st Septbr. 1847. Prairie about 10 miles South West of the upper ferry of Kansas River.

Solidago serotina

21st Septbr. 1847. High prairie, a few miles South West of the upper ferry of Kansas River.

Solidago rigida

21st Septbr 1847. The same locality with the preceding one.

Townsendia grandiflora.

1st August 1847. Between Santa Fe and Rio Colorado, low prairie.

Heterospermum tagetinum, n. sp.

14th August 1847. 10 miles West of Vegas, woodland.

298 *Pedicularis* ^{longifolia}

10th August 1847. Between Santa Fe and Pecos.

Florina angustifolia, Pur.

30th August 1847. 5 miles West of Lower Spring (Cimarron).

24th - 17th August 1847. A few miles East of Moro River.

Artemisia ^{divica}

Sonchalia lanceolata, n. sp.
10th August 1847. Between Santa Fe and Pecos, woodland.

Sobeliaceae.

22nd Septbr. 1847. Creek bank, a few miles West of M Creek. Flower blue sometimes purple.

17th August 1846. About 118 miles West of Independence, Grass bottom.

3rd - 15th Septbr. 1847. Ford of Arkansas River to Cottonwood Creek, banks and Creek bottoms.

Campanulaceae

Campanula acuminata

22nd Septbr. 1847. Woodland about 6 miles North of the upper ferry of Kansas River. Flower blue.

the same

22nd Septbr. 1847. Woodland of Kansas River.

16th June - 28th July 1847. Santa Fe Creek 9 miles above Santa Fe sunny side of mountains between rocks.

Ericaceae.

16th - 17th June 1847. Santa Fe Creek overshadowed margin of the Creek.

28th July 1847. Santa Fe prairie high up in the mountains.

Arct. n. p. m. w. n.

26th April - 1st May 1847. About 6 miles East of Santa Fe Creek bottom. A sandy declivity of the mountains. Evergreen. In the darkness of the winter as soon as the snow that covers them is melted away.

Aquifoliaceae.

Junonia acuminata

25th May 1847. Rio del Norte, steep and rocky bank of the river. A shrub about 10 feet high.

Simulaceae.

Adiantum

12th April - 15th May 1847. Santa Fe Creek, gravelly shores of its bed, exposed to insularities moist soil. Stems light rose color nearly white. Some few specimens I found to have been preserved under the snow throughout the winter.

D. Meadia

3rd - 10th June 1847. Santa Fe Creek, sunny margin, deep loam soil. Flower of a very fine and ~~purple~~ purple color before drying.

15th - 18th August 1847. South land about Horn River.

Plantagineae.

10th May - 30th August 1847. Santa Fe. Dry valley between the lesser hills, tolerably good soil. Also Creek valley, sides of hills not far from the creek. Also Rio del Norte and a few miles East of Cold Spring (Cimmaron).

Trifolium

6th June - 5th July 1847. Santa Fe Creek bottom, near the creek.

R. major

17th August 1846. About 120 miles West of Santa Fe.

Scrophulariaceae.

Martynia proboscidea

21st August 1847. Lower Spring Cimmaron, prairie.

Scrophulariaceae.

Trifolium repens

25th August 1846. Council Grove, gravel of the creek-bed.

Antennaria ciliosa

11th August 1846. 10 miles South of Fort Leavenworth. Flower blue.

the same

22nd Septbr. 1847. Woodland about 6 miles North of the upper ferry of Kansas River.

Scrophulariaceae.

3rd June - 7th July 1847. Santa Fe Creek-bottom margin of the creek at site.

27th May - 9th June 1847. Santa Fe. Near and in Springs in mountains.

11th May - 14th October. Santa Fe Creek bottom low sandy margin of the creek wet soil.

Herpestis rotundifolia

2nd Septbr. 1847. A lot of water in the prairies 40 miles South West of the fort of Leavenworth.

Mirandus alatus

20th August 1846 Council Grove Creek-bottom.

26th April - 10th June 1847. Santa Fe, creek-bottom margin of the upper flat sandy wet banks at Blue creek north of the town.

one smaller than the rest and of a lighter blue. Flower rugose.

1st May - 8th July 1847. Santa Fe Creek, margin of the water partly immersed. Flower blue, fugacious in a high degree.

Veronica Anagallis

17th August 1846. About 15 miles East of Council Grove.

Triphularia marylandica

4th August 1846. Council Grove, creek bottom, fertile soil. Flower 18 feet high.

Lindernia Di-Catata

18th Septbr. 1847. Bluff Creek, bottom.

14th August 1846, and 18th September 1847. Bluff Creek and Hickory point, bottom land.

25th - 26th August 1847. Between Rabbit Ear Creek and Cold Spring (Cimmaron), sandy hillside.

Gerardia tenuifolia

10th Septbr. 1847. From 110 Creek to Fort Leavenworth; low prairies.

4th Septbr. 1847. Arkansas-bottom, wet places, South of its ford.

23rd August 1846. Council Grove low places between hills. Flower white, fugacious.

Gerardia auriculata

18th August 1846. 20 miles East of Council Grove; also.

21st Septbr. 1847. Dry prairies a few miles South West of the upper ferry of Kansas River.

18th August 1846. 10 miles East of Council Grove. Prairie.

21st May - 26th July 1847. Santa Fe, dry gravelly hills.

4th - 28th May 1847. Santa Fe gravelly hills, dry soil.

14th August 1846. Hickory Point, prairie.

10th August 1847. Between Santa Fe and Fox woodland.

12th August 1847. Neighbourhood of San Miguel.

15th - 12th July 1847. Santa Fe creek hill side; flower white.

22nd June - 28th July 1847. Santa Fe Creek bottom. Also 11 miles above Santa Fe, on sides and ravines of high mountains, where the moisture is greater than in the plains of Santa Fe.

15th May - 21st July 1847. Santa Fe Creek, shady, gently sloping declivities, foot of mountains. Pet. white, diam. 2, nearly twice the length of the petals.

28th July 1847. Santa Fe creek, shady sides of mountains 11 miles above Santa Fe.

29th April - 15th July 1847. Santa Fe, gravelly hills and sides of mountains; - Rio del Norte, - Poni Cr. and Skayado Creek, near Fort's Fort and Santa Fe. 4th October 1846.

Verbenaceae.

17th Octbr. 1846. Rayado Creek (betw. Bent's Fort and Santa Fe); gravelly valley.

Verbenaceae.

Verbenaceae

1 30th April - 20th October 1846-47. Waste fields and low valleys in the mountains, Santa Fe. Also between Rayado & Ocate Creeks.

Verbenaceae

1 24th May - 31st July 1847. Santa Fe, Creek bottom.

22nd June - 31st July 1847. Santa Fe, Creek - bank.

= 586

8th May 1847. Rio del Norte; flat sandy bottom not far from the river.

= 587

19th Octbr. 1846. Santa Fe, Creek valley, gravelly moist soil.

= 586

23rd Octbr. 1846. Santa Fe, Creek-bottom. 27th August 1847. Upper spring (Cimarron), bottom.

= 587.

1 28th August 1847. 1st Septbr. 1847. Willow Bar, low sandy places, also sand creek, low places in the prairies.

Verbenaceae

21st Septbr. 1847. 18 miles East of 110 Creek.

12th August 1847. Neighbourhood of San Miguel, prairie.

Verbenaceae

15th August 1847. Moro River bottom.

Verbenaceae

22nd Septbr. 1847. Bottom land of Kansas River.

1 11th June - 31st July 1847. Santa Fe, Creek-bottom.

6. In some specimens the flower white. *Verbenaceae*

4th Septbr. 1847. Ford of Kansas River to Pawnee Fork, bottom-land.

Verbenaceae

17th August 1846. About 30 miles East of Council Grove, bottom land.

Verbenaceae

16th August 1846. About 120 miles West of Independence, Creek-bed, wet places.

10th August - 10th Octbr. 1847. A few miles East of Santa Fe to Moro River, mountain valleys and low prairies.

21st August - 6th Septbr. 1847. Rio Colorado to Pawnee Fork, low places in the prairie.

Labiatae.

1 10th August - 10th Octbr. 1847. A few miles East of Santa Fe to Moro River, mountain valleys and prairies.

25th June - 15th July 1847. Santa Fe Creek, foot of mountains (sunny side).

1 16th June & 18th Septbr. 1847. Santa Fe to Bluff-Creek, bottom land.

6. Same Spec. with white flowers. *Verbenaceae*

22nd August - 27th Septbr. 1846. Council-Grove; also: 25 miles South of Bent's Fort.

1 9th June - 20th Octbr. 1847. 1846. Santa Fe, Creek bottom, also sides of hills, between rocks not far from irrigating ditches.

Verbenaceae = 605

29th Septbr. 1847. Between Kansas River & Fort. Leavenworth, prairie. Flower: white.

1 10th - 16th August 1847. Pecos to Moro River, woodland in the mountains, low valley.

1 12th - 31st July 1847. Santa Fe, Creek-bottom, in moist shady places.

= 607

1 14th - 18th August 1847. A few miles West of Vegas to Moro River.

607.

18th August 1847. 6 miles East of Moro River, bottom-land.

- 607

11th August 1847. 8 miles South of Fort Leavenworth.

17th August 1846. About 25 miles East of Council Grove.

1 23rd June - 20th Octbr. 1846-47. Santa Fe Creek - bottom near irrigating ditches; Ford of the Kansas R. and East of Council Grove.

13th August 1846. 17 miles West of Independence, Creek-bottom.

Verbenaceae

20th August 1846. Council Grove, Creek-bottom.

14th - 17th August 1847. A few miles West of Vegas to Moro River, woodland and prairies.

1 10th August - 4th Octbr. 1846-47. Pecos to Moro River, woodland in the mountains, low valley.

Verbenaceae

13th August 1846 - 23rd Septbr. 1847. Kansas River-bottom.

24th May - 31st July 1847. Santa Fe, sunny hillsides facing the Creek, between rocks; also: between rocks near irrigating ditches. - Rio del Norte.

3rd July - 10th August 1847. Santa Fe, Creek valley in the mountains, sunny mountain sides between rocks, also stone piles near a field.

Boraginaceae.

Heliotropium uncinatum

11th August 1847. Between rock beds and rock creek. Low prairie.

18th August 1847. Wth low bar, deep sandy soil.

11th August 1846. 7 miles south of Kansas ferry, low prairie.

23rd August 1847. 1 mile East of rock creek.

16th April to 5th June 1847. Santa Fe, creek bottom, foot of hills at some distance from the water.

24th May - 28th July 1847. Santa Fe, creek bottom, moist fertile soil at the margin of the water.

24th June - 15th July 1847. Santa Fe, high up the creek, sunny side of mountains.

1st bunches of 12 foot diameter and 1-2 foot high. Lower short and small.

20th May - 10 June 1847. Santa Fe, creek valley, foot of hills and foot of hills.

Flowers long but narrow.

19th April - 15th May 1847. Santa Fe, stony side of hills, sunny side. Flowers long and large.

The same

24th October 1846. Poni Creek below Fort Bent and Santa Fe. Bottom prairie, good soil.

The root of this plant is said by the Mexicans to be good (when boiled) to cure sores &c.

Flour: 13th August 1847. Between Rabbit Ear and Mc Nee's Creek.

Datura longiflora Nutt

11th Septbr 1847. Bluff Creek, bottom land.

Crypt. Jamesii

23rd August 847. Mc Nee's Creek sandy hillside.

Crypt flavocanescent.

1st April - 1st May 1847. Gravelly hills south West of Santa Fe. Lower white.

25th June - 15th July 1847. Santa Fe, creek up the mountains, sunny sides of mountains clear rocks.

4th May - 9th July 1847. Santa Fe, valleys between dry and gravelly hills, also creek valley close to fields.

Crypt Fendleri

7th - 16th July 1847. Santa Fe, creek valley near a field.

Crypt Jamesii

19th May - 31st July 1847. Santa Fe, valleys between the gravelly hills where they ran out into the plains.

Echinospermum virginianum

18th Septbr 1847. Bluff Creek, bottom land.

1st July 847. Santa Fe, creek valley.

17th - 23rd August 1847. From Moro to Rock Creek; elevated prairies.

Crypt crassifolia

24th April - 30th May 1847. Santa Fe, valley between the gravelly hills south West of Santa Fe.

Hydrophyllaceae.

3rd 10th June 1847. Santa Fe Creek, 8 miles above Santa Fe, sunny damp places on E. & W. of rocks.

3rd June - 18th July 1847. Santa Fe, creek bottom, low rather moist place.

Hydrobiaceae.

30th May - 4th June 1847. 5 miles South West of Santa Fe, loose tolerably good soil in a valley between the hills. Plants here moist.

10th - 14th August 1846. Santa Fe, 5 miles Woodland valley between the mountains.

Polemoniaceae.

18th August 1847. Low bed on bank of Moro river.

11th June - 25th July 1847. Santa Fe, creek valley, on hills, and foot of hills, near irrigating ditch. Flower red.

= 646

4th August 1847. 12 miles S. of Santa Fe.

4th May - 1st May 1847. Santa Fe, valley between the gravelly hills south West of Santa Fe. Flowers white, with a pale bluish green color.

24th May 1847. Rio del Norte, low bank between rocks. Flower blue.

8th August 1847. Rio del Norte, sunny places in ravines or open rocks. b. 8th August - 1st Septbr 1847. Santa Fe, border of the Commanche river, sandy soil, sandy soil. Sand Creek.

17th July 1847. Santa Fe, sunny side of hills, gravelly hills. Dry under the water. 7th June 1847. Santa Fe.

23rd August 1847. 7 miles East of rock creek, creek bottom.

24th June - 8th July 1847. Santa Fe, 19 miles East of creek, high mountains side.

19th July 1847. Santa Fe, creek bottom, sandy soil.

16th June - 8th July 1847. Santa Fe, high up the creek, sunny side of steep rocky mountains.

Convolvulaceae.

Cuscuta glomerata

11th August 1846. 8 miles South of Moro, low prairie, bottom of Moro river.

The same

8th September 1847. Pawnee Creek; steep bank.

C. Coryli

18th Septbr: 1847. Bluff Creek bottom land.

C. umbellata Humb. Torr.

9th July 1847. Santa Fe, waste house gardens and margin of fields. on American, etc.

6th Septbr 1846. About 10 miles East of the ford of Moro river, low prairie.

25th August 1847. Between Rio Colorado and Rock Creek, also Sand Creek
27th Septbr 1846. 20 miles South of Santa Fe.

2nd Octbr. 1846. Between Poncha and Rayado creeks, gravelly hillside
19th 20th August 1847. Pecos to Rock Creek.

8th - 10th August 1847. Santa Fe cornfields, also woodland between Santa Fe and Vegas.

10th August 1847. Between Santa Fe and Pecos. Mountainous woodland.

14th June 1847. Santa Fe, margin of an irrigating ditch in a waste lying garden.

10th August 1847. Between Santa Fe and Pecos, woodland.

Convolvulus Sepium (glaucus)

15th August 1847. Moro River bottom land.

Convolvulus panduratus

23rd Septbr. 1847. Creek-bottom, North of Kansas river. Flower white showy.

25th May - 11th July 1847. Santa Fe at the foot of dry hills sunny side. Locally. Flower seldom seen expanded.

10th August 1847. Between Santa Fe and Pecos.

Solanaceae

21st June - 11th August 1847. Santa Fe creek valley about 20 miles from Santa Fe to Vegas. Shale rocks around

28th May - 11th June 1847. Santa Fe, Creek valley, close to an irrigating ditch at the foot of a hill.

7th June - 1st Octbr. 1847 - 6. Santa Fe in rock crevices of the sun and marshes, flat on the ground. Also between Pecos and Bermejo creeks, level prairies.

6th - 11th August 1847. Santa Fe, steep rocky side of dry hills. Also from Santa Fe to Vegas, woodland on the mountains.

Solanum

12th July - 6th August 1847. Santa Fe, creek valley, foot of mountain, sunny side.

18th August - 29th August 1847. Rock Creek to a few miles East of Council Grove, prairie.

17th July - 13th August 1847. Santa Fe, Creek valley. Sunny declivity near the creek loose soil. Also neighbourhood of Rio de Bermejo.

28th - 9th August 1847. A few miles West of Yellow Bar to Middle Spring, Commanche.

10th - 27th August 1847. Rock Creek to Upper Spring, Commanche, low prairies.

6th June - 9th July 1847. Santa Fe waste garden places.

23rd August 1847. West side of low prairie.

14th June - 13th July 1847. Margin of an abandoned irrigating ditch in a waste garden. Stamens deep blue. Santa Fe.

1st June - 20th August 1847. Santa Fe - middle spring, Commanche prairies and low places in the prairie also creek bottom. Between Poncha and Rayado creeks.

18th July - 12th July 1847. Santa Fe, west side of fields. Also foot of mountains not far from the creek.

11th June - 18th July 1847. Santa Fe creek valley, fern on rocks in the woods.

1st June - 18th August 1847. Santa Fe, gently sloping sides of prairies, loose soil, also in level places creek bottom, spreading on the ground.

Flowers compound consisting of 2 separate petals. The plant is East of Moro River.

7th June - 10th August 1847. Santa Fe, waste gardens and yards, also between Santa Fe and Pecos.

Gentianaceae

16th - 5th June 1847. Santa Fe creek valley, foot of mountain. This seem to be very good of this plant. 4-5 feet high.

28th August - 5th Septbr. 1846-47.

Corrective of names given to you.
Fendler 688 *Gentiana Peyroniana* L. f. *pubescens* T. & G.
689 *G. Andrewsii* Griseb. —
690 *Apocynum androsaemifolium*
b. *A. hypnicifolium-glaberrimum*
691 *A. canbinum* glaberrimum —
692 *A. "* "
693 *Solanum scabra* n. sp.

Apocynaceae

24th June - 28th July 1847. Santa Fe steep rocky sides of mountain facing towards the creek.

23rd August 1847. Rock creek bottom-land.

19th August 1846. Council Grove bottom land of the creek.

Jasminaceae

31st May 1847. Santa Fe, sunny hillside between rocks, foot of hills and in valleys. Flower fugacious.

Asclepiadaceae

25th June - 31st July 1847. Santa Fe, foot of the mountains as well as of the lower hills.

11th June - 12th July 1847. Santa Fe near fields.

11th June 1847. Santa Fe creek valley, sunny side of a long hill.

= 695 fruit

17th August 1847. 2 miles East

21st August 1847. Between Rio Colorado and Rock Creek, also Grand Creek.
27th Sept. 1846. 20 miles South of Santa Fe.

2nd Oct. 1846. Between Poné and Lagado Creeks, gravelly hillside.
22nd August 1847. Near to Rock Creek.

8th - 10th August 1847. Santa Fe cornfields, also: woodland between Santa Fe and Legas.

10th August 1847. Between Santa Fe and Pecos. Mountainous woodland.

14th June 1847. Santa Fe, margin of an irrigating ditch and waste lying garden.

10th August 1847. Between Santa Fe and Pecos. woodland.

Convolvulus Sepium (glebe)

15th August 1847. Moro River bottom land.

Convolvulus panduratus

23rd Sept. 1847. Creek bottom, North of Kansas river. Flower white showy.

15th May 11th July 1847. Santa Fe

The neighborhood of Santa Fe - as soon as he returns to (i.e. a week or two).

I include *Sida hispida* ?? Can it possibly be the Georgia plant? - It grew in St Louis - destroyed now - but have found it a few Carron rocky places in the mining region of Missouri with *Oenothera missouriensis*, *Lithospermum fereclun* and other varieties. I must see sent you specimens and seeds before.

I had some other things to say, but forgot it.

28th May 11th June 1847. Santa Fe, Creek valley, close to an irrigating ditch at the foot of a hill.

7th June - 1st Oct. 1847 - 6. Santa Fe on east side of the river and near hills, flat on the ground. Also between Pecos and Bermejo Creeks, level prairies.

6th - 11th August 1847. Santa Fe, steep rocky side of Log creek. Also from Santa Fe to Legas, woodland on the mountains.

Solanum

1st July 6th August 1847. Santa Fe, Creek valley, foot of mountain, sunny side.

18th August - 29th August 1847. Rock Creek to a few miles East of Council Grove, prairies.

17th July 10th August 1847. Santa Fe, Creek valley. Sunny declivity near the creek loose soil. Also neighbourhood of Ujo de Berné.

28th - 29th August 1847. A few miles West of Yellow Bar to Middle Spring, Cimarron.

20th - 27th August 1847. Rock Creek to Upper Spring (3 miles), level prairies.

1st June 20th August 1847. Santa Fe - on the Spring Cimarron prairies and low places, on the prairies also creek bottom. Between Pecos and Lagado Creeks.

1st July - 1st July 1847. Santa Fe, and near fields. Also foot of mountains not far from the Creek.

11th June 18 July 1847. Santa Fe, Creek valley, near on rocks in the rocky fields.

1st June 15th August 1847. Santa Fe, gently sloping sides of prairies loose soil; also in level places creek bottom, opening in the ground.

Flower compound consisting of 2 separate flowers. Herb. 2 miles East of Moro River.

7th June - 10th August 1847. Santa Fe, waste gardens and yards. Also between Santa Fe and Pecos.

Gentianaceae.

10th - 15th June 1847. Santa Fe, Creek valley, foot of mountains. This seem to be very young of this plant. 4-5 feet high.

25 August 5th Sept. 1846-47. prairies a few miles West of the ford of Cimarron river, also to Kansas River.

Sapanea B. profunda D. C.

21st Sept. 1847. prairies a few miles South West of the upper ferry of Kansas River.

Joubertia Saporaria

21st - 23rd Sept. 1847. Creek bottom North of Kansas River, near its upper ferry.

Apocynaceae.

24th June - 8th July 1847. Santa Fe steep rocky sides of mountains facing towards the creek.

22nd August 1847. Rock Creek bottom-land.

19th August 1846. Council Grove bottom land of the creek.

Jasminaceae.

31st May 1847. Santa Fe, sunny hillside between rocks, foot of hills and in valleys. Flower fugacious.

Asclepiadaceae.

25th June - 31st July 1847. Santa Fe, foot of the mountains as well as of the lower hills.

11th June - 1st July 1847. Santa Fe near fields.

11th June 1847. Santa Fe, Creek valley sunny side of a long hill.

= 695 feet

17th August 1847. 2 miles East of Moro River

= 696 a. p. it

15th - 21st August 1847. Moro River and Rock Creek.

15th - 25th August 1847. Between Rio Colorado and McKees Creek.

Asclepias tuberosa

18th Sept. 1847. Bluff creek bottom land.

22^d August 1847. Rock Creek bottom-land.

1st August 1847. Neighbourhood of San Miguel.

Asclepias verticillata, Frick

1st Sept. 1847. 12 miles South West of the upper ferry of Kansas River.

A. verticillata

12^d August 1846. A few miles East of Kansas River, prairie.

14^d 5^d August 1847. Between San Miguel and McNeis's Creek.

Aconites auriculata Engelm. ^{Plant} _{with infund}

25^d August 1847. Between Rabbit Ear and McNeis's Creeks, high prairie.

24^d May 1847. Rio del Norte; flat sandy river bank between stones.

Chenopodiaceae.

16^d Sept. 1846. 20 miles East of Big Sand Creek; sandy gravelly soil.

25^d August 1847. - 19^d Sept. 1846. 32 miles East of Bent's Fort,

near flat prairies near the bank of the Arkansas River. Also McNeis's Creek.

et shrub 1 1/2 to 3 feet high and very much spreading.

C. leptophyllum (F. & M.)

10^d August 1847. Between Santa Fe and Pecos; woodland.

21^d August 1847. Between Rio Colorado and Rock Creek. Low parts of the prairie.

Rochia dentata

26^d August 1847. Between McNeis's Creek and Cold Spring; sandy soil.

10^d August 1847. Between Santa Fe and Pecos.

15^d 17^d August 1847. Moss River, prairie.

22^d August 1847. Rock Creek bottom-land.

10^d 11^d August 1847. Between Santa Fe and San Miguel, woodland.

1st Sept. 1847. Sand Creek, (New Mex.); low prairie.

C. leptophyllum & *Procianum*

17^d & 21^d August 1847. 40. Council Grove, dry prairie.

Also: a few miles East of M. R. R.

C. album, candidum

23^d June 1847. Santa Fe. waste house-gardens.

17^d May 12^d July 1847. Santa Fe creek-valley; foot of hills where the ground is occasionally irrigated.

25^d August 1847. 7 miles East of Rock Creek.

9^d June 26^d July 1847. About houses, gardens &c.

Chenopodium. 146. E.

12^d July 1847. Santa Fe; margin of fields.

C. album var.

17^d August 1847. A few miles East of Moss River.

23^d June 9^d July 1847. Santa Fe; about fields and yards.

Amaranthaceae.

17^d Sept. 1846. About 10 miles East of Big Sand Creek; high prairie.

20^d August 1847. Middle Spring (Cimarron); prairie.

The branches of this plant are not so spreading as in the preceding one.

10^d August 1847. Neighbourhood of San Miguel. Leaves smooth.

10^d Sept. 1846. 5 miles South of the ford of Arkansas River.

14^d August 1847. 16 miles West of Vegas.

7^d October 1846. Between San Miguel and Pecos; roadside.

24^d May 2^d August 1847. Santa Fe. yards and waste places. Also Rock Creek high prairie.

24^d June 1847. About houses and yards, near irrigating ditches. Santa Fe.

The same as last

10^d July 1847. 27. 28. 29. low. leaves side of the leaves marked with red spots.

20^d May 6^d August 1847. Santa Fe, Creek valley. Also: Rio del Norte, sandy soil, between rocks flat river bank.

14^d June 11^d July 1847. Santa Fe. Creek valley, foot of hills.

14^d July 1847. Santa Fe, near houses and fields.

14^d 15^d August 1846. Hickory Point to Council Grove; gullies.

The same as last

5^d September 1846. Walnut Creek Creek bank.

Nyctaginaceae.

19^d May - 11^d August 1847. Santa Fe; flat somewhat moist places not very far from fields and irrigating ditches. Flower white.

10^d August 8^d Sept. 1847. Between Santa Fe and Rio de Bernal; mountain woodland. Also: 28^d September 1847. Rio de los Charcos, valley, tolerably good soil.

Flowers seldom expanded early in the morning.

22^d August 1847. Rock Creek bottom-land.

14^d & 15^d August 1847. Vegas to Moss River. Leaves cordate, involucre of the flower somewhat tomentose.

19^d Sept. 1846. 42 miles East of Bent's Fort; bank of the Arkansas River.

17^d August 1847. 2 miles East of Moss River; elevated rocky region.

Oxybaphus ovatus A. Pilson

11^d 17^d August 1846. Fort Leavenworth to Council Grove.

16^d June 10^d August 1847. Santa Fe, Creek valley, foot of hills also near fields between rocks.

Involucre of the flower consisting of 5 segments and containing 2 flowers.

7^d July - 6^d August 1847. Santa Fe; creek valley near irrigating ditches, amongst the branches of undershrubs. Flowers rarely to be seen opened except in the morning. Involucre resembling a calyx of 5-sepals.

Polygonaceae.

Polygonum amphibium Terrestre
August 1847. 2 miles East of Mora
River, foot of a high rocky em-
bankment.

Pol. pennsylvanicum
8th Septbr. 1847. Pawnee Fork,
Creek bottom.

29th August 1847. Middle Spring
(Cimmaron); low places.

4th July - 8th Septbr. 1847. Santa
Fe and Pawnee Fork, Creek
bottom.

Pol. virginicum
17th Septbr. 1847. Council Grove
Creek-bottom.

22nd June - 28th July 1847. Santa
Fe margin of irrigating ditches.

Pol. ramosissimum
7th July 1847. Santa Fe, Creek
bottom.

4th June 1847. Santa Fe, near
the irrigating ditches.

Pol. scandens
largest form.
8th Septbr. 1847. Pawnee Fork.
Fruit winged.

Pol. scandens, smallest
form
4th August 1846. Hickory point,
Creek bottom. Seeds much
smaller than in the preceding
one.

Pol. scandens common
intermediate form
25th August 1847. Creek creek,
over-shaded deep ravine.

8th May 1847. Between the Rio
del Norte and Santa Fe, elevat-
ed grassy plains.

Remix
low-leaved elongated oval, dotted
17th August 1847. 2 miles East base
of Mora River, bottom land.
4-5 feet high.

21st June 1847. Santa Fe, near
the irrigating ditch of a field

29th August 1847. Middle Spring
(Cimmaron).

8th August 1847. Santa Fe,
pasture, wet moory places.

1st July - 17th August 1847. Santa
Fe Creek valley, up in the
mountains. Also: 2 miles
East of Mora River, elevated
rocky region.

10th August 1847. Between Santa
Fe and Pecos. Also:
15th July 1847. Santa Fe,
Creek valley.

25th August 1847. Between Tab-
lut Bar and Montezuma Creeks.

766 *Erigeron tenuiflorus* Torr.
16th August 1847. Mora River,
summit of a rocky hill, between
ledges of rocks.

21st August 1847. Between Rio
Colorado and Rock-Creek.

23rd Septbr. 1846. 3 miles above
Bent's Fort, Arkansas River,
on the rounded very pebbly
and sterile bluffs.

15th - 17th August 1847. Mora River,
rocky elevated region. Also:
2nd October 1846. Between Pecos
and Rayado Creeks.

15th July 1847. Santa Fe, creek
valley, mountain side between
rocks. Leaves more or less per-
sistent through the winter.

14th August 1847. 15 miles West
of Vegas.

12th Septbr. 1846. Between Tab-
lut - and Cow-Creeks.

28th August 1847. Willow Bar
in sand, scarcely. - 5 to 6
feet high.

Claynaceae.

8th July 1847. Creek valley
3 miles above Santa Fe, foot
of mountains and in ravine.

Ulmaceae.

25th May 1847. Rio del Norte,
somewhat elevated bank of the
river close to the water.
A tree-like shrub about
12 feet high, branches spreading.

Euphorbiaceae.

25th May - 13th July 1847. Rio
del Norte, lower part of ravine
sunny side. Also:
Santa Fe sunny steep side of
stone hills. Also:
4th Nov. 1840. Between Pecos and
Rayado Creeks.

Aralyca virginica longipetiolata
(caroliniana var.)

17th August 1846. A few miles
East of Bluff Creek.

18th Septbr. 1847. Bluff Creek,
bottom land.

A. virginica brevifoliolata

14th August 1846. Hickory point,
Creek-bottom.

Croton ellipticum Nutt.

21st Septbr. 1847. Creek-bottom
20 miles East of Rio Creek.

29th, 31st August 1840 47. Cow-
Creek and Middle Spring
(Cimmaron). Dry, prairie.

30th June - 17th Octbr. 1840 - 47.
Santa Fe, lower part of the
town, creek valley gravelly soil,
Also on steep side of gullies,
rather sterile soil.

Euphorbia yathophora
fol. obovato-pandurata
25th August 1846. Council Grove
Creek-bottom.

19th June - 8th Septbr. 1847.
Santa Fe, in and near fields
Pawnee Fork steep banks of
the River.

Euph. variegata

17th August 1840. 120 miles West
of Independence to Wagon
Mound, New Mex.; in gullies
and low places of the prairie.

Euph. corollata

16th & 17th Septbr. 1847. 18 miles
West of Council Grove to Fort
Leavenworth.

2nd May - 28th July 1847. Santa
Fe, Creek valley, foot and
sunny sides of high mountains.

Euph. hypolepis

8th Septbr. 1847. Pawnee Fork
steep banks of the creek.

Euph.

31st August 1840. Between
Cow-Creek and little Arkansas
River.

10th - 16th August 1847. Between
Santa Fe and Mora River.
Around the stand of trees
and shrubs, mountainous
country.

4 May 1847. Rio del Norte, canyon
river bank at even times. Leaves
somewhat serrate, especially towards
their apex.

6-12 August 1847. Santa Fe to
San Miguel.

23 August 1847. Council Grove,
hills, ledges of rocks on crevices.

25 August 1847. Mc Nees Creek,
sandy hill side.

28 August + 1 September 1847.
Foot of the Cimarron to Sand
Creek, low prairies.

25 May - 5 June 1846-7. Rio
del Norte. Sandy soil, low river
bank between rocks & hills.
Santa Fe, and Pecos Creek.

30 June - 10 July 1847. Santa
Fe, valleys between the 2-4
small hills. Branches pilose.

6 June - 18 July 1847. Santa
Fe foot of hills.

8 September 1847. Pawnee Fork
steep bank of the creek, loose
soil.

8 September 1847. Pawnee Fork,
prairie and steep bank of the
Creek.

4 May 18 July 1847. Santa
Fe, side of hills and mountains

= 800

21 June 1847. Santa Fe, dry
hill-sides.

= 799

14 August 1846. Cichery point
dry bed of a creek.

= 799, minor

12 Septbr. 1847. Sand Creek, prairie

= 795

24-25 May 1847. Rio del Norte

= 796

7 June 1847. Santa Fe. Differs
from the preceding one in its seeds.

Cupuliferae.

8 June 1847. Santa Fe, East
mountains. A shrub oak, 8 feet high.

8 June 1847. Santa Fe East
mountains. A shrub about 8-9
feet high.

Santa Fe ^{mountains} 6 June 1846-7. A shrub about 8 feet
high.

8 June 1847. Santa Fe, mountains.
A shrub 10 feet high.

8 June - 19 July 1847. Santa
Fe creek-valley, banks of the
Creek and foot of mountains.
A shrub 8-12 feet high.

6 June 1847. Santa Fe side
of mountains. A shrub 8-10 feet
high.

Betulaceae.

16-25 June 1847. Santa Fe,
upper part of the Creek - sandy
margin of the water. A shrub
15 to 20 feet high.

30 March - 1 April in flower.

Salicaceae.

25 April 15 May 1847. Santa
Fe, Creek-bottom, exposed to the
undulations of the creek.

Shrub 10-14 feet high. In
drying, the rays leave a greasy
mark on the paper.

30 March - 1 April 1847. in
flower.

12 May - 20 May 1847. Santa
Fe, Creek-bottom; margin of the
creek and near irrigating ditch.

25 May 1847. Rio del Norte;
foot of steep mountain banks,
amongst rocks near the water.

11-20 May 1847. Santa Fe,
margin of the creek.

A tree-like shrub about 15
feet high.
I could find no male flowers
to this shrub.

30 April - 2 May 1847. Santa
Fe, creek-bottom bank of the
creek. Tree-like shrub about
10 feet high.

12 May 1847. Santa Fe, margin
of the creek. The buds of this
tree are coated with a very sticky
substance, which resembles wax,
is transparent and in drying
between paper is taken up by
the latter and makes the same
transparent and strong use.
April in flower.

Santa Fe. Close to the Creek.
Trees about 40 feet high; lower
branchlets long slender and
pendling; trees of a fine growth
in the neighbourhood of a
house. I could find no male
flowers to this tree.
10 May in flower.

Santa Fe Creek bottom, 4
miles above Santa Fe.

A tree with spreading branches,
the bark is of a shining
white color given out by a coat
of a very white powdery sub-
stance which when comes off,
adheres to clothes with great
tenacity.

12 April 1847. in flower.

Urticaceae.

24 May 1847. Rio del Norte
rocky bank of the river.

15 August 1847. Moro river,
bottom-land.

Urtica canadensis
18 August 1846. 15 miles East
of Council Grove, Creek bottom,
rich soil.

Buchanania cylindrica
15 August 1846. 100 miles
West of Independence, Creek
bottom, fertile soil.

Panicum sativa
10 August 1846. 8 miles South
of Fort Leavenworth.

Hemlock Cupulus
15 July 1847. Santa Fe Creek,
6 miles above Santa Fe, foot
of mountains.

= 825 ♀
15 August 1847. Moro river,
bottom-land.

= 825 ♀
21 August 1846. Council Grove,
Creek bottom.

= 825 ♂
15 miles South of Fort Leaven-
worth. 11 August 1846.
savine.

Coniferae.

1st November 8, 31st January 4th March 1847.

Santa Fe. In the higher part of the mountains about 5 or 6 miles East of Santa Fe. Especially on the Northern declivity of a sharp mountain ridge where they are to be found in great numbers with but very few other trees between them, while on the southern declivity of that same high ridge is occupied by a long leaved pine No 831. to the exclusion of almost every other kind.

The pistillate flower-branchlets are to be found on the top part of the tree, the staminate ones on the lower branches.

Bark of the younger trees smooth and of a whitish color, on old trees only the summit and the branches are smooth and whitish.

The terminal buds of the branches furnished during the winter with a thick and transparent coat of a resinous substance.

A kind of balsam or turpentine is elaborated in little cavities under the surface of the bark around the larger branches and the stem of the tree, by which the surface is raised into scattered nodules. This turpentine is clear and of a very light color and has an agreeable odor.

Trees 60-80 feet high, some of a very handsome pyramidal growth.

1st Novbr, 23rd Febr. 1847. Santa Fe, Eastern mountains, upper regions as well as along the higher part of the Creek valley. I saw several trees of this kind from which the bark had been peeled, probably for the use of making leather. The trunk of some of the larger ones of this kind measure 7 feet in circumference

5 feet above the ground.

30th March 1847. Hills, Eastern mountains, Santa Fe.

A shrub like tree, which attains a greater height towards the summit of the mountains, but not above 20 feet. Mostly of a stunted depressed growth branching near the ground.

Also in great abundance on the elevated plains and hills West and South West of Santa Fe.

By far the greater part of the firewood that is brought into Santa Fe by the Mexicans is of this tree.

20th Oct. not in flower.

17th February, 2nd March 1847. Santa Fe, Eastern mountain-range; low hills as well as high mountains; seems to prefer the dryer south sides of the mountains. Valuable timber trees.

Their growth is above 90 or 100 feet high, straight and some of the trunks are of great dimensions.

8th February 1847. Santa Fe, Eastern mountain-range. Upper region of high mountains. Fruit suspended, trunk 60 to 80 feet high; branchlets extremely flexible.

17th February 1847. Santa Fe. Crater bottom about 7 miles above Santa Fe. A young slender and straight tree about 20 feet high, branches arranged in whorls around the trunk; branches easily broken without wounding resin from the broken places.

Leaves articulated, quadrangular lower portion persistent to the branchlets.

I found only 2 trees of this kind.

296 (335)

2

108

217

220

420

477

659

690

79

788

790

792

8