

18
45
70

Botany
Journal



1838

May

18th

From St. Louis up on the Mississippi

Start from St. Louis at Noon. Weather clear

Alton, on the Western side of the Hill.

No 1 — 4



Fort Snelling from the East

1838. Found St. Louis up the Mississippi.

May 18. Went from St. Louis at sunrise weather clear
Altitude on the northern side of that hill

1. Verbena spicifolia
2. " " pennsylvanica
3. Lepidium ?
4. Geum
5. Sparganium glaucolobum

Obs. Plants in full green - little or no ripening
seen - similar with *Sparganium glaucolobum* & other
leaves. —

May 19. Weather, foggy towards morning, clear & sunshine over day; arrived at Clarksville 9 o'clock; 12 o'clock at Louisiana; 5 o'clock at Hannibal; 8 o'clock at Marion City and about 9 o'clock at Quincy.

No 7. *Salix nigra*. appears at ^{Hannibal} ^{in Monom. aquil.}

- 8. *Asarum canadense*
- 9. *Geranium maculatum*
- 10. *Ranunculus pedatifidus?*
- 11. *Actaea alba*.

12. *Galium aparine*

13. *Arum 3-phyllum*

14. *Corydalis aurea*

15. *Anemone nemorosa*

16. *Sonchus oleraceus*

17. *Rhus aromatica*

18. *Veronica* sp.

19. *Rumex* sp. River banks at Louisiana

20. *Stylypus verna*.

21. *Rumex crispus*

22. *Poa* sp. with *Aquilegia canadensis* -

Phlox divaricata - *Cypriped. parvifl.*

Sanguinaria canad. on the hill side at

Louisiana, on carboniferous limestone

rocks. *Acer* & *Cottonwood* ^{fruits} flying -

Cercis canadensis with ripening fruits - *Psittula* ^{nest} scattered on the river banks

23. *Amsonia salicifolia* - ⁱⁿ ^{the} ^{river} ^{side}

Cephalanthus occidentalis - ⁱⁿ ^{the} ^{river} ^{side}

Rumex crispus - *Syring. coronaria* & *Crataegus pyrifolia* - and the cultivated part covered with *Anthem. Cotula*

Hill side at Louisiana
Carboniferous limestone

River side
Louisiana

24. *Manisuris echinatus*.

25. *Orchis spectabilis*.

26. *Cyperaceae*.

27. *Anemone aconitifl.*

28. *Utricularia* sp.

29. *Sanicula marylandica*

30. *Smilacina*
virginiana

[4]

May 20.

5
Fine weather, clear & sunshine, very warm. South west wind - 6 o'clock morning at Fort Edwards past the ^{falls of the} mouth of Des Moines River & foot of the rapids - 7 o'clock Fort Des Moines - Keokuk villages 10 o'clock Fort Des Moines - 11 o'clock Fort Madison about 12 o'clock New Albany - at 4 o'clock Arr. at Burlington W.I. - 8 o'clock at Oquakwa -

Obs. Cedars appear on the rocky banks of the river at Fort Edwards - *Amorpha fruticosa* at Fort Madison on high barren banks with *Astragalus laevis*. A reddish clay extends along the banks at Oquakwa. - The timber of less size & vigour - large open barren prairies on both sides - *Salix*, *Quercus* & *Cercis* in blossom. The country along the river we just to day was generally high and barren prairie with little or no timber, or inundated bottoms. - The many islands are thickly covered with willow, poplar & maple.

[5]

May
21.

Last night we had very warm & a shower in the distance. - This morning the wind blew from the north; cloudy & but little sunshine over day - From 7-8 o'clock at Rockville, Stevenson & Rock Island, vegetation considerable back, - *Pyrus coronaria* in blossom also *Syringa vulgaris* in a garden at R. Island Appearance of the country on the east side barren with open prairies & little timber, the river bank on that side high & rocky 20 miles up to the *Meridiana opposita* ^{range} *Camanche*, here the opposite side presents again a high & sterile prairie, ^{Albany} a little higher up, on the eastern bank also on a prairie. Again *Betula rubra* along the banks & borders of the woods, - On the western banks 45 miles below Galena in the woods:

- 31. *Viola cucullata*.
- 32. *Oxalis violacea*.
- 33. *Erigeron bellidifolius*.
- 34. *Carex* sp.
- 35. *Polygala seneca*.
- 36.
- 37. *Umbellifera*.

May
22.

Arrived at Galena as 11 o'clock last night. On the lone stone hills (rocks) at the lower river -

- 38. *Quercus coccinea*? 39. *Zanthoxylum frax.*
- 40. *Arctia*? sp. (not in blv.) 41. *Crataegus parviflora* with: *Geranium maculatum* - *Adiantum pedat.* - *Monarda* ^(not in blv.) *Clypeus* - *Triostema perfoliat.* - *Thalictrum* sp. - *Tria-* *nella cordifolia* - *Asplenium ebenum* - *Polygonum* *multif.* - *Viola cucull.* - *Asclep.* *purpurasc.* - *Spizaen* *opulifol.* - *Menisperm.* *canad.* - *Lunaria* *chikassaw* - *Rhus typhina* - *Aquileg.* *canad.* - and on the naked top *Baptisia tinctoria*.

5 miles below Du Rague, West bank - High rocky Woods -

- 42. *Haploplea 3-joliata*. - 43. *Asarum* ^{fol. cord. an} ^{villos. - pet.} ^{his. caudatis} ^{tortis}
- 44. *Viola cucull. β striata*. - 45. *Dentaria laciniata*
- 46. *Phlox divaricata*. - 47. *Viola Muhlenbergiana*
- 51. *Hepatica acutiloba* - 52. *Mitella diphylla*
- 53. *Utricularia perfoliata*. 54.

At Du Rague at 3 o'clock. On the high limestone hills.

- 48. *Balsamorhiza hirsuta* - 49. *Vivipara palmata*.
- 50. *Sysirinchium anceps*. ~~sp.~~ with: *Potentilla arguta* - *Balsamorhiza* - *Phlox pilosa* - *Viola palmata*

About 30 miles below Prairie du Chien - West side, high limestone rocks -

- 55. *Crataegus pycnantha* - 56. *Anemone*?
- 57. *Quercus* sp. - 58. *Quercus* sp.
- 59. *Lycopodium parviflor.* - 60. *Euph.*?
- 61. *Podocarpus* *Meadia* - 62. *Asarum* *intermedium*

Obs. To day we have passed through a rich & well manured country - Bottom filled with large timber, & not infrequently inundated. - *Betula* not frequent on the banks Oaks in blossom. - Weather fine S.W. Wind - very cold in the morning. -

May 23. Arrived at Prairie du Chien early in the morning and remained there until 3 o'clock afternoon. weather clear + sunshine N.W. wind. We made an excursion to the bottom prairie + limestone hills east side of the river.

63. *Aralia nudicaulis* 64. *Scutellaria peruviana*
 65. ~~*Thalictrum flavum*~~ 66. *Euchroma grandiflora*
 67. *Fedicularia canadensis* 68. *Anemone ludoviciana*
 69. *Aspidium (Trichomanes)* 70. *Apocynum*?
 71. *Gnaphalium leptogonum* 72. *Viola pedata*
 73. *Ceanothus borealis* 74. *Aralia nudicaulis*
 75. *Imyrnium bifolium* 76. *Azum 3 phylum*
 77. *Baptisia tinctoria* 78. *Smilax pedunculata*

With: *Ceanothus americanus* - *Smilax racemosa*.
Cypripedium parviflorum - *Euchroma coccinea*. - *Polygala senecio* - *Anemone thalictroides* - *Convolvulus multiflorus* -
Aquilegia canadensis - *Saxifraga hibernica* - *Batocia hirsuta* - *Viola palmata* - *V. cucullata* - *Hephyrea 3-foliata* - *Potent. arguta* - *Spiraea opulifolia* - *Betula alba* - *Sathyrium sp.* - *Corylus*, *Rhus* & c. + *79 Pyrus*
Antennaria sp.
 Those marked with — are from the bottom prairie the rest from the rocks. - The only large timber white + (black oak?) On the opposite side fine timber.

May 24. Passed mouth of bad-ax river at 8 o'clock. - In the afternoon we saw several Indians on the east side of the river, from the Wapashie nation, and passed three miles off, from their village at 3 o'clock, - On the west side of the river, partly inundated, we found *80 Equisetum uliginosum* which covered the bank, - ~~*Cedrus*~~ *Fagus* + *Fraxinus* (over of considerable size) but few *Blanus* + *Platanus*. - *Betula alba* + *Pinus strobus* cover the naked rocks but little. The river narrowed + high banks frequently on both sides, bottoms more elevated. Cool weather, little sunshine, N.W. Wind.

May 25. At 6 o'clock we reached the lower entrance of Lake Pepin; after sounding we obtained bottom at 7 and 6 1/2 fathoms; width of the bar at one mile; - 7 o'clock obtained bottom, 6 miles from the ~~lower~~ entrance 7 fathoms; - 7 miles from there, 7 1/2 f.; - 2 miles below Lovers' Leap, 7 fathoms, - 1 mile further 7 fathoms & 6 3/4; - 1 mile below obtained 6 1/2 & 6 fath. - off again 100 yards east from; 6 3/4 & 7; - off Rush-River at 3 1/4 past 9 o'clock, we obtained 7 & 7 1/2; - 1/2 mile further up, 8 1/4; - 2 miles below the upper end 3 & 3. - On the point at Lake Pepin on the land we found:

- | | |
|---------------------|---|
| 81. Salix alba? | 82. Galium sp; caule caespitoso, erecto, ramoso, quadr- pubescente. - foliis 4 verticill. lin. lanv. subacut. 3-nerviis, marg. revolut. scabris, subtus pubes. floribus termin. (?) |
| 83. Quercus | |
| 84.) | |
| 85. Acidium (Rosae) | 86. Cerassus depressa |

- 11 o'clock first village of the Sioux on the elevated bank west:-

- | | |
|-----------------------|--------------------------|
| 87. Callith palustris | 88. Ribes floridum |
| 89. Lathyrus sp. | 90. Boracae) |
| 91. Ribes triflorum | 92. Cenomice corallifera |
- in the bottom on rotten wood, - 5 and 6 o'clock 2 villages of the Sioux. - High rocks along the east side, partly of the west also - ~~little pine~~ beautiful white pines & birches on the rocks - near St Peters which we reached at half past 3 o'clock in the evening. Weather beautiful, warm, cloudy in the afternoon, rain at night - W.

May 26. At St Peters. We were engaged in removing our baggage & c - from the st. boat. Weather fine in the morning; stormy & rain in the afternoon & evening. NW.

27. Sunday - Cold & rainy weather high NW. wind.

28. On night went off Pike Island near St Peters

- | | |
|-----------------------|---|
| 92. Viola canadensis. | 95. Trillium |
| 93. Ribes cynosbati? | glabro, calyx 3 part. (pedunculato) ovato. anther. nerv. lineaq. |
| 94. | Corollae 3 pet. alba; petala obov. acumin. undul. nervis. Filam. brevissimi. interval. ovario hexagon. (basi inserta) anther. lanc. obtus. stylo 3 part. revoluta & ovario rubesc. fol. tern. 3. sess. divaricatis, rhomb. vel ovato acumin; nervis pubescent. confluent. |

Wood 1. Lilia alba. a. Fraxinus. b. Betula alba Populus d. Fagus sylvat. e. Juglans. f. Acer Nojundo. g. Lanthodium. frax.

Undergrowth. 1. Cornus alba. a. Viburnum b. Staphylea 3 fol. c. Prunus obovata? d. Ribes floridum - e. Ribes 3 florum. f. Vitis aestivalis. * Herbs. Umitacina bifolia. L. Lavender. a. Anularia perfol. b. Fragaria. c. Polygon. multifl. d. Anem. 3 phyllam. e. Viola Muhlleb. f. Hydrophyllum append. g. Actaea alba. h. Erythron. dens. c. i. Tanquer. canad. k. Lycop. parviflor.

Limestone. Trees on the rocky heights. 1. Quercus alba & nigra. a. Betula alba. - Shrubs. b. Prunus amer. c. Corn. alba. d. Aleanth. amer. * Prunus serot? - Herbs. - f. Peduncul. canad. a. * Balch. hirs. b. Fragaria viny. c. * Geranium macul. d. Thesium umbell. e. Umitacina var. f. * Viola cucul. lala & palmata, g. Artemisia sp. h. Stachys sp. i. Solidago. k. Gnaphol. plantagineum.

Deep on high moist places in the woods. 96. ^{deep} Equisetum palustre. 97. Anemone nemor. [11] rosea.

St. Peters.

May 28. *Adiantum capillus - b. Quercus interrupta.*
Cypripedium spectabile & *A. Equiset. uligin.*?
Shady & dry. *Anemone* 5 fol., 2. *Anemone*
monosa. a., *Pyrola elliptica*. *b.* *Hemeroc*
amer. d. *Hepat. acutiloba.*

In the water. borders of lakes 98. *Carex* sp. *Culms*
Frignets, fol. vernaequantis. flor. monocid, sub-pans
autatis, folis aestivalibus Frignetas longissim. margin
retrosc. verberumis, vagini glaucoscentibus.
Rocky Prairie. High situation. Pilot Knob.

99. *Astragalus conyocarpus*? 100. *Batrachia longifl.*

101. *Genus* sp. fol. interrupte
pinnatis. hirsutis, supra
pilosio - stipul. lat. rubescent.
pedunc. part. 2 stipulat, floribus
pendulis; calyx 10 part. sep. extern
lani. acut. diverg; infer. clausas
ovata. acum, sanguineus. Corolla
(clausa) roseo-alba. petal. lanceol

On the Top of (limestone) high Prairie Pilot Knob.

1. *Anemone ludoviciana*. 2. *Batrach. hirs.* & *Astrag.*
galus conyoc. *b.* *Batrachia longifl.* & *Genus* sp.

On the slope 1 *Viola pedata* (abundant) & *The*
simul umbell.

Weather clear & beautiful. N.W.

St. Peters.

May 29. Heavy rain, cloudy until evening. E.
30. Rainy, cloudy, sunshine N.E., heavy rain at
night. S.E., on the rocky banks of the Mississippi
102. *Corydalis aurea*. 103. *Cyathus* (Ranuncul.)

There is a great variety of colors in the
Viola pedata in different situations - This
side of St Peter river (on the right) especially.
I counted 10 different varieties of colors, from
yellowish-white & bluish white (milk color) gra-
dually deeper to a deep crimson-violet,
which last one is extremely beautiful and
more rare than any other - in many places
they are so dense, and as they arrive at
blossom all at once, the hill sides are blue
as the brightest sky, or still more beautiful.
- I found it remarkable that in the midst of
those millions of violets (*Viola pedata*) I did not
notice a single individual of *V. palmata*, whe-
ther among them, nor in the immediate neighbor-
hood, the cause of it ~~was~~, I believe is the soil.
The *V. palmata* seems to be more or less confined
to alluvial bottoms & limestone formations,
the *V. pedata* more or less to a primitive de-
posit and to more elevated situations. On the
left bank side of the St Peter River near the
fortness

May
31

St. Peters.

On the high Prairie around the Fortress.

104 * Euchroma coccinea. with * Ped. canad., * Polygala
venosa, * Viola palmata. Asteris sp. * Gerani. macul. Osmunda.
inter. Ceanoth. ambr. Viburnum pr. Liburn. oxycois.

- Rocky swamps on the high prairies, covered with different
kinds of willows, Prunus obov. ^{20 ft.} Pyrus oval. Populus. ¹⁸⁻²⁰
muloid ¹⁵⁻¹⁵ and 116 Salix fuscata. ¹⁵ Around the

marshes different species of Carex with Iris &
Scorus. & Eriophorum & Spinae Salicifolia.

106 Carex sp. 105. Eriophorum

107 Carex sp. 109. Carex.

- Up to the high rocky banks of the Missi-
sippi. 110. Nojundo fraxinifol. with fruit 18 feet.

111. Cerasus nigra Del. (?) 8 feet.
with Rhus typhina (12) fraxinus. white & black oaks of
middle size. Roses & Symphoric the most frequent un-
der shrubs also Rubus & Cornus. Herbs Triosteum pec-
foliat. Viola capucul. - On the banks: Old cedars &
white pines, birch, oaks of less size. The naked mar-
gins of the rocks is covered with a species of Artemisia,
glaucous & suffruticose, probably frigida, not in flower,
with it we found -

112 Arenaria laterifl. Hook. 113. Arabis sp.

114. Arabis. sp. 115 Cardamine Rhomboid.
(bottom swamps)

On sandy heights in the Prairie 108. Batschia Gmelin.
with Viola pedata. - B. hirsuta

Menisperm. canad. & Humul. Lapp. the only Clim. in the Wood
Weather fresh. NE. Cloudy and Sunsh.

June

St. Peters.

1. up to the 9th of this month, we were preparing
for our voyage up the St. Peter. River.

on hills, probably formed by drift-sand the
Viola palmata appears among the V. pedata
but very few, still closer down to the
fortress the Viola palmata is found appears
in its most common situation & association
among hazel bushes, ^{& in} open plains with Pe-
dicularis canadensis & Euchroma coccinea,
The associates of Viola pedata ^{generally} are Geum
rivale, Euchroma grandiflora & Anemone
ludoviciana and sometimes Batschia longiflora -

June

Up the St. Peter River.

9. From the mouth up, willow & Poplar cover the banks, chiefly *Salix petiolaris* & *discolor*, ~~populus~~ and a few *Hudsoniana*s - Low plains covered with *Agrostis* 3-4 feet high. - *Salix nigra* continues in the edge of the water 30-40 feet high with *Filix alba*, *Ulmus fulva*, *Rosa* sp. & *Vitis aestivalis*.

On overflown ground under *Fern*, *Carex*, *Helianth.*, *Lysim.*, *vitata*. 117 *Smilax peduncul.*, *Oxalis stricta*, *Thalictrum rugosum*, *Urtica canad.* - At 9 mile creek the bank rise gradually and are covered with fine large *Fern*, *Filix alba*, *Acer ^{excelsum} saccharinum*, the bluffs are near & covered with grass. - Seeds of *Salix petiolaris* ripe, also the *Acer saccharin.* - Of *Fern* were the *abundant* banks for some distance covered with *Osmunda interrupt.* *Anemone acropitifolia*.

On the Prairie the other side of Riviere on credit. 118. *Vicia* 119 *Lathyrus*

120. *Saxifraga maryland.* 121. *Rosa*

122. *Poa*

Weather clear, very hot. Temperature of the Air at 3 o'clock P.M. 86, 0 of the River St. P. 70, 0. A very heavy thunder storm at 12 o'clock with night. We made 18 miles. S.E.

June

Up the St. Peter River.

10.

No variation in the vegetation, which is very luxuriant. *Pinus pensala* appeared in high & deep swamps, which is also abundant at Lake Calhoun & Marriett near St. Peters.

About 8- or 10 miles below the Rapids on a rocky prairie

124. *Smilacina racem.* 125. *Thalictrum fimbria* with *Thalictrum* with in abundance, also *Urtica*, *Smilacina rac.* *Aspidium filix mas*, *Sanicula marylandica*, *Cypriped. parviflor.*, *languin. canad.* *Geum maculatum*, *Geum* sp. *Anem. acron.* *Thalictrum rugosum*, *Aquil. canad.* Very fertile land. - Weather changeable, Thunder, cloudy, high wind at the evening. We made 20 miles.

June

Up the St Peter River.

11. Near Sandbar Creek above the little Rapids on the limestone ridge beyond the little swamps.

126. Allionia with Umbellifer. (36) Allium, Galium septentrionalis.

At the spring near Sandbar village Phlox divar. & pilosa. Scyros lobata? - At the high bluffs near River Marchassaux:

128. Gramen 129. Menchies with Balth. Gmelin. Geum. No 94. Astrag. sericeus.

Grass plant. very much like the flora around the Pilot Knop. we passed today several high Prairies, with little Oak timber; the bottoms contain the same timber we found since we started off. We encamped at night on the right bank of the river near a little swamp or lake opposite the beginning of Round Prairie found two species of snail shells, Vicia Carex & Thalictr. Asclepias and a species of Cyperus which is about 3 feet high & very abundant. Weather fair, clear sky NW.

June

Up the St. Peter River.

12. 130. Mercurius? Piles plans, margine subnovo luteo lacine furfuraceo, nigrescente-fusc., centr. immers., Stigite subintr. terete, solido, furfur. striat; lamellis cellulosis confluent. (Popul. grandidentata.)

The country still of the same appearance fertile, but little timber, except the bottoms which are crowded with oaks, Elm, white & sugar maple, and the borders of the River with willow & Aspen. Grass high in the bottom prairies which consist generally of Carex, Vicia, & some acornifol. and several of the Compositae. We encamped in the evening at Riviere de l'ile Haute, and an Excursion through the bottom to the bluffs was made:

- 131. Camp. rotundifol. 132. Lathyrus.
- 133. Gramen 134. Phlox aristata.
- 135. Cypris-candid. 136. Cyperus
- 137. Carex 138. Carex
- 139. Eriophorum 140. Equisetum

with. Polygala tenax Batsch. hirs. Galium septent. G. hirt. Astrag. sericeus. Scyros Crataeg. Cyripedium parvifl. Geum. macul. Phacelia fr. ab. Fragaria. big. Weather fine, clouds, NW.

Up the St. Peters River.

Clancy early in the morning, from 9 o'clock in the morning rain, which continued until evening N.E. - At 11 o'clock we met with the only rocks on the shore (at the Albert Trott Creek) of Slaty, cherty, salmon red sandstone, river is more rapid, in some bends 90, 100, and 120 yards wide with several islands and sandbars. We encamped in the evening at the across prairie from the top of which we had a view of many miles. It contains a great many granit boulders, partly rotten & as the hill slopes coarse gravel. Here we found

141 *Hypoxis erecta* 142 *Carex* sp. and very near the same flora of Pilot Knob St. P. the variety as far as it could be distinguished in this season was as follows: (beginning from the Top, *Anemone* *lucida*, *Geum* 101, *Astragalus* *ericoides*, *Batrachium* *hirsutum*, *rotundifolium*, *Thesium* *umbell.*, *Petalostemum* *virg.*, *Senecio* *balsamifolius*, (No. 70. in ripe seed), *Potentilla* *agrippina*, *Gnaphalium* plants, *Imyrinium* 3 foliate *Gram.* 133., *Arnica* sp? *abundant*, *Lysimachia* *ciliata*, *Heuchera* *abundant*, *Lupinus* sp., *Tridacna* *ant.*, *Phlox* *acutata*, *Pedicularis* *canad.*, *Hesperis* *anceps*, *Eryngium* *aquat.*, *Viola* *pedata*, not abundant., *Vicia* 118., *Scutellaria* *parvifl.*, *Artemisia* *fol. glaucis*, *lami.* *arist.* *dent.* - *Gentiana* *cruciata* and black oak at the foot of the hills *Prunus* *atr.* *hasaw.* *Vitis* *aestivalis*, *Equisetum* 140.)

143. *Agaricus pileo irregulari campanulato*, glabro, croceo-
sordido, vel vitellino; stipite erecto, croceo, albo-lineato carno; lamellis
regularibus croceis, albo-marginatis. margine pilei 2-3 plis.
On the ground. The *Hypoxis* called by the Indians Chah - hem ~~but~~
Chah - chah, (Designs the little pea like bulb.) is collected by
the Prairie mice & subrid on through winter, but the Indians
gather up their stores and use it for a food
for winter, having very much of the taste of beans,
when boiled.

Up the St. Peter River.

144. *Agaricus pileo gomo flabelliformi*, lobato
undulato, albo, margine subrevoluto; stipite ^{lateral}
lamellis inaequal. ^{laeviss.} *demumresistibus candidis*. Ad costis
Salix nigra. *putr.* very fragile. on the river bank.

144. *Boletus*, pileo decomposito lobato undulato
albo, luteo-zonato, margine crispo, lamellis fi-
stulosis irregularibus. Ad lign. *putr.* *Cettis putrile*
at White Rock. at White Rock.

145. *Vitis riparia*. 146. *Prunus idaea*.

147. *Rhus radicans*. 148. *Menisperm. Canad.*

149. *Cornus circin.* 150. *Rosa parvifl.* *R. Canad.* *Max.*
with *Prunus Chickasaw*, *Juniperus virginiana*,
Cettis *occ. pumila*, *Strophopteris germanica*
arrived at 7 o'clock at the Fort of the river. For
Comp. at *Tarsens* *De Sioux*. Weather agreeable, rain
at the evening. N. W. (Granular Sandstone, ^{strata horizontal} *underlying* ^{lower} *part of Salmon str.*)



Le Rocher Blanc.

June 15.

At Traverse de Sioux.

151. Agaricus, pileo decomposito, multilobato, lobis sub-sarcinatis, hirsuto, strigoso, mucoso, margine revolutis, lamell. decurrentibus aequalibus albis. Hypelectonale vel centrale vel commune, in rotta Struan Peaks.

152, Stipa avenacea. 153, Hordeum jubatum.

154, 155 Senecio.

156, Poa 157. Oenothera, Planta

perenn. suffruticosa multicaulis, ramosa, ramis radice ligno lignosis integris gracilibus, pubesc. - fol. patentibus sessil. albis, linear-canaliculatis, acutis, remote-denticulatis, subtus pubescentibus - flor. subsessil. axill. Form. Sandy elevations of the Prairie. Planta glaucescens.

158. Epiphegus? Inaequalis succul. brev. agglomer. radicibus appress. ovals, nudis, - caulibus patentibus lan. mag. invol. apice recurvis, pedunculis tenuiss. inaequaliter, teris unifloris; - Calyx corup. 5 part., part. lance-acum. flor. patent. - Corolla form. plicat. 5. lobis, stigma peltate. Planta parantica, viscid. pubesc. Sandy elevation of the Prairie. Weather fine. N.W.

June 16.

At Traverse de Sioux.

159. Lupinus. - Rad. granulos. tuber. caudex angustatus, caule erecto, trunco villarissimis, pubescent. - petiol. long. Divergent canalic. hirsut. - foliis 5-8 digitatis; - foliol. lance. acut. subtus. et nerv. medio superficie velutinis (conduplicatis) reticulatis; - pedunc. axill. divaricato, tenete, hirsuto, petiolo longior, floribus subverticill., spic. bract.; - Stipul. basi petiolo connatae, lance. recurv. ciliatis; - bract., ovals. lance. concave, ciliatis, ciliatis, membr. pellucid. - Calyx ves. ovals. saginatus, gibbosus, membr. pellucid. hirsute, 2 part. 4-5 lobatus, (lobis inferas longissimis) lac. lanceol. acum., 3 nerv. vix. dit. - Vexill. spatul., submembr. gine, plicata; - alae semisagitt. obtus. - Carina lupineae antegrad., - filam. connata (libera); - Stylo vaginato, apic. recurvato, basi barbato. Legumen

Prairie. Tiptonia weather fine. N.W.

Part Oenothera 157. foliis simplicibus subsessilibus, lanceolatis, acutis, acute serrulatis, foris. nec-marginatis. Subtus albis velutinis. Corollae sessilibus erectis patentibus, petalis subcordatis marginibus crispis, staminibus suberectis uncinatis stigma 4 partibus, subpeltato. capsula prismatica quadrangulare obtusa. albo sericea. Capsula colonata 4 part. 4 nervis. Planta sericea. floribus aureis. At the Indian Red Pipe Stone Quarry July 1844

June 17

At Traverse des Sioux.

In the Prairies around the boulders:

- 160. Asclepias
- 161. Physalis lanceolata.
- 162. Sparganium
- 163. Potentilla
- (150, b. Rosa)
- 164. Lithospermum
- 165. ~~Sparganium~~ Gynandrium laevi Michx.

The bluffs or hills along the St Peter River are remarkable for the variety of plants, which is owing to the variety of Soil & the different elevations of the hills. The alluvial bottom along the River abounds with all the rough plants with which they are most everywhere ornamented. besides those:

The hill raise in shape of Terraces and consist of (decomposed Sandstone)? - here a different vegetation takes place, the whole plains are filled with *Avena* & *Hordeum*, which are both in bloom. *Pluchera americana*.

June 18

From Traverse des Sioux to traverse des Riviere aux Liards.

We started off at 11 o'clock A.M. The road was very wet & swampy filled with the bloom of Iris & Senecio & with the common yellow umbellif also Eriophorum & 166. Asphodelus?

The dry part of the prairie were covered with *Gallium septentrionalis* in the evening we encamped at Lake Millee which is bordered with some very fine timber of the white oak; and filled with *Lizania aquatica*. The flora is still the same with the exception of the above *Asphodelus* & *Eryngium aquaticum* which is more frequently. Whether fine, a little rain in the afternoon, distant thunder in the evening. N.E.

June To Traverse des Rivières and Liards.

19. Passed the Swan lake from 10 o'clock to 3 o'clock. 167 *Lixania aquatica*.

Little groups of *Sonophyl. marg.* in the prairie; prairies without change in the flora. Arrived at the crossing place of St. Peter's river at 6 o'clock in the evening, at nine o'clock we were encamped on the opposite side near the village of Sleepy eyes chief of that band of the Assiniboin band of Sioux. Weather extremely beautiful, N.W.

Temperature of the prairie at 4 o'clock in the morning 62, 5.

Ugonia Wa-chanksi-tchah-tah-neh-zshu-tah. The medicine for the bear.

Rudbeckia purpurea I. Schach-pe-huk. root that causes so fall, (the root is said is destructive to the rattlesnakes).

Eryngium aquaticum Kehy-yangtang.

[26]

June Started at 11 o'clock in the morning from our encampment on the opposite side of the St. Peter River. The valley of the River St. Peter, particularly the opposite side presents itself from the high ridge prairie beautifully, very much like the scenery along the Rhine, in respect of form & vegetation. The white oak cover the banks & the heights appear like planted orchards, interrupted by green alleys with grass, on the foot of it the water of the river is visible & the windings of the river for many miles.

Plants in blossom.

Phlox: *Amorpha cana*, *Ononis violacea*, *O. stricta*, *Phlox aristata*, *Gatium septent.*, *Anem. am.*, *Vicia*, *Vicia*, *Stipa* evenered. *Thesium umbellat.*, *Gatium tinctorium*, *Menchera amer.*, *Lysichit. am.*, *Physalis lauc.*, *Sonoph. marg.* (*Phacelia* fruit). 37. *Thalictrum*, *Equiset.* 140. *Beta*, *Shia hirsuta*, *Iris* 168. *Asphodel.* 100. - *Lixia cordata*, *Pedicul. canad.*, *Polygala seneca*, *Senecio*, *Lupinus* 159. Little groups of *Ceanoth. amer.* in the prairie, the leaves of which the Indians use for a tea - on the hill sides groups of *Symphoricarpon glomerata*, - lakes covered with *Senecio*, *Lixania aquatica* & *Eriophorum* encamped on the bluff of Rivière aux Liards. The bottoms consist chiefly of *Tilia amer.*, *Acer sachar.* & *Erica angust.* found on the banks *Ugonia* in bloom collected 109 *Asclepias* river banks. 170. Potomac. [27] 171. Potomac. Weather fair S.E. cloudy at night.

June 21.

Up the Coteau de Prairie.

Started from our encampment at the Riviere aux Liards at 5 h. 5 m. Passed several lakes in N. E. direction bordered with white-oak timber (white oak). About 9 o'clock we passed about 6 miles off N. an unknown wood, or a Prairie Island with fine timber. The place where all the lower Indians go to hunt musk-rats; crossed a fork of the Riviere aux Liards ~~where~~ which banks were covered with *Prunus Michxasaw*, and chiefly with *Betula populifolia*, & *Quercus bicolor*. found, on the rocky side

172. *Astragalus*

173.

174. *Equisetum*

175. *Betula populif.*

176. *Ranunc. fluit.*

177.

on the banks of Riviere aux Liards 178. *Delphinium nudicaule*

179. *Astragalus*, rad. longis, ^{caudice} ^{hinc} multicaulis. fol. radicalibus imparibus, petiol. long. glabris. canalic. crinitis, foliol. line. linear. appon. cont. ~~puberulis~~ glaucis, infer. alternis, sup. oppos. stipul. implexiculis. bifid. membran. fissis lance. ovatis, acuminatis, nervosis; peduncul. axill. erectis, elongatis, subteretibus, pellucidis. lineatis, pilosis; flor. spicatis, semivestibulatis sessilibus, bract. ovatis, long. acumin. appressis villosis; calyce corollae albo velutino, sepalis adscissis. — *Planta glaucis* conata, floribus purpureis. Rocky places in the prairie.

Flora the same as yesterday with the addition of the above, ~~with the addition of~~ and *Cynopis canadensis*, *Hypoxis crecta*, *Tradescantia virgin.* & *Hypoxis crecta*.

We encamped ~~on the~~ on the ~~tributaries of the~~ tributaries of the Riviere aux Liards. Weather fair. W. S. E. strong.

June 22.

Up the Coteau de Prairie.

No change in the appearance of the vegetation, we travelled the a very uniform part to day, and encamped near one of the sources or the tributaries of the Riviere aux Liards. We met a great many rocky situations with a great variety of granite, which were examined & specimens collected by Mr Nicolet, crossed the Riviere aux Liards, and encamped at night on one of the tributaries of the Riviere aux Liards, a little stream completely covered with grass & willows, out of it we collected to day

180.

out of a grassy lake this morning.

181.

182.

182.

183.

184. *Epilobium*

185. *Amorpha frutescens* ^{Rivier.} ^{aux Liards.}

Weather fair, very cool at night, S. E. W. very strong. clouds.

June
23.

Up to the Couleau de Prairie. The Prairie is undulating, and the variation of the flora is only noticed on the ridges; the lower part, near great the common plants, which are generally found in the low bottoms and wetted grounds, The ridge bears plants, generally with a whitish green foliage as several *Artemisia*, *Antennaria*, *Amorpha canescens*?, 189. *Oenothera canadensis*? 190. *Potentilla bipinnatifida*? and several others to pass advanced to find out their generic character. — Arrived and the so called Pelican Lakes (Made-nah-geh-which in Nak) we found 192., *Physalis* 193. *Senecio*? on the low banks. 186. *Potent. supina*. 187.

188. *Ranunculus sceleratus* and 189. *Ranunculus Purshii*? both in stagnant waters with *Cyperus* interwoven. Weather fair, S. E..

The borders of the lakes are well timbered with white oak from 30 to 40 feet high, and the only high tree, ^{near to *} the underwoods of *Fraxinus*. *Prunus chickasaw* willows, *Symphoricarpos glomerata*. Raspberries, *Vitis riparia*, *Rhus* *radicans*, *Ampelape*. 5 fol. + *Pappa grandident.* *Amorpha frutescens*, *Menisperm. canad.* *Anemone arifolia*. *Allionia arifolia*? on the sandy shore with *Potent. supina* + 187. *Rumex crispus*

181, 182, 183, *Myriophyllum verticillatum* in the bottom of the lakes.

June
24.

At Couleau de Prairie.
Encampment near the Pelican Lakes.

Sunday — Weather fair, strong N. West Wind. Cloudy + calm at night. We rested ourselves + took several meteorological observations.

June
25.

At Coquette de Prairie,
Encampment near the Pelican Lakes.

Floating 196. Potamogeton crispum, and
out of the bottom with 199.
On the ^{low} shores 194. Silene 197. Allium
with Asclepias (160.) and Arabis (113.); low
on little heaps in the bottom. On the ridge I found
198. Astragalus, radice subliqu. radice multicaulis, stru-
gato, flavido, caute perstrato, subterre; ramulis filis-
que secundis, petiolis 2-stipulatis divergentibus, recurv.
canalicul., foliis impari-pinn. 8-9., foliolis suboppositis,
sub-ovato-lanceis, obtusis, subconduplicat., pedunculis axillaribus
erecto-patentibus, petiolo dupl. longioribus quadrangul. repan-
do vel exarato ~~retortuoso~~, tenue; stipulis amplexicaulis,
semi-ovate-acumin.; bract. minutis, filiform. villosis;
floribus remote-axillaribus, recurvis, calyce colorato, albo-
velutino; sepalis minutis; Corolla parva, vexillo pur-
pureo, albo striato, alis ~~camis~~ ^{atris} purpureis, le-
gumine pendulo, lanceol. subinfl., velutino, purpureo-picto.
Planta humifusa, basi caulium glabra, ^{sub} argen-
tea, multicaulis, nitens. The first appearance.
Weather fair. N.W.

June
26.

At Coquette de Prairie,
Encampment near the Pelican Lakes.

200. ~~Potamogeton~~ radice subterr. fibroso caulis
erecto, ramoso, terete, glabro. petiolis, connatis, semi-
amplexicaulis, fol. patent. diverg. oppos. triangulari-
cordatis, subdecurrentibus scabris, pedunc. Erecto
terrib. elongato, ovato, spala perianthe ovata, ovata
involuta, rigida, apice recurva. Radice 2-3 dentatis
plicatis. Pl. multicaulis, elata. fol. floralia sub-
alternat. On borders of woods. Seen in
the morning & forenoon, clear in the after-
noon 1844.

June
27.

At Coquette de Prairie to the Head Waters
of River Des Moines.

Started from our encampment at the Pelican
lakes at 10 o'clock. The flora on the prairies is
still the same only *Artragalinus* is more fre-
quent, also *Benothera canad.* We saw a little flock
of large snow white birds with black wings, which
our men called cranes, they were grazing on the
prairie. 2 o'clock P. M. we crossed one of
the head waters of sources of the River Des
Moines, about 4-5 yards wide. We met with two
other parts of Pelican lake. we encamped in the
evening, at the ruined establishment of Mr
Laframboise in a bottom like valley and an
adjoining wood, and lake, this is the last Woods
we shot with for a whole week. Weather
fair. Thunder & rain at night. S. W.

June
28.

At Coquette de Prairie to the dividing
ridge of Mississippi & Missouri.

At 5 o'clock in the morning we proceed-
ed. after we took a good provision of
wood. This wood is one of the most fertile
and the timber is not inferior to any
in the Mississippi bottom. it consists chief-
ly of *Quercus bicolor*, *Lilia amar.* *Fagus*
lype. *Fraxinus am.* *Celtis occident.* *Lar-*
thorax frax. &c. The adjoining lake is filled
partly with *Calamus*, *Strand.* *Equiset.* & and
full of birds, & fowls, Musk rats in l.p.

201. *Hexacleum villorum* from the Woods.
with *Filicium erectum.* *Arctia nudicaulis.*

As soon as we had passed the wood the
Prairies appeared still with shorter grass, about
3 inches long; about 9 o'clock we crossed another
branch of the head waters of River Des Moines.

208. *Potentilla missouriensis.* covering the ground
under high *Carex* in low places. At 4 o'clock P. M. we ar-
rived at the Dividing Ridge of the Mississippi - Missouri
ri. Vegetation very poor. Shortly before sunset we
encamped in a valley on one of the sources
of Sioux River. covered with *Nuphar* and
benad. Weather fair, Thunder and very little rain
in the afternoon. Stray S. E.

June
29.

Arrival at the Indian Red Pipe Stone Quarry.

Started from our encampment at 6 o'clock
arrived at 8^h 30^m at the main source of
Sioux River, in a winding valley, surroun-
ded by high barren & gravelly, with a little
vegetation; (3000 feet above the level of the sea)
Such as *Thesium umbell* Abnagal. *Euchroma grand?*
Sarcocolla Balsamita,

202. *Linum* 3-5 inches. with
large flowers. & 203. *Gaura bicolor?* but 3-6 inch
high. *Oenoth. canad* 2-3' *Lupinus micr.* 3-4"
Geum with ripe seed *Anemone*. Arrived at
the Battle ground of the ancient Yanktons
& Tetons, where the breastworks are still visible
and at 2^h 15^m at the celebrated Indian
Red Pipe stone quarry, under a heavy thunder
shower & strong N.W. Weather clear towards
evening. 204. *Pentastern. grandiflorum?* at the
top & foot of the Quarry. Rad. incomp. amara.
caulis erecto (integrifol?) terete, glabro. fol. radical.
petiolatis spatulatis, ovato lanceol. acutis decur-
rentibus. Fol. caulia connata, opposita, patenti cordato-
ovata lanceol. (oblonga). fol. floral hemisphaericis
acutis divergentibus. Flor laxis & ternis. pediculi bre-
vi. incrassato post aestivationem erecto, rigido. sepalis
calycis, caetera lanceolata, acuta. Planta gymnosperma
rigida, ^{robusta} glauca, speciosa, grandiflora. fl. lilacibus.

The Quarry.
According to the information of Mr Nicolle.

June
31.

At the Indian Red Pipe Stone Quarry.

204. *Pentstemon grandiflorum*? radice ^{amanda} suberosa. caudice
incrassato. caule erecto integro terete glabro; foliis radicalibus
deorsum - petiolatis, spatulatis, ovato-lanceolatis, divergentibus;
foliis caulibus connatis, oppositis, petiolatis, cordato-ovatis,
lanceolatis; fol. floral. divergentes hemisphaerice, acuta, bracteosa,
floribus axillaribus & terminalibus. pedunculo brevi, post aesti-
vationem incrassato, erecto, unifloro; Sepala calycis, ovata
laev. acuta. - Planta rigida glauca gymnosperma, floribus
conspicuis lilacinis 4. On the Rocks, in the creek and on
the humus kept on by rain with *Talinum* tenet. *Potent.*
bipinnatifida &c.

205. *Pentstemon pumilus*? caule erecto glabro, foliis
radicalibus ^{sessilibus} (ovato) lanceolatis, integerrimis; caulibus, semiem-
plexicaulibus, patentibus, oppositis, lanceolatis, acuminatis remote
serrulatis; floribus axillaribus & terminalibus, parvifloris spiratis, (pa-
ris). pedunculis erect 1-2 furcatis (bracteatis vel stipulatis foliis
floralibus.) Sepala calycis semi-ovata lanceol. acuta. (Sepala
superiora ovata, acuminata, reflexum.) Corolla pubescent. lobis
subaequalibus. Stigmata ^{longuata} apice recurva, superficie longitudi-
nalliter aureo-barbato. with the former on the Rocks
~~and~~ 206. *Aster*

207. *Talinum tenetifolium*, on the tops of the rocks
in the humus. with 208. *Plantago*.

209. *Crataegus virus galli*. 210. *Evonym. atropurpureum*.

211. *Acalypha virginiana*
Weather fair.

July
1

At the Indian Red Pipe Stone Quarry.

212. *Althionia* rad. carnoso, nigro, dulci; caudice
1-4 partito, caule erecto, (ramoso), terete, rigido, villosa, foliis
sessilibus, paterite divergentibus, ovatis, acutis, undulatis,
subseriatis, subconvolutis, nerv. subtus scabrosis, floribus axilla-
ribus & terminalibus, subracemosis, pedunculo subnecto, post aesti-
vationem divaricato.

Planta rigida, alba-villosa, hirta, foliis subtus pallidioribus
floribus roseis, filam. violaceis, corolla rotata 10-loba.

213. *Spiraea salicifolia*, caule frutescente lignoso, vixato, ramoso,
pallido-fulvo, nitido, ramis patent. divergent. floriferis, nitidis. foliis
sessilibus, patent. divergentibus, lanceol. (oblong.) serratis, subtus
pallidioribus, floribus terminalibus, spiratis paniculatis, albis.
(fol. floralia minuta.) pedunc. partial. subpubesc. bracteatis, sepal.
calycis, 3-angul. floribus, 5-angul. albis. On the Rocky plains,
from 2-3 feet high.

214. *Cerastium* covering the cracks of the
Rocks but already gone, intermixed with *Cerastium*
patens.

215. *Lycium alatum*? caule erecto vixato 4-angulo-
lato, lato, foliis sessilibus, oppositis, subalternis, subternis,
lanceolatis, basi cordatis, undulatis, floribus axillari-
bus, sessilibus, hexandris, petalis, spatulatis, lilaci-
nis. - Planta subsolitaria, gracilis, foliis floral. bractea-
formis. Radice subserpentaria. Around the little lakes or ponds
between the Rocks, not abundant here.

216. *Paspalum* with the former but more abundant

217. *Euphorbia helioscopia*, scattered over the dry rocks,
which were inundated in the spring. Very small & not abundant.

218. Borders of the creek below the falls.

219. with the former, both not abundant.

July
2

At the Indian Red Pipe Stone Quarry.

220. *Geum album*, On the border of the creek with the former, not abundant.

221. *Ranunculus* climbing over the shrubbery under the shade of the rocks, (This plant and the *Cosmosyris atropurp.* & *Vitis riparia* prove that this place formerly was covered with high timber, as the area now found but as undergrowth, with several others.)

222. } Both along the rocky
223. } Ponds among Carex, Sparganium, *Taichophyton*, the pond itself decorated with *Ranunculus fluitans*, *Najas advena*, *Myriophyllum verticillatum*, *Sagittaria* several species, *Veronica beccabunga*.

224. with the former.

225. On dry rocks amidst *Pentstemon grandiflorum*, *Cactus* &c.

226. *Amonophal canescens*, the striking character & color of the N. Western prairies from Galena ~~up to this place~~ ^{up to this place}, the first blossom which appears I have found it also in the prairie in the upper Missouri but not so abundant.

Veronica 105. *Traverse des Sioux*, this plant is in great perfection in shades under the rocks.

Radix verticalis, ramis subliguis, carnosae fibrosae, externe fuscae nigrae, amarae, caudice incrassato, 1-3 partito; caule erecto, nemoso, terete, ramis patentibus divergentibus, ramulis axillaribus floriferis; foliis subsessilibus, oppositis, divergentibus, subpinnatis, ovalibus, acutis, subtus pubescentibus, pallidioribus;

July
3

At the Indian Red Pipe Stone Quarry.

floribus axillaribus & term. corymbosis; pedunc. general. divergentibus, canaliculatis, post nunc mutis basi stipulatis. Stipulae lanceol. acuminat. ciliatis, calyce minuto, 5 dentato, corolla campanulata 5-loba, lobis acutis reflexis; Stamina sagittata, oviformia cohaerentibus, stigma ovali (stipitato?) includ. gemine 2-partito, folliculis subglobosis circumdati, filamentis alternantibus. Pl. glabra, foliis basi, floribus roseis, albo-striatis, 1-2 feet high. *Cyananthum laevi*? *Mischance*. The follicles alternate the filaments, which are closely united or expressed & include the stigma, in an ovic. shape (stigma on both parts of the ovary).

July
4.

At the Indian Rock Limestone Quarry.

Flora.

a, On the top, or surface of the Rocks, exposed to the Sun. - spring flowers, now with near ripe seeds.

Draba caroliniana, *Cerastium nutans*, *Androsace septentrionalis*, *Planchonella americana*, *Cerastium dichotomum?* *Aquilegia canadensis*, *Geranium vivale*, *Gnaphalium plantaginifolium*, *Geranium parviflorum*, *Arabis stricta*, *Anemone Thesium umbellatum*, *Dicentra virginea*.

The lower rocks are partly covered with *Lycopodium podium*: most destroyed by the heat of the sun, with *Opuntia vulgaris* & a smaller variety, perhaps both distinct species. b, Summer flowers, now in blossom.

In the cracks of the upper & lower Rocks, & in the accumulated vegetable substance deposited by inundation & rain.

Tatimium tenetifolium, *Delphinium 3 dactylorum*, *Potentilla arguta*, *Pot. bipinnatifida*, *Oenothera canadensis?*, *Plantago virginica*, ~~Plantago~~ *Pentstemon grandiflorum*, *Pentstemon pinnatifidus?*, *Antemisia frigida* (now in bloom).

Lower down & on the Prairie.

Thalictrum dioicum, *Aster amplexicaulis*, *sericeus*, *Aster* 195 *Achillea* *Caalis violacea*, 197 *Allium* *Anemone virginiana*, 37. *Umb.* *Smilacina*

Allionia hirsuta *Caalis stricta*, *Amorpha canescens*, *A. frutescens*, *Vicia americana*, *V. cracca*, *Tradescantia virginica*, *Petalostemon violaceum*, *Oenothera canadensis*, *Aster*

prae *Syphium alatum*, 166. *Asphodelus*, *Polygo-* *nium amphibiaum*, *Euphorbia heliopsis*, *Arabis stricta*, *Silene stellata?* 218. *Gramen* 219.

Nuphar advena, *Myriophyllum verticillatum*, *Ranunculus fluitans*, *Dicentra virginica*, *Lilium uniflorum*.

July
4.

On the top and amidst the Rocks

Trees and Shrubs with fruit. *Fagus sylvatica*, *Quercus bicolor*, *Inaximus acuminata*, *Enataegus crus galli*, *Evonymus atropurpureus*, *Anonia ovalis*, *Cerasus hyemalis*, *Cerastus depressa* (on the top in the cracks), *Corylus americana*, *Ribes cynosbati* & *floridum*, *Vitis riparia*, *Menispermum canadense*, *Smilax herbacea*, *Rhus toxicodendron*, *Amorpha frutescens* *Ampelopsis 5 folia*.

Spiraea salicifolia now in bloom. *Symphoricarpos racemosa*. In consequence of the scarcity of woods in this place the timber here is merely stumps & is daily decreasing, depriving this beautiful scenery of the grandeur, which belonged to it to some extent.

The ponds below the falls of the creek are bordered by *Salix petiolaris*, but the more they are toward the Prairie the more they are naked, and only surrounded by high grasses.

Remarks.

July
5

At the Indian Red Pipe Stone Quarry.

227. *Polygonum amphibium*. - *Poa aquatica* var. *americana* Torr. along the creek, collected 3 days ago -

Post 100. *Riviera* and *Liards*. Rad. (sublignoso) crasso, caudice 1-2 partitis, - caule stricto, ramoso, subterreter, obtuse 4 angulato; foliis sessilibus, divergentibus, oblongis, acutis, basi cordatis, crassinerviis; (nerv. albis pellucidis) subtus pallascentibus; - floribus terminalibus, (corymbosis) umbellatis; - Ped. uni. part. stipulatis; ~~stipulis~~ stipulis: - stipulis linear-lanceol. acuminatis, appendiculatis membranaceis; - Sepala Calycis, - lance-linear-acuminata, membranaceis, corollae subaequalia; - Corolla minuta alba-vivida, monopetala, lobis semiovatis. * Shades, particularly in the high grasses of the Coulers & River Bottoms & margins of Lakes & Ponds. Very Abundant.

228. Umbelliferus.

Cicuta maculata Linn.

Rad. subbulboso, pro-noso, fibroso, carnoso, caule erecto, subflexuoso, ramoso, articulat. subter. lineato, glabro, nitido, fistuloso; - fol. rad. longe petiolatis, 3 angulatis, 2-3 pinnatis, apice saepe duplicatis; - petiolo com. subterete, solido, pulverulento, partial. constrictatis; - foliis sessilibus, lanceol. acute & mucronulato serratis, subinduplicatis, folia caulina amplexicaulia, patentes; - flor. lineari-lanceolata, ternata; - ramis patentibus.

divergentibus, subsolidis; - Involucro generali monophyllo, lineato; - partiales 3-10 phylla laterale, lineare-acute; - petali subcordatis, marginibus inflexis, apice subcordatis; - sepalis calycis, minutis, 3-angulis albis; petalis alternatis; - filamentis suberectis, petalis aequalibus, (& petalisq. Cal. Sep. altern.) The filaments, are with the segments of the calyx alternating the petals, germ flat, the short style upon it, in the centre subbid. the surface of the germ shining & uneven. Rocky Wet Meadows, in the high grasses with the former, abundant.

229. *Scirpus*, gravelly inundated soil & marks on inundated Rock now dry.

Post 200. *Aster*:

Rad. fibre. comoso, bienne, caule erecto flexuoso, folioso, subhirsuto, sulcato-lineato; - fol. rad. petiolatis, subopthalmis, acutis, remote-dentatis, hirsutis, 3-nerviis, caninis erecte patentibus, sessilibus, decurrent, lanceolat. acutis, laevibus, 3-nerviis; - floribus corymbosis, ramulis patent. divergentibus, axillaribus floriferis, folia floralia minuta, fimbriata; - pedunculis diversicatis, unifloris; - Perianthis imbricatis; - squamis linearibus, acutis, pilosis, pellucidis, appressis; - Radis duplicatis linearibus, caninatis, disco luteo. - Planta inconspicua, pubescens, tristis, pallidescens, Borders of Woods & River banks, Common & abundant.

July 6.

From the Indian Red Pipe Stone Quarry up to the Coteau de Prairie Perse

Left our encampment at the Pipe Quarry at 4^h 30^m & went on North. The morning was very foggy, so that we often were compelled to stop. The vegetation is very poor on the ridges; the grass is thin & short. 231 *Silium Catesbaei* with its bright vermilion colors appears high & low, with *Rosa parvifolia* but no other species of rose appeared yet. A small rigid 232 *Aster* in bloom, probably deformed by the burnings, with a white flower petals & disk. with 233 *Acerates*

234 *Anemone virginiana*, - 237 *Labellia* fol. ovatis-spatulatis, fimbriatis, subdentatis; caulibus sessilibus, caule pubescente, subterete, a small erect species with azure flowers & white inside 6-8" low & high Prairie.

239 *Tuonicium canadense*. Root repent, articulate, joints fibrose, stem erect, integer, articulate, 4 angled, subrepand, hirsute, pithis repliatis, foliis subseriatis, patent. diverg., lanceol. ovate adnatis, base truncate; serrate, hirsute, nerves white & pellucid, spike verticillate bracteate; - bracts ovate-subobovate, cuspidate (acumin.) villosa fimbriate. - Calyx 5 dentate, acute, corolla bilabiate, inferior lobe 3 lobed, whereof the middle one is coriaceous, the upper part is fimbriate & entire, *Didymia Gymnarrh.* [46]

Among the high grasses, flowers purple & white variegated, in whorled spikes. very abundant in the boulders.

238. Radice bulbosa palmato, succulento, caudato; - caudice gemipari, caule erecto, foliis, irregulari-angulatis, subtorto; - foliis vaginantibus, - Folia radicalia patentia, breviores, ovalia, ^{vel squamose} (caulina suberecta, lanceol. elongat. foliis superioribus, angustata appressa, (caulinis + radicalibus, cristalliana), floribus spicatis dense bracteatis, gemine sessile, torte, inequali-angulato; - sepala perianthii subaequalia, superior ovatum incurvum; lateralibus obliqua; - Petala 3, superiora conniventia, lanceolata, obliqua, limbo integra, lanceolata acuta incurva, calicinate, calic. clavato subinflato, ^{germinali} tabula brevior; - Columna 3-lobata, 2 auriculata antherifera, ovata, - (Pollinia lateralibus stipitata glandulae stellata aggregatae -) The whole flower very indistinct & small. Boulders at Coteau de Prairie Perse near Woods - 20" high.

Post Astragal. 179. Legum. ^{ine} sessile erect, sides subinflated, acute, (style persistent exserted), alba foventoso-villosa, conarea rubescente. *Buffaloe* seen by our Indian, Lake ^{bordered} with fine timber. The most substantial trees, *Silva* amer. & *Fraxinus americana* *Quercus bicolor*, - the Lake 1 mile off is 13 miles long & 1 1/2 wide; the boulders contain fine coal & clear water, that of the lake is greenish. - The spanish fly is here so abundant on the above *Astragalus*, that the air is fetid on the shores of the Ravines. - N. Wind fair weather. [47]

July. From Coteau de Prairie Perce, to The
7. Riviere Croche.

Left our encampment at Lake Perce, at
5^h 15^m N by West. Cloudy dull morning.
Cypripedium candidum on the slopes of the
ridges, in fruit. On the elevations with
Antennaria 240. Pentstemon, - caudex
radicans, caespitose, with many stems; stem erect,
low, leafy, radical leaves with long petioles, in-
volut, lanceolate, acuminate, obtuse; cauline ones sub-
sessile, patent, opposite, superna, acuta, sessilia;
pedunculis axill. erectis, rigidis bifloris - partice
ones bistipulate, inaequal (flowers paniculate)
pale-purple, the sepals of the calyx equal,
lanceolate, acute, mucronate, rigid, - capsule
ovate bivalved, mucronate, glabrous, (the leaves
are coriaceous, entire & sharp dentate, remote
& acute serrate, subundulate & crisp, variable)
supra cum caule & pedunculo pubescentia & glan-
descens. - A plant very differing in its foliage
and only found on dry ridges, very rigid &
scarcely 10 inches high. -

Poot. Lupinus 159. Legumine monosperma
nostrato-acuminato, albo-villosa, & sem. compla-
reniforme.

241. Leguminose, Radice e-
longata, tenace, albo, cortice 1-3 partito, caule
erecto, subflexuoso, terete, subcato, pubescente
& albo-verruculoso, lenticis, piloso; foliis

impari-pinnatis; petiolo commune, cana-
liculato, partibus tractibus; = foliata (5-8 pinnis)
lanceol. acute, (punctate verruculose.) - Stipe-
lis, linearibus acutis, minutis, dichiscentibus,
floribus, axill. sonivo-spiratis, bracteatis,
pedunculis berribus, erect-patent. (exar-
petiolo brevior); - bracteis ovatis acuminat.
membranaceis; - Calyx inaequalis (basi gibbosa)
inflatus, 5fidus, glandulos & glutinoso piloso,
sepalis linearibus; vexill. elongat. oval lance-
olate, patent. fulvido-lineato; alis minutis, semi-
partatis, angustatis, carina minuta, viride alba
elongata ^{legumine verrucosa} incurva, - (Radical leaves are all sti-
pulate 2, semiamplexicaul. 3 ang. ovate acute.
This plant appeared first on the crooked river
in the high grass & then often on high grassy
situations & margins of Ponds & Lakes. abundant
1-2 1/2 f. high. Weather fair.

July 8. From Riviere Croche to ~~the~~ ² Lodge Lakes.

Left our C. at 8^h 45^m in N. direction. the crooked river for a long time on our left. with some Willow & Oak on the margins. the bottom of it contains very high grass, intermixed with Thalictrum & the Legum. 241. The silvery Lupine is still increasing uniting with other plants, additional to the former of that color. We crossed the crooked river at 10 o'clock A. M. the current is swift, the water white & clear, bed rocky & gravelly we found a species of Unio with the same species of Leeches as in Lac Pelican. The river is about 12-16 yards wide & full of Conferves & Potamogeton, the lowest stand of water about 18-24" a branch of Rock River? On a sandy elevation close by the river, covered with Gillenia, Artemisia I found a Buphthalmum?

242. Rad. caudata perpendicul. caudice multipartito, caule prostrato, expanso, suberectis ascendens) ramose, tenete, folioso, hirsutissimo, pubescenti foliis integris, ovatis, laevibus, undulatis, cordatis, alternis, - inferioribus, lanceol. basi angust. subpetiol. decurrentibus, obtusis, superna semiamplexicaul. oblong-lanceol. recurvis; - Perianth. imbricat. squamis erectis linearibus, appressis, sericeis; foliis floralibus circumdat. Pappus setosus articulatus.

Consumed between the Lake of the two Bank Lodges. Sultry & warm weather. S. C.

July 9. From the Lakes of the two Bank Lodges to the Cactus Lake,

243. Lupinus Radice crasso divergente ramoso, caudice nodoso, caule erecto, ramoso, flexuoso; - foliis petiolatis, disjunctibus; - Caulinia digitata; superna & fol. ramorum ternata; - foliola subser. elliptica-lanceolata, obtusa? peduncul. axillar. patente. inflexo vel coarctato, - petiolo communis canaliculato, destipulato; - Stipulis lanceolatis, (aruminatis), margin. incurv. obtusis, floribus spiratis; - spicis pauciflor. - racemulis 3 floris, sessilibus, bracteatis, calyc. bilabiatis; lobis suprema brevissima fimbriatis, infera lineari-acuta elongata, corollam sequente; marginibus involutis, - Vexillum cordatum, marg. involutis; - alis unisagittatis, obtuse-ditatis, carina minuta. - Planta argentea, floribus minutis aruncis. This plant appears on the bluffs along the St. Peters, near Traverse des Sioux, and is very abundant on the Coteau de Prairie, that it characterizes the country, by its beautiful silvery color, it is more generally on level ground, but sometimes noticed in every situation.

Started at 8^h 30^m (after we witnessed several heavy thunder showers around us, without having much of the rain, by J. E. Wind.) took our route N. E., at about 10 o'clock we reached a Lake surrounded by some shrubbery of Black choke Cherry, Willows, Fraxinus & Quercus bicolor?, on the rocky & gravelly inundated shore I found in the high grass & other plants the Berlingtonia, but not in blossom with the Legumina.

245. Caule erecto ramoso, terete, gracile, foliis brevipedicelatis, ternis, divergentibus, petiolo communi dilatato, foliolis sub-

July
10.

At the Cactus Lake, or Lac des
Amourettes.

elliptico-lanceolatis, verrucis, integerrimis, floribus
terminalibus solitariis minutis, (folia floralia super
singularem pet. sess.) floribus patentibus, calycis 5fidis
fissis linearibus lanceolatis acutis, fimbriatis, Vanill. ro-
tundato, (cordato) conduplicato, albo, carneo-venoso;
alio linearibus, obtusis albis, Corina clausa, acuta, a-
pice lutea; - Legumen paperae, rectinato, elongato, li-
neare-tereto; - Planta annua, pusilla, glauca-villosa,
baccata, Sepala calycis corollam longiora -

246. *Helianthus* caule erecto (suffru-
ticoso) ramoso, multipartito, terete, lineato, scaber-
rimo; ramis radicalibus ~~divergentibus~~ patentibus, supernis di-
patis; foliis caulibus longipetiolatis,
laxis; angulatis cordatis, acuminatis, exse serratis
3-nerviis, undulatis, scaberrimis; - floribus ter-
minalibus subsolitariis; - Squamis antheridis, lan-
ceolatis, acutis, ciliatis, trisutis; - Receptaculo villoso,
- Radice elliptica, pilulata conspicua; - Discis concavo
scabrisse purpureis; - Planta raris, solitaria, annua
pyramidata glauca-virens, floribus conspicuis. -

This plant appeared only along the sandy beach of
this Lake, very few in number scattered among another
val biennis & *Baphthalmum* & *Artemisia* *Cleome*.
it is evidently an annual plant. -

Encamped at the Cactus Lake, after we travelled about
15 miles, passed a fine timbered Wood on the left, separating 2
lakes, of about 20 miles circumference & this lake is about
10 miles circumference; contains apparently 3 species
of *Conchylicae*, & the sandy beach is covered with
Cleome 5 pedna. - Weather sultry, S. E. Thun-
der & rain at night.

July
10.

At the Cactus Lake, or Lac des
Amourettes.

Post July 6th In the colans 247 *Equisetum*,
Post July 7 *Lilium* ²⁴⁸ *Catesbaei*; - Post July 8th
249. *Physalis* with *Syngenes*. 242 along the
banks of Riviere Croche. - 249 *Lysimachia*
ciliaris, in wetted places & among high grasses.

Post 8 of July 250. *Trifolium* Buffalo Clover -
low places in prairies generally Salty Leaks, -
this species of *Trifol.* covers the soil closely
by its stolones. - 251. (10 of July) *Cleome* *dodecan-*
dra var. *Canadensis*, - vel *Polanisia* *graveolens* *

Pratin. - This plant is called by the Sioux
and used as a medicine to find out many
Buffaloes as they want, which is performed by
mixing this plant with another, pounding both
together & with this mixture the performer goes
on horse back near the buffalo, by which attracted
by the agreeable scent, follow him in the enclo-
sure, (put up for the purpose) through a narrow
pass entrance, wherein they meet their death.
This medicine is not very public among the Indians
only few know the ingredients and performance
so that it is said, an Indian will give for the first
article 5 horses & for the second his Lodge; we have
not been able to learn the second species. 252.

Phedysarum? found on wetted spots in the high
grass, in a low place, near this Lake. - 253. *Sonchus*
from the shore of the Lake of 2 Lodges July 8th abund.

ant. 254. *Astragalus* from the sandy & gravelly
shore of Lake Cactus, ~~apparently~~ yellowish flower
July 9th. - 255 *Darlingtonia* *bachyloba* scattered
through the Weeds with Legum. 245 which appeared
also on this Lake, only among the boulders in gra-
velly

* *Richtshaska*. Gray Stem.

July
10.

At the Cactus Lake, on Lac des
Amourettes.

Soil with *Juncus* (253) - 254. *Verbena* from
the sloping banks near the shore of the Lake &
& two bank lodges, with 256 *Stachytarpheta* from
the same places. 258. *Cyperaceae*. prostrate
flat on the bottom of dry lakes of some parts
of the above Lake. - 259. *Triticum* from the
high dry banks of the shore of Cactus & 2 Lodges
Lakes. 259. *Triticum* from the high dry shore
of 2 bank Lodges Lakes. - 260. *Acerates*
lanicol. curved-reticulate, obtuse, from the
high shore of the Lakes & hill slopes along the
lakes. - 261. *Cyperaceae*? - the bottom
of the dry Lakes are covered with it - with
(258) 262. *Scirpus*. (263. *Typha* Lake
of the two bank Lodges - July 8th) with *Scirpus*, *Punc-*
cus Polygonum amphibium. *Potentilla lupina*,
Oenothera biennis - The little timber around
the lakes chiefly *Ulmus americana*, & *Frag-*
axinus acuminata - *Quercus discolor*. - *Populus*
grandidentata, & *Amorpha frutescens*, the trees
about 25 feet high depressed; - *Vitis riparia* among
it. - 264. *Symphoricarpos racemosa*. -

July
11.

From Cactus Lake to the
Village of Kinitampipi at the two
Woods.

Light wind N.W. in the morning, clear, 48°
at 5 o'clock -

Post Lupinus (243. Spine subreticulata; - racemu-
lis suboppositis, 3 flor. bracteatis; - bracteis ovato acu-
minatis; - calyx 2 part. part. super. 3 fidem brevior-
inferior, integro, elongato, abstrato, corollam
longiore, (apice conduplicato) - vexillo cordato, albo
striato-radiato; - alae pennis parallelas recurvas,
carina clausa, minuta vexillo connata, floribus
atro-azureis, minutis. *Rosalea*

265. between the ascending
lateral granite boulders, shore of Lake Cactus
266. *Carex* with the former. - *Rosa folio-*
obovata, ellipt. (flore albo.) glaucescens, the leaves
somewhat cuneate, and serrate, pubescent un-
derneath, spinis acicularis, erecte patent. co-
arctate, calyx glauco-pilosa, hooked, odorife-
rous, near the shore of Cactus Lake with a great
stock of *Pentstemon grandiflorum*. This Rose
as far as it appears is probably only a
variety of *Rosa parviflora* Ehrh. -

268. *Euphorbia* prostrate & a little ascending
when in the grass, this one on the gravelly
shore with *Legumin* (245) which is very ab-
undant, and still in bloom, and also with
a *Tetradynamis* plant, & with

270. *Astragalus* acaulis, radice (jusi-
forme) caudato, caudice multiparti prostrato,
a low stemless species, glaucous, & as the flowers
were gone, some remains of them had a pedicel
yellow color; the legumens an inflated - not very
numerous.

July 11. From the Cactus Lake to the Village of Kinichampi at the two Woods.

with the former & Pent. grand. & Atriplex. Tyrinaca. Here the Flora has a different appearance. Rosa parviflora & 267 is about 1 1/2 feet high, covering large high & dry places, where the glaucous green ^{near to the water} ~~pauciflora~~; Cleome dresses the shore with a purplish green & the slopes of the shore, is covered with Buple. thalmum (242.) and principally with the former preceding one the silvery Artemisia intermixed with a green species; Amorphia-Lupinus & Lygodium, with a species of Diplopappus, the above Roses, Helianthus. Rudbeckia pinnata & are the remotest of the water; in some places, between fallen timber & large boulders is Potentilla lupina & Tetrad. 246. the prevalent plants. The timber is chiefly American Elm & Cotton wood (Pop. grandid.) but the most part is dead, destroyed by the fire.

Started from our encampment at Cactus Lake at 2 o'clock, P. M. and arrived at the Confluence of river, at Riviere Croche; encamped on the opposite side. The river is bordered with some Willow & high grasses, Juncus, 271. Salix on the bank 272. 273 Lespedeza with the former. Weather fair, a little cloudy at the evening, 9 o'clock the Thermom. 47°

July 12. From the Confluence of River & Riviere Croche, to the Village of Kinichampi at the two Woods.

Started off at 5h 45m in N. W. direction, the night was extremely fresh, but 39° at sunrise. The prostrate, capitate Astragalus very abundant. Intermixed with the large Thymone & Pentstemon gracile? - the last in great abundance & profusion with panicles of 8-10" long, plant 1/2 foot high, also Oenoth. canad. & Petalost candidum Lupinus - all in full blossom, the last still in great abundance, Achillea millefolium on rocky spots, Amorphia very abundant, but not in bloom yet, Genoa vivale in ripe seed; Potent. anguta in bloom; & Astragalus (167) still in bloom - Pleuro americana in ripe seed; - all in high situations, Liliun Catesbaei; Lithosperm. & Leg. (245) in blossom & great abundance with Xerophyllum asphodeloides? in Salt Seaks. - From the bluffs of cracked over on high ridges & barren gravelly soil, intermixed with limestone parts, 274. Galardia sp. Radice gracile, tereti, caudice collato, 1-4 partito, caule erecto, lincos; terete, subrotundato, hirsuto & tomentoso, foliis ~~diverfis~~ ^{apice} radicebus longepetiolatis, ~~dentatis~~ ^{dentatis} ~~obtusis~~ ^{obtusis}; pilosis vel tomentos. villosis, ^{apice} ~~obtusis~~ ^{obtusis} 3-nerviis, integerrimis, caulibus ~~setis~~ ^{lan-} carnosis, 3-nerviis, integerrimis, caulibus ~~setis~~ ^{lan-} ~~colatis~~ ^{colatis} et pinnatifidis, semimplexicaulis (pinnulis lanceolatis) basi villosis; - floribus solitariis terminatis, pedunculatis, ped. unifloro; - Perianth 3plicato, stellato, imbricato, squamae exterioris lanceolatae, divaricatae, apice incurvae, - interiora appressa, lineares, acuminata villosa-fimbriata, basi flexuosa tomentosa, Radice 15. Divergente-divaricatae, trifidis subunciformibus, subplicatis, aureis, nannuleis - ~~statis~~ ^{statis}, regularibus, disco hemisphaerico, - fructu sericeo, Pappus

July 12. From the Confluence of River & Riviere Croche to the Village of Ninihampi at the two Woods.

erectus, setosus, set. 34-5. rigidis. - Planta st-
gans, 10-15" high. silvery-tomentose, villosa
floribus, croceo-ranunculaceis, disco amaran-
thino, floribus conspicuis.

Port Pentstemon (240.) Calyx $\frac{1}{3}$ of the length
of the corolla, corollae tubulose, ventricose, -
caux purple spotted, 2 parted part 5 lobed, upper
part 2 lobed, patent-reflexed, infer. 3 lobed straight
reclinate, flat, pubescent, in & outside. - With
the former and on all high dry banks & ridges,
up to the Courtoau & particularly near the dividing
ridges, 8-10" high, caespitosa - 245. Potentilla

radice tunicata nigra, caudice comoso, can-
be sabreoto, graviter; - foliis radicalibus palmato-pinnatis,
foliolis 6 parvis, inferior appendiculatis, subconduplica-
tatis, incisae-serratis, argenteo-sericeis, tomentosis,
villosis; - petiolis brevibus crassis, rigidis, ~~caule~~
~~caudice~~, folia caulina (few) stipulata, stipulae
dolabriformis, apice recurvis, floralis cum sti-
pulis adnatis. 3 fidis, minutis, (appear as with
the stipules) petalis obcordatis, floribus axillaribus
& terminalibus, racemoso-corymbosis. - Calyx infe-
rior corollae aequante. - Another beautiful silvery
plant, with fine small golden yellow flowers,
with the bipinnatifida & the former Pentstemon 240.
Silvery Artemisia, and all plants mentioned on
this date above.

Lilium Catesbaei very abundant on the slopes of
the hills, near the Lakes with Xerophyllum & Scirpus

[58] done

July 12. From the Confluence of River & Riviere Croche to the Village of Ninihampi at the two Woods.

with some scattered Syzygium anceps in
blossom.

Port Lupinus? 159. Tubero napiforme, ovato, tunica
la corticata, tunica externa membranacea
naphanea; interna aurantiaca, subter alba
lignosa & tenax, caro alba medullosa, cen-
tro lignoso-fibroso. Caudice nodoso, collato,
cauda nana & fibrosa. Caulis foliis &
pedunculisque affixis, pyramidatus, vine-
reo-villosus, basi angustus 1-4 partitus.
This is one of the most remarkable plants
of this region. it is the Psoralea esculenta of
Pursh, and the plant where the Indians subsist
on during the summer season, dried they trade with
it as ~~the~~ plantides.

Arrived at the Village of at
the two Woods at 6 o'cl. P. M. - The Indians re-
ceived us with an unexpected cordiality, they
met us 3 miles before their Village, in a warlike
armature, forming a regular procession on horse
back; when we arrived at their village, they invited
us to a feast, prepared for us, where we of
course could not hesitate, it consisted of
Bog meat & Breadroot from the prairies.
Weather as usually very favorable. N. W.

[59]

July
13

At the Village of Kirihampiat
The two Woods.

This lakes are surrounded by some timber
of Lind, Elm, Acer Negundo, the usual oak,
Ash & chiefly Populus grandidentata, but this
timber is only thus remained & escaped from
the burnings of the Prairies by the Indians. - The
shores & the Lakes itself are full of Juncus, Scir-
pus - Typha & Triphorum. Linaria, the shore
is very sandy with a great portion of Limestone
parts. - one of the lakes is very salty; -
on the lower margin of the lake, in the wet
gravel; - 276. *Rubentia Pradru fasciculata*.
brevi, caulis 1-8 partitis; caule erecto, ramoso, fle-
xoso, subterete, rubro, maculato, verruculoso,
pilis pilosis, pilis glandulosis? articulatis; fo-
lia radicalia longipetiolata, flaccida, lateris decur-
rentibus, subaequalibus, ovatis, ellipticis, obtusis
trinerviis, eros serratis, hirsutis; - Caulinia
sessilia patentia, basi dilatata, subauriculata
vel cordata, undulata, 3 nervia, eros-dentata ci-
liata, hirsuta, marginibus rubescentibus; - flo-
ribus terminalibus (ramisum) perianth basi vil-
losum (receptaculo) exteriori replicato divaricato
lanceolato, 3 nervibus, ligulis aequante, integ-
ranteol. acum. ciliatae, superficie glabra, cum pro-
ced. setose ciliatae, pedunculo exserto, Radix
divaricatio-pendulis, bidentatis, 2 plicatis,
lanceolatis, 14-25. Disco conico, scabis lance-
olatis amaranthinis) Radix externe pallidior
& pubescentibus interne intense - aurantiacis
[60] Planta

July
13

At the Village of Kirihampiat
The two Woods.

rigida, hirsuta, scabra, crassinervia,
floribus conspicuis aurantiacis; -
277. The abundant glaucous Graemen
in the concavities of the Prairies; this one
from the borders of the Lakes at the two Woods.
278. *Geum* fol. rad. interrupte -
pinnatifidis, pinnae supremae majores
pinnulae subalterne - interruptae, dentatae
petiolo canaliculato strigoso, stipulato, can-
aliculo suberecto, flexuoso, terete, hirsuto, foliis sti-
pulatis, subpinnatifidis, subternis, dentatis,
lobis acuminatis, stipulis rhomboidalis,
palmatis, floribus axillari-terminali-
bus, pedunculis pubescentibus; - partiales in-
crassatis, (Papala Calypsis) infer oval acu-
minatas, replicatas? 3 nervia, mar-
ginibus albo-tomentosis; - exterior;
linearibus innervis; - petalis rotun-
datis, fructu ^{replicato} coadato, vel geniculato -
spirale * fol. flor. lanceol. denticul; -
With the former two, & *Helianthus* 200.
here very abundant.

July
14.

From the Two Woods to Lac Qui
partle.

Started at 6 O'clock in the morning from
our encampment, at the two Woods, N.E.
passed several Lakes, covered with Larvas
Scirpus (P. 81) & c. On a sandy elevation
at the shore of a Lake 279. Lithospermum
squarrosum with Licd. with Euphorb. by
perisifolia. & 280
cheicunthlike, glaucous, root fusiform, sent of Raphe
nus; - We encamped in the afternoon at Riv. aux
Plus, a small stream with some timber in the
low grounds, Urtica americ. & July. Fraxinus am-
ericana, Acer Negundo, Pyrus ovalis, Prunus obovatus?
Ribes 3 florum & Rosa parvifolia in fruit, Menispermum
common Rhus, and along the shore the first appearance
of Asclepias verticillata, There is a great many gra-
nit boulders scattered on the upper banks, and also
some Missouri limestone. Here we suffered a very
severe storm through the whole night, so that we had
to break up our tents, - No rain - J. C.

[62]

July
15.

From the Two Woods to Lac
Qui partle.

Sunday. The storm subsided at 8 o'clock.
We travelled on N.N.E. along this River
on our right sometimes 2 miles off - this
river has in some ^{places} very high banks, where we
found 282 the * Euphorbia variegata in great
perfection, and enlarged after a days
journey of about 25 miles at the junction
of Riviere aux Plus with the Beaver River.
Weather as usual fair, cloudy in the night,
but no rain. N.E.

* Another Southern plant of Mr. ~~Smith~~ ^{Smith}, though
he mentions Missouri & Louisiana - This plant
is certainly here so abundant as it can be seen
Louisiana, and still higher up it appears not
less abundant at several branches of Izura
River, the River Eau de Vie, and last
I saw some imperfect individuals at the junc-
tion of Watchwah and Makato River
at the River banks, and on the same
bank about 20 feet higher on open gravelly
soil the Euphorbia cyathophora. It is again a
Southern plant of ~~Eden~~ ^{Eden} which is more ab-
undant than the former on the dry sand on
the banks of Lac d'esprit & titanka-taurinan
Spengel's E. cyathophora is ascribed to the
East Indies - -

[63]

July

Arrival at Las Qui Parle

We went on along the same River, which timber increases in vigour more & more, toward its mouth at the St. Peters, near Las Qui Parle, which Port we reached at 4 o'clock P. M. - Heavy Thunder Shower at night -

[64]

July

At Las Qui Parle

16.

Monday. Sultry & cloudy weather. 283 *Lygodesmia minor*, on the dry hills, noticed at Travers des Sioux; & very often found in great abundance, (Cactus Lake) 284. *Asteres foliis lanceolatis elongat.* on all dry hills common with the former but more solitary. 285 Probably *Asclepias acuminata*, caule elongato erecto, ramoso, obtuse-angulo, foliis subsessilibus divergentibus, ovato-acuminatis, integris, crassinerviis, supra pilosis, subtus glabris, venis pellucidis, floribus umbellatis terminalibus, peduni gener. parvis, subaequalibus; caule superne pubesc. - Involucro polyphylo, lineare, dehiscente. - Calyx 5part. reclinator, venter corpiculatis. (peduni part succul. pubesca coronata) This plant is always to be found in the shade of the Proves, in the River bottoms and always among the high grasses.

286 *Lespedeza* ^{caudex caespitosa} caule erecto gracile, terete, exanata, velut piloso, lineato; - foliis ternis, aequalibus, lanceolatis, supra scabris, subtus pubescentibus, nervosis cum venis reticulatis, pellucidis; - Stipulis linearibus, acuminatis, membranaceis, fimbriatis; partibus setose stipulatis, brevibus teretibus & villosis, - floribus paniculatis (spiratis) ^{sepalis inf. majore imbricatis} Calyx 4fidus (4partitus) ^{sepalis inf. majore imbricatis} albus sericeus, sepalum superum dilat. complanatum - bracteis linearibus acuminatis, villosis-siliatis, dehiscentibus; - vexillo rotundato; - alis lanceol. obtusis obliquis; - Carina truncata, ^{sepalis inf. majore imbricatis} ^{cate,}

Hedyserum conserens?

[65]

margine verruculoso, centro immerso. — Legu-
mine articulato.

This very ornamental Plant appears first
in great Perfection on the Crooked & Plus ri-
ver bottoms in large bushes 3 feet high, the
panicles of a crimson color $\frac{1}{2}$ of its height,
in the high grasses only — According to the
fruit it is the *Gledysium Canadense*? It
is also very abundant along the St Peter River
& Riviere on Pommé des Terre

July
17.

St Lac Qui Parle.

Around the River & Lake on the Heights is
the *Prunus obovata* (of mine) with *Symphonia*
racemosa, *Quercus* & *Fraxinus*, the only trees
& Shrubbery; the timber in the bottoms along
the River is Soft Maple, *Fraxin. arum. pubescens*,
some Elm & a great many Poplar & Willow
— *Amorpha canescens* with *Rudbeckia purpurea*
in Honor *Linum rigidum* & *Lygodesmia minor*,
Rosa parvifolia is scattered on the heights; & *Ascle-
pias syriaca* & *acuminata* in the clefts & in
the low prairie of the bottoms, with *Gnaphalium* (288)
very abundant & *Ranunculus Cymbalaria?* covers
the inundated open soil, *Amorpha nana* is found
on the usual place among the Grass, often lower than
the grass, a little elevated above the wet, now in
seed. This is said by the Indians is very much alike the
other species of the celebrated Buffaloes Medicine, and
they say it only differs in the flower & root, & that very
species was to be found on the Mississippi with a
common root & Red paniculate flower the same
sweet, Form of the leaves & size.

The Weeds near the cultivated Grounds are
the same (with a few exceptions) that in the Ame-
rican bottoms. — Weather very sultry all day, with
thunder showers & rain — S. E. S. W.

July
18.

At Lac Qui Parle.

High Wind & cloudy in the morning—
287. *Amorpha nana* N. in fruit. This plant ap-
peared first after we had crossed the St Peter's near
Riviere aux Liard — then in full blossom.

288. *Gramen* (*Utricularia*?) This grass is ab-
undant in wet bottoms & borders of Rivers, of-
ten 6 feet high.

289. *Ranunculus* hirsute or white-
villous with a small yellow flower, abundant in
the wet bottom, high grass of the St Peter near L. qui P.

290. *Ranunculus* *umbellatus* Remarkable
abundant on the morasses, the stolones cover the
whole surface.

291 *Ranunculus* *repens* With the former &
has been found in stagnant water before near Sioux
River. — not abundant here.

292. *Potentilla*, *foliis ternis*, with Ran (289) abun-
dant & 293 *Asclepias* *Syrriaca* with *taurina*
both abundant. 294. Among the *Symphoricarpos* ^{and covered by} *shrubs*
& *Asclepias*, *Sylphium*, *Statellaria* Root creeping
Stem ascending, branching, virgate & angled, brownish
pubescent, — *foliis sessilibus*, opposite, divergent, bran-
ches patent divergent, axillary, flowers axillary, so-
litary, secund; — Calyx pubescent, sepals rounded, trun-
cate, corolla tubulose, ~~vane~~ ventricose, lower lip of
the corolla 3 angular obtuse, lobed, whitish, margins in-
flamed, upper lip coriaceous, 3 lobed, the middle one bifid,
bright blue & white pubescent, corolla bend upwards in
fornice — the leaves are cordate at base, oblong-
lanccolate, acute, serrul. crenate, white toment. beneath, very little pubes-
cent above. Weather July 18. J. E. Reiny.

Scut. galeniculato.

July
19.

At Lac Qui Parle.

We were preparing for our departure to
morrow. — The weather improved & the
sky cleared up at 4 o'clock P. M.

We visited a mineral spring about 2
miles off Mr. Renville's Establishment, in
a little valley near the Lake, surrounded by
some timber, most destroyed by the cattle. — The
temperature of the spring was 46, 5 at 2
o'clock P. M. (yesterday).

July
20.

From Lac Qui Parle to Big Stone
Lake.

Started from Mr. Deunville at 10 o'clock P.M. for the Survey of Lac Qui Parle & Big Stone Lakes over very ^{stony} rocky ridges and encamped at 5 o'clock in the evening at the Riviere on Pomme des Terre - This river is timbered, but the timber is of smaller size than on the St. Peter river. - The variety is just the same. The bottom on that place extended far out in the Prairie - Raspberry were growing & ripe in great quantities - The river is about 15 yards wide & the current considerable strong - on (rotated) places in the bottom the 295 Rudbeckia with pinnate leaves. This plant I noticed first in blossom at C. D. P. Perce, it is much smaller & delicate on high situations, & a very ornamental plant; from the same place Gramen 296 which varies very much in size. Probably a Bromus. Weather fair. S. C.

[70]

July
21.

From Lac Qui Parle to Big Stone
Lake.

Started from our encampment at the mouth of Pome des Terre River at 5 o'clock in the morning, after crossing it I found on the slopes of its banks, the Aster (233) in abundance & full bloom. This species of Aster is to be found on all high gravelly situations, with the purple Astro. sp. & Pentalosperm. cand. around it. never above 8" high. Liatris pycnostachya? very abundant in level fertile places, but not yet in bloom.

297. *Lysimachia* (Radice perennis fibroso, caule erecto ramoso, (caudice caespitose), 4-angulare. - folia radicalia petiolata, lineari-lanceolata acuta, caul. sessil. oppos. patent. lineari-elongat. canaliculata, marginibus revolutis, uninerviis, subtus pubescentibus; ramis floriferis geniculis, subtus pubescentibus, floribus axillato-flexuosis, erecto-patentibus, floribus axillato-terminalibus (subgymnosis; - pedunculis 4-angularis filiformibus, laevibus, ante aestivationem pendulis, folia longioribus. A plant which appears abundant in the short dense grasses on high places in the prairie, when it appears it appears abundant, caespitose without any covering & remarkable fine yellow flowers. - Sepala Calycis lanceolata acuta, lobae corollae rotundatae, abrupte-angulatae. This is the true *Lys. revoluta* of Nutt.

Descript. Post Aster 233. Caudice caespitose multipartito, caule erecto rigido, 1-5 floro, folioso, foliis decurrentibus patente-divergentibus, lineari-elongatis, ensiformibus saepe repliatis, 3-nerviis, marginibus & superficialibus (nerva media canaliculata.)

Aster albus Nutt.

[71]

July 21 From Lac Qui Parle to Big Stone Lake.

scabris, basi setose - fimbriatis, - floralia
minuta; squamis anthodii lanceolatis, acutis
appressae, (stripped) ^{concoloribus} marginibus membranaceis,
pubescentibus, verruculosa exaratae, - Radius 18?
elliptico-lanceolatis, candidis; disco ochraceo.
Nerves & veins pellucid; leaves of a deep green.
A very rigid plant generally abundant when it
appears. (Corymbs level-top) inclined to little
purple spots. 298 Allium with canaliculate flat to
leaves, corneous before the aestivation, not ripe
rous, the Allium corneum of Roth. 299. Lobelia
virgate & strict flowers dens & pale blue, probably
the Lobelia Claytoniana of Michaux, very abundant
in the short grasses on fresh places, often on dry
& salty Leeks, with Lithosperm. (164) which is now in ripe
seed & blossom, both.) - Tradescantia very still in bloom
and some afterflowers of Anem. aronitifol. - 300 Gram
with the former. & Chrysozoma linearifolia abund. in the
high grasses. * 300 Another species of Lysimachia
larger & higher than the former with elongate lance-
olate divergent leaves, in the high grasses with
the Jonchus of the high & low Prairies with lilac blossom.
We encamped at the granite masses near the
Mouth of Tuxa river. Weather fair. N. W.

304 not 340.

July 22 From Lac Qui Parle to Big Stone Lake.

Sunday, 303 A little willow
Panicum between the rocks & also on the
heights, probably the Panicum scoparium of Lamark.
305. Petalostemum violaceum - 306 Poly-
gala verticillata Lin. 307 Salix Purshii?
fol longissimis linear-lanceolatis, serrulatis
On wet grounds near the River with 308 Sta-
chys? the common one. From the Rocks 309 Rhus
with the former 310 Polypodium
out of the cracks. 311 Polygala purpurea Nut.
on the soil which covered the granite -

Here on the shady part on the West
side of this granite rocks I found the
Mammillaria rubra in great perfection
in flower & ripe seed. It appears on rotten
granite with the Silene antiochiensis & Dianel
& Lycopodium apodum? & with the abund-
ant Fleustonia? Opuntia vulgaris in fruit
& blossom on sunny places on the Rocks with Po-
tentilla bipinnatifida & arguta. Heavy Thunder
& Rain in the morning. S. E. & W. in the Eve-
ning.

July
25

At the Coteau de Prairie.

Post Synq. 322. Radice caudato, fibroso; caudice multo
pantito, caule erecto, ramoso, folioso, terete, tomentoso, rigi-
do; - foliis sessilibus, alternis, patentibus divergentibus, alternis
intercapite pinnatifidis, ~~multis~~ bipinnatifidis; (pinnulas line-
are-lanceol., albo ^{pubes} piloso) - cuspidatae, uninerviae, albo tomen-
tosis, floribus term. corymb. panicul. - Anthodis imbricatis.
Liquamis orate-lanceolatis, cuspidatis, superiores elonga-
tis, membranaceis, coloratis, (Anthod. hemisphaer.) Radice
20-30. linearibus, ligulatis, subtruncatis. - Pappus setosus
penicillatus, pericarpis albo pilosis; - Planta argentea
toment. villosa, foliis setose-cuspidatis, ramis pan-
ticulis, aequalibus paniculatis vel corymbosis, floribus cro-
cis erectis.

A very heavy thunder storm early in the morn-
ning, by 6, 8° temper. cleared up at 7 o'clock, star-
ted off in S. E. 45 miles of from Lac Qui Parle,
at 6 o'clock we encamped at a little woody
creek 8 miles distant, passed over high tops
of ridges, covered with *Psoralea esc.* & *Rudbeckia purp.*
& *Astragalus* (176.) 326 a species of *Sonchus* or *Lac-
tuca* not in blossom only found on this place.
with *Liatris* & *Helianth.* fol. sagitt. lanceol. - Weather
fair lightning & Thunder at night. S. E. W.

July
26.

At the Coteau de Prairie.

Started at about 5 o'clock from our encamp-
ment, passed over very broken & undulate coun-
try; - *Rudbeckia fulgida* in wet places abundant
Galandria on gravelly heights in seed, - *Amorpha*
& *Lupinus* less abundant. - *Rudbeckia purpurea*
pinnata, & both *Petalostemon* with *Aster* 233. *Sy-
godesmia minor* all in full blossom. *Strophylleum as-
phodeloides* & *Heuchera am.* in ripe seeds, also *Psoralea*
esculenta, - *Salsola* 318 in bloom in slopes down to the
creeks, - The timber in the Coteau in very depressed
& branching, never reaches the heights of the
surrounding ridges. On notated places: the

- 327. *Atriplex*
 - 328. *Gramen*
 - 329. *Gramen Andropogon*
 - 330. *Plantago* fol. lanceolat glabris carnis
 - 331. *Sporaea* caule brevi scand. toment. fol. longipet. pat. hast. lanceol.
- } dry situations.
} Salt Licks low situations.

Fine & clear day a very heavy thunder storm
at night toward morning. S. W. We en-
camped at the 4th branch of *Sauze* river.

July At the Coteau de Prairie.

27. Started off from our encampment at 11 h 10^m crossed the ^{Sandstone} ~~Chara Wakon~~ river and encamped on its mouth in the Chara Wakon on a little Conic mount. Weather warm & clear heavy thunder & rain at night.

From the Sandstone river 332. Potamogeton foliis ellipticis.

28. We started at about 8 o'clock & travelling about 30 miles we reached Lac Qui parle at 6 o'clock P.M. - At the Coule near the river

334. Gramen

335. Eupatorium foliis longis
caulibus, ovatis, acuminatis, serratis - verticillatis, flor. pallide-purpureis. From the same place.

From this date up to the 4th of August we remained at Mr. Bennett's Am. Fur Comp. Establishment, waiting for favorable weather for the necessary observations & preparation for our departure. The 4th Mr. Bennett departed on two canoes down the St. Peter River at 12 o'clock P.M.

August From Lac Qui Parle to Patterson's Rapids by Land, under M. Fromont & Co.

Off from Lac Qui Parle at 7 o'clock in the morning & crossed Chippewa River at 9 o'clock - Astragalus ochroleucus abundant, with Petalostemon violaceum & Melianth. (200.) Panicum? (296.) with Melianth. foliis lanceol. subsagitt. & abundant Solidago in bloom with the Labiate (318.) - The Sonchus (326) appears in the bottom-prairies, all on and along the bottom of Chippewa river with Gramen 336. scattered also on the heights. - The bottom on this river & on that place is very extensive & fertile more so on the right bank with some oak & maple timber. - On our road on more elevated Prairie Liatris spicata, often in moist places with Spiraea salicifolia, Solidago foliis glabris & nitidis, Vernonia pectata? - 2 o'clock in the afternoon we reached the Lake of the Black Oak, (this is name designates burned oaks), Vernonia virginica L.?) in groups together intermixed with some Liatris. We arrived at the Eau Claire River at 6 h 15^m where we encamped 27 miles from L. Qui Parle - A very heavy thunder shower this afternoon by 3 h 0^m at 4 o'clock it cleared up in the West at 8 o'clock in the evening.

August 6th From River Eau de Vie to Patterson's Rapids.

We started off from our C. at the Eau de Vie River at 9 o'clock in the morning, crossed the river, on the gravelly banks on the other side 338 Gerardia puberula with 339 Coreopsis fruticosa with 340. Solidago (pubescens), with Linum rigidum with Scutellaria parvula abundant, with both Petalostemon, Liatris spicata & Aster (rigidus), sericeus & (foliolosus) & Solidago (337) Allium cernuum. - Obs. In this situation is (338) & (339) the most figuring on the high dry gravelly soil next (339) the rest scattered. - The course of the River Eau de Vie is visible for many miles by its high bank woods on its slopes with Ficus sp. Ulmus Amer., Neyunda frax., Populus grand., the Vitis riparia & Menisperm. Rosa parifolia & Amorphia fruticosa, Symph. glomerata. &c., 341. Oenothera biennis on the open gravel of the banks very abundant with Hedyssa-rium canadense. In moist places in the prairie the glaucous dense-paniculate grasses with the lanceolate Helianth. & the silvery conulate Artemisia. - We arrived at 3 o'clock P.M. at the Patterson - Rapids St. Peter River, & encamped on a high ridge of the bluff, where we had a view of several miles over these immense wet-land masses of granite, scattered in great irregularity, resting on the alluvial. Weather beautiful, though very foggy in the morning. N.W. (20 miles)

August 7. At Patterson's Rapids, waiting for the arrival of Mr. Nicolle.

Out of the Swamps near the River with Pedicularis pallida, Eupatorium (335), & perfoliatum, Achillea acuminata, Lysimachia octaria, Ranunculus (289) with Gramen (336) Silphium connatum, Labiata (318), the common white Corvolvulus and others. 342. Aster Radix repens, caudex breviter caule elongato, erecto, folioso, lineato, albo & immixto pubescente; - foliis uniformibus, cordato-lanceolatis, acuminatis, (sessilibus & patentibus), (ellipticis) basi angustatis, marginibus scabris, subtus albo-villosis, 3-pli-nerviis, subundulatis, floribus terminalibus corymbosis; pedunculis brevibus inanisatis, lineari-bracteatis; - Anthodis cylindricis, squamis acicularis appressis, viridibus, marginibus membranaceis, albis; - ligulis 6-10., ellipticis & brevissimis vel lanceol., obtusis; disco tubo, plerumque plumoso. This plant appears also on higher & often on gravelly situations & its leaves are then more narrow, and the whole habitus of the plant is diminished, generally about 20 inches high. I found it abundant in some places with the narrow-leaved Lysimachia under it. - Out of the cooler 343. Rudbeckia with 344. Salix This willow with another different species cover the Ravines in low shrubs, there was nothing to be seen of the fruits. 345. Helianthus (lanceolat-hastatus). This plant is very abundant on high situations, in lower places the habitus is quite different, the stem is ramose & bears many flowers, when those on the high places have generally only one flower. Weather fair

7 Aug. At Patterson's Rapid, waiting for the arrival of Mr. Nicotlet.

346. *Sedum* with the former 347. *Seeha major* with *Peltostemon*, so that the last is the first in the group. — Mr. Nicotlet arrived exactly at 12 o'cl. noon, and we separated & both parties left the place at 2 o'clock P.M. — we passed a swampy & disagreeable road, high grass where the *Peltost* was also very abundant. This is the more remarkable as this is often the only plant which is found covering the most sterile situations, it was grouped with *Liatris spicata*, and both in full blossom, also *Astragalus ochroleucus* gr. with the same *Liatris*; often mixed with *Pterocaulon*. — On some moist places in lower grasses *Solidago tinctoria* & the *Lysimach. angustifol.* with *Lobelia Claytoniana* 348. *Platanaria blephariglotis*. with *Grasses* (336.). we arrived at Castor River at 6 o'clock, 17 miles from the P. Rapids. where we encamped. Weather fair, Wind S.E.

8. From Castor River to Lac aux Jones (near Petite Rocher, St Peter River).

We left our encampment early in the morning; along the bottom of the above river in the high grass the 349. *Veronica virginica*, there was very little variety in the flora of the journey of this day, being a constant repetition of the former. We travelled 27 Miles. Weather cloudy, sultry, Temp. 9 o'clock 65, 0.° S.E. cloudy. — 12 o'cl. 69, 0.° cloudy, sultry, S.E. — 3 o'cl. P.M. 71, 8.° cloudy, sultry S.E. Arrive at Lac aux Jones at about 6 o'cl. in the evening. —

Aug.
9.

At Lac aux Jones, near Petite
Rocher St. Peter R.

The timber around the Lake is most
the same, except some little trees of the
Red oak appeared towards the St. Pierre
River. Leguminosa 350. Medysarum ~~XXXXXX~~
~~XXXXXXXXXXXXXXXXXXXX~~ ~~XXXXXXXXXXXX~~ acuminatum.

351. Solidago (virgaurea?), Radice repens
crasso, caudice incrassato, caule erecto rigido,
terete, lineato, hamato-piloso, pubescente, fo-
lioso, foliis caulibus lanceolatis, sessilibus
& patentibus, acuminatis, ex medio serratis,
3-phi-nerviis, reticulatis (nerviis & nervis
pellucidis, marginibus scaberrimis), pubes-
centibus subtus pallidioribus, panicula se-
cunda, racemulis foliosis, divergente recar-
vis, flavo-virentibus; - Anthrad. cylind. basi
dilatato, squamis appressis linealibus, incrassa-
tis luteis, viride-lineatis obtusis, & hamato pi-
lous, spirale vel sublinato-imbricatis. Liguli
12-15, regularibus, lineatis, apice truncatis,
3-dentatis, 2-plicatis, divergentibus, (subcuna-
lis, brevibus auris, On high & low situations,
generally found on wet places with He-
lianthus 200 & Rudbeckia (343).

Post Helianthus 345. Radice serpentaria, cau-
dice brevi, caule stricto, gracile, elongato, terete,
scabro-hirsuto; foliis petiolatis, decurrentibus,
oppositis, divergentibus, patentibus lanceol. basi an-
gustatis, integris, serratis, acuminatis, 3 nervi-
bus, reticulatis, scaberrimis, - Subsessilibus,

Aug.
9.

At Lac aux Jones, near Petite
Rocher St. Peter River.

suprema & floralia erecte - patentia, subop-
posita, hirsuta-fimbriata, petiolis exara-
tis rubescente, elongatis; - Squamis antho-
dii ovatis acutis appressis, fimbriatis, gla-
bris & exaratis; - Radius 10. elliptico-lance-
olatis, plicatis, Stigma novol. bifidus, very
abundant on dry & high gravelly situations
1-3 feet high -

352. Liatris macrostachya Michx

353. Andropogon with the for-

mer. 354. Artemisia the most
common on wet spots & on the rise
of sandy bluffs near the Rivers & often
abundant & in very different habit in
the bottom intermixed with ~~them~~ (acciden-
tal location) of many different plants, of-
ten more disguised than they would be by
cultivation.

355. ~~XXXXXXXXXXXXXXXXXXXX~~ Juncus arvensis, This plant
I found on the borders of the outlet of
Lac aux Jones, & again in the prairie near
the St Peter River (opposite) on the right side
opposite Swan Lake crossing place.

caudice multipartito, caule elongato, e-
recto, ascendente, folioso, foliis diversis,
lanceolatis, acuminatis, uninerviis, dentatis,
hirsutis, (cum coar. supero toto) floribus dense

At Aug.
9th

At Lac aux Jones near Petite Rocher
St. Peter River.

corymbosis terminalibus; - (receptaculo
squamoso), anthodis calyculatis, squamis
calyculi semi-lanceol. acum. apice recurv.
- Squamis anthod. lance-acum., elongate
appress.; - ligulis lineato-cuneatis, divergen-
te-divaricatis, 5-dentatis, auriculatis,
disco ligul. auriculatis. On the border of the
Woods near the Lake.

This night we had a tremendous shower
from S., it commenced after sunset with
a violent wind & lasted until 4 o'clock.
Mr Fremont spoke Mr Nicolle on his
survey at the Little Rocks St. Peter River.
Dist from Carbor River to Lac aux Jones
according Mr Fremont 21 miles.

Aug.
10.

From Lac aux Jones To The Traverse
des Liard at the St. Peters.

We proceeded at 6 o'clock in the morn-
ing. The atmosphere was light but damp-
ness & clouds lasted until 12 o'clock noon.
We crossed Jones River and several other
small lively streams - The road we had to
pass was still worse, the Flora precisely
the same. - We arrived one hour before
sunset at our former crossing place ^{near}
the confluence of of St Peter & Aux Liars
river where we met again with Mr Nicolle
who arrived one hour before us.

Temperature 72, 5. 3 o'clock P.M. 79, 2. NW.
70, 2. at sunset N.E. Cloudy. Distance of the
day 21 miles -

Aug. 9 11. At the Traverse des Liards.

We had a feast at the Village of I-shtachmka. (Sleepy Eye.) & were served with boiled wild rice. (*Zizania aquatica*;) the Indians were engaged in collecting their crop of corn, and were much disposed to improve in agriculture. The Maïs of these Indians has been propagated down from the upper tribes & is now cultivated over the U. S. — At the evening they gave us a grizzly bear dance, which was well performed, particularly Kan-
~~mentoka~~ mentoka, (Male de Corbeau) —

Among the Willows on the River borders 356. *Chelone* (glabra?) with the *Scutellaria* (294.) *Polygonum* and others we had fair weather, N. — S.E. — N.W.

12. We have still beautiful weather, but we were compelled to send for provisions to Traverse des Sioux, for the arrival of which we were waiting. Weather fair. — S.E. — N.W. —

Aug. 13. From Traverse des Liards, to the Survey of the Makato River & its tributaries and Mr Nicolle's by Land.

We were divided into three parties, all of them departed for their duty in the best order & at the same minute. Mr Fremont with two canoes took the survey of the St Peter & the Makato by water. Mr Nicolle's by Land, whom I accompanied and the rest of our Transports were sent forthwith to Traverse des Sioux. All were in the best spirit. —

After we crossed the St Peter again, we had right after ward to cross the Riv. a second time at 9 o'clock, here appears the Red oak more abundant with the *Betula populifolia*. The village of Sleepy eye is a beautiful and well timbered bottom, very rich soil, with some elevations in the prairie which command a view almost over the whole surrounding country. 357. *Pycnanthemum virginicum*? with 358. *Eryngium aquaticum* with *Liatris squarata* & the high *Digitaria*, We reached Long Lake about 6 o'clock where we encamped with fine weather and a high East W.

Aug 14. From Traverse des Liards to the Makato River.

We left our encampment at Long Lake at 7^h 30^m and arrived at 9 o'clock at the first branch of Makato River, the outlet of the Long Lakes. & we crossed it at 12 o'clock. The River has the same timber as the des Liards. - At the heights of the second arm of the Makato in the open prairie,

350. *Lophocarpus* *gemma* *peruviana*? 4, 5, 6-7 feet high. scattered over the wide prairies. - The Indians eat the gum which is generally found on injured places in the axilla of the leaves & the perianth. it stands generally alone, under it some *Liatris*, & *Eryngium aquaticum*. After we crossed that branch with some difficulty we encamped on a high & narrow ridge by side of a Slough, close by the river. - On that ridge 362. *Rubia Eupatorioides* which we after saw on gravelly elevations of the prairie (perhaps a different species). 363, *Lespedeza cuneata* *hymenocarpa*; caulis strictus gracile-rigido, terete, exaristato-lineato, lino. albo-tomentosis, foliis petiol. patent. ternatis, unilaterat. - foliis laevibus obtusis (basi & apice) uniformibus, puberulis, subtus albo-tomentosis; - panic. pyramid. ternis, nervis mutis, patentibus, flor. sessilibus parvis, calyx 5 dent. (basi subventricosis) ^{dentibus} equib. pubescente-lineatis, divergentibus; corolla minutis, carina truncata; vexillum subcordat-acutum, (colore Glycine Apios) roseo. The whole plant has a palled green appearance it is only found on the rise of hills on gravelly soil & not very abundant. Temp 4 o'clock 59, 6. S.E. cloudy - [90]

Aug 15. From the Junction of Perche Lake River & Wakonwan River to the Makato.

361. *Polygonum persicifolium*? with 360. *Amaranthus* both on the banks of Wakonwan River.

364. *Eryngium aquaticum*. in the prairie with We left our camp at 6 o'clock in the morning & arrived at 9 o'clock at the Makato river a few miles below the mouth of the Riv. de Coteau de St. Croix & the outlet of a group of Coulees-swamps & Sloughs. We met several Indians of the Wapexikitch band from whom we got a supply of Buffalo meat which they killed near the Deming head waters. There in the hard bushes was Silene (*Cucubalus*) very abundant. - We left that place at 3^h 40^m P.M. & encamped about 6 o'clock on the same River about 10 miles distance. Here this river is very interesting, we found in the stratified banks stone coal, & there is no doubt that the whole region belongs to that formation. The current of the river is very swift & the bed was about ten-15 feet, the width of 60 feet. On the banks

365. *Cassia chamaecrista*. Temp. of the day Sun rise 61, 8. calm E. 9 o'clock 64, 5. Cloudy gentle breeze from W. 12 o'clock 76, 0. Cleared up. W. 3 o'clock P.M. 78, 5. ☉ clouds, sultry. ~~had off~~ distant Thunder at night, no rain.

Port Aug 14. 9 o'clock 67, 0. S.E. Cloudy & sultry. Noon. 70, 0. Cloudy sultry, S.E. - 3 o'clock P.M. 69, 5. Cloudy, sultry. Sunset 65, 12. Cloudy, distant Thunder - [91]

A
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16.

From the Makato river, in the District of Sleepy Eye to the place where the blue earth is found.

We left our camp at 10 o'clock westward. The country was very beautiful & rich - The prairies between the rivers are even & not much filled up with shrubbery, except close by the rivers - The same *Lilypium* is scattered all over the prairies, reaching high over all other plants, in swampy situations 366.

367. *Gerardia auriculata*, In the high grass borders of Woods, foot of bluffs, bottom-brushes.

368 - Gramen. - With it the *Andropogon* (353). Passed the Rocky & rapid Watowah river at 12 o'clock, this river is full of *Fluviatiles* 369. Potamageton narrow leaved - 370. Potamageton with lanceolate ovate leaves.

We took observations on the junction of Watowah & Makato-rivers, the river banks are from 20 to 80 feet high, the country is still more beautiful - we proceeded on about 5-8 miles more & encamped on the Makato (from which rocky banks we could see above the Wood and the windings of the river, this scenery is beautiful, the river is often interrupted by Rocks & Rapids The banks are about 100 feet high & Sandstone with Limer.

Populus in perpendicular direction covered with *Betula* & *Red Cedar* - On the Water edge among *Eupatorium* 371. *Lobelia siphilitica*. 372. *Lycopodium* with the *Campanulacea* (366) 373. *Euphorbia diversifolia*? scattered in the open dry gravelly banks high.

From the Makato river in the country of Sleepy Eye, to the place where the blue earth is found along the same river -

Aug.
16.

373 *Chrysocoma linariifolia*. - We left this place after we took the necessary astronomical observations & arrived at about 6 o'clock at a very interesting & romantic place on the Makato River. The banks are intervelled by the Sandstone-Rocks & the River course is divided by an island & is foaming over the Rapids, here the *Campanula rotundifolia* was still in blossom in the cracks of the Rocks. Here the Woods are composed of more species of oaks the *Quercus macrocarpa* L. & *376 rubra* L. 377.

Panicum? hirsute panicle very long & spreading (as on the little rapids 1st Peter Riv) 378 *Lechea minor*. 379. *Lespedeza prostrata*. 380. *Lespedeza* whitish strict corolla red striped. - 381. *Eupatorium perfoliatum* River border. with 382

The most common of the climbing Legumin plants. 383 (higher the ridge, *Asclepias tuberosa* - 384. in clubs strict, 1 1/2 feet high, 385.

This country around the Makato increases in beauty & fertility the more we approach their junctions. Temp. 59, 0. W. Clear sky. - 9 o'clock, 72, 2. W. clear 0 - Noon 81, 5. clear, high five breeze W. 3 o'clock 81, 5. 0 N.W. clouds, sunset 71, 2. 0 clear N.E. - I was unable to ascertain the variety of timber on the other side of the river on account of the high water & not being provided with a canoe. It is said that the Black Walnut & Butternut is abundant, I saw none on the left bank -

Aug. 17. To the bank, where the blue earth is found.

We left our camp shortly after sunrise, about 5 miles West we reached the bank or the rocks at the Makato, where the blue earth is found. at the borders of the woods we saw groups of *Betula populifolia*. *Rosa parvifolia*. *Pop. grandidentata*. The woods near the river contain a great variety of timber, *Juglans cinerea*. *Fraxinus acuminata*. Different oaks, seeds of *Trillium erectum* ripe of (N^o 94.) ripe seed. also *Aralia hispida*? in seed. *Cyrus obovata* (black choke berry) in ripe fruit under hazel bushes near the woods 386. *Pyrola rotundifolia*. 387. *Pedicularis pallida* with *Capitulum* in swampy situations. — The place of the blue earth ~~is~~ an almost perpendicular Rock (Sandstone carbon.) the very banks of the River, about 200 feet above. We got some of it with great difficulty ascending & descending the heights. Red cedar & Oak dress these rocks, at some distance they appeared most naked here again in a sand bar islands in the river, which is here a rapid as above; — we took our way back to our camp, having about 1 1/2 mile to pass through thick woods & bushes. — 3 o'clock we took our way off and arrived about sunset at 1 or 2 miles distance from the St Peter Riv. *Glycyrrhiza* (355) in the prairies with the *Sarcocolla*. *hastata Meliconta*, 388. *Ceanothus americanus*, abundant under scattered oaks in the Pr. Temp. Sunrise 50, 2°. ☉ heavy dew. — 9 o'clock 75, 0°. S.W. clear sky, noon see observations; — 3 o'clock P.M. 77, 0°. ☉ cloudy! W. fine breeze. — Sunset 68, 0°. S.E. moderate. [94]

Aug. 18. Crossing of the St Peter River, opposite Big Swan Lake.

We started from our encampment at about 4 o'clock P.M. after we arrived at the road of the Red-river people, we crossed the river at 6 o'clock in the evening — 389. (297.) in damp prairies, & low grass. — Sunrise 52, 2°. clear N.W. — 9 o'clock 72, 4°. ☉ clouds N.W. — Noon 81, 0°. high breeze from N.W. 3 o'clock P.M. 81, 0°. Sat. calm — Sunset 75, 0°. S.W. clouds. — [95]

A
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Aug.
19.

From the crossing Place, opposite Swan Lake
to the Am. F. C. Establishment at Traverse de Sioux

We left our camp at about 6 o'clock, arrived
at the Woods of Lake Milieux at 9 o'clock.
- Dense groups of *Silphium laciniatum* conspicuously
scattered over the borders of lakes, along
the river Bois rouge? we saw again the
Silphium laciniatum? scattered along over
the prairies about 7-9 feet high.

Temp. 72, 0 at sunrise ☉ clouds, high S.E.

- 9 o'clock 76, 5. ☉ clouds, high S.E.

- 12 o'clock 81, 5. calm. clouds ☉ S.E.

- 3 o'clock 80, 0, S.E. ☉ clouds.

Sunset. 78, 2. S.E. cloudy all over.

Arrived at Mr. L. Blenier's Am. Fur Co
Establishment at 4 o'clock P.M. where Mr.
Fremont had already been waiting for 2 days
past.

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Aug) At Traverse des Sioux.

20.

On the sandy elevations near the Fort, the *Petalostemum villosum* Nutt. Root subligose, tenacious, caudex nodose, many parted; - stem suberect, branched, humile, terete, sulcate, silky-villose, foliose; leaves pinnate, divaricate, every where sericeous villous; - leaflets elliptic, perforate-pellucid (punctate); - ramulis patentibus; floribus terminalibus paniculate-spicatis, spicis embriocatis & compactis, cylindricis, pedunculis sub-reflexis; calyx sessile, minute, 5-dentate; sericeous-villose; corolla irregularis papilion. 5-petala, petal. subspathulate, vexillum bifidate, & longior unguiculate than the rest. & inclinate; - stamens diverging, stigma incurved subaequal; antheris ridig & pettate; - A suffruticos & subligose shrub, like *Amorpha* but its stems die away every year. I found it only on that place & collected the plant before blowing in June; the root is of a bright cinnamon color. & the flower pale lilac & fragrant, the whole plant is beautiful & of a silvery habitus. Perhaps a *Dalea*? - with the former *Amorpha* conspicuous the low *Paspalum*, *Solidago pyramidata*, & *Solidago recurvata*, *Liatris hiliata* & narrow-*otachya*, *Andropogon argenteus*.

39th, *Solidago*, Root subnodose? perennat fibrose on one side, caudex with many stems. Stem erect almost strict, rigid, foliose, glabrous, sulcate-lineate - folia radical, long petioled, decurrent ovate-lanceolate, out of the middle dentate, reticulate, nerves & veins pellucid; margins sericeous, glabrous.

[97]

Aug. 21.

At Traverse des Sioux.

Cauline leaves lanceol., subdentate, supreme leaves & floral ones lanceolate, minute - panicle regular pyramidal, racemules patent, coloratis; greenish yellow with the bractelets anthodium or Perianthium imbricate, scales of the anthod. lanceol., obtuse, appressed, verruculose; - Rays about 7, elliptic, divergent, the most symmetrical of the whole genus, generally on sandy soil, hill slopes & dry prairie in general, abundant here with Patal. villosum. On the naked sand 391. Phallus caninus of reddish pink color, reflexed - 392. On the same place 392. Cypripedium with 393. Liatris Root fusiform very thick, caudex flat & much divided, stem erect, rigid, terete, leafy, linear & humile, leaves linear subensiform? elongate, patent, rigid, black punctate, subsulcate; - Inflorescence in appressed spikes; - anthodium cylindrical, - scales ovate lanceolate, acute, colored, (cuspidate?) florets 4-7, corolla tubulose, 5-toothed, ~~semiterete~~ lanceolate reflexed, the pistil divided in 2 from the middle, the segments reflexed, seeds 4 angular, furrowed & sericeous; - Pappus plumose, colored - This plant is scattered over every high & gravelly situation & sandy soil, more abundant & perfect on the Coteau de Prairie, the color is of a vivid pink or lilac with crimson, general height 18" ^{here} with squarrose & spicate in great perfection, with the lanceol. pyramidal Artemisia - the remaining stalks of Baptisia Gmelini Stipa oenavea, the (Phleum) Polygala verticill. Com.

Aug. 21.

At Traverse des Sioux.

sis tript. Helianthus 345. Penstemon canadensis, Lachea both sp. of the north. The small Paspalum & the middle are prevailing with the Helianth. Solidago (340) Root repent, stem erect, recurved, terete, pubescent, radical leaves long-petioled lanceol. out of the middle serrate, everywhere scabrous, pellucid reticulate, often subfalcate; - cauline leaves lanceolate, acute, erect-patent, supreme leaves incurved, subtort, acute; - panicle secund, the point or top reflexed, racemules, patent, top recurved, anthers, cylindrical, scales imbricate, appressed, inequal, linear & semiterete, obtuse, colored, Rays about 9, patent - divergent, lance-acute, biplicate regular; On dry soils woods & prairies, banks of rivers - This plant is easily distinguished from the other species by its reflexed stem & serotid panicle, grayish habitus & ^{often} curved leaves - with the former & often in moist grassy places in the prairie. 394. Liatris squarrose? Root bulbous tuberoso, bulb often cordate, (generally plain or one on the top) & fibrose, caudex collate, stem strict, elongate leafy, terete, subsulcate, lined; - radical leaves erect-patent, petioled, lanceol., elongate, with one flat nerve, and perforate-punctate, rigid & coriaceous; superior leaves patente diverging & with the ends incurved, linear lanceolate, acute; - Supreme leaves & floral ones linear lanceolate, acute; - inflorescence remote-spicate, flowers subminute, incurved; - anthodium conic, scales rotundate, involute, from the middle amaranth colored; - Corolla tubulose, 5-dentate; - Pappus plumose, longer than the segments of the corolla; - stigma bifid colored erect, pericarp 4 angular pubescent. Weather fair - high S.E. Thunder [99]

Aug.
22.

From Traverse des Sioux, down the
St. Peter River.

After our boat was loaded we left the place
about 12 o'clock at noon - The day was very hot
& dry air, towards night it got cloudy & the
wind from S.E. brought a gentle rain, which commenced
after 12 o'clock at night & continued until 7 o'clock in
next morning, when the wind changed to N.W. & it
cleared up about 8-9 o'clock - We encamped at
Little Rush River -

[100]

Aug.
23.

From Traverse des Sioux down the
St. Peter River.

After the weather had a little improved we
left our encampment, at 8^h - The bottom prairie
near the river are filled up with *Silphium*
laciniatum & the high *Sandwich*, both in full blossom,
& the umbellated *Sambucus*, with green berries, -
with the *Arenaria* or *Bromus* (368.) & the
Leersia with the clavate shoots; - *Solidago* (351.)
Iris (triloba), *Teucrium canadense*, & the blue *Ve-*
ronica, and 395. *Artemisia* Root upright,
stem strict, elongate, terete, lined & flobose -
tomentose, cauline leaves sessile, patens - diverging,
lanceol. acuminate, out of the middle dentate, outer
serrate, shining above, silvery tomentose beneath.
nerves green, stipules appendiculate, whole plant
& the panicle pyramidal, branchelets axillary, pe-
tente, rigid, racemes axill. 3-5 flowered; - floral lea-
ves linear-lanceol. acute, minute, - flower or with
peduncles reflexed, - anther duplicate, outer scales
lance-ovate; green, crested; imbricate, inner one
pellucid & membranaceous, ovate & crispate on the
margin, very short, brownish & reflexed. - This
plant is most abundant on sandy plain & eleva-
tions, bottoms & bluffs but it differs very much in
size & cover in differ. situations. - From the little
rapids on the Rock, 396. *Euphorbia hypericifol.*
with the *Gramen* (384.) with the high *Paspalum* on the wa-
ter edge. - 397. *Phaseolus* In open soil
on sunny situations, on ravines, & banks of
rivers, stony & gravelly shores of ponds & lakes
398. *Poa reptans* & *Carex* covering the sandbars in the
ri-

[101]

Aug.
24.

From Traverse des Sioux down the St. Peter River.

We were very much annoyed last night by a sudden change of wind & weather, after midnight the wind changed again to S.E. and a gentle rain followed for several hours, at 9 o'clock 30 m. the wind shifted again to N.W. when it cleared up, after which a beautiful day followed. From the sandbars with the former mentioned:

401. Root fasciculate-fibrose, stem divided, branched, terete, scabrous & shining, cauline leaves semiamplexicaule, divaricate-diverging - lance-acuminate, remote & acute serrate; (opposite and connate at base) glaucous beneath; - branches diverging; - inflores. terminal, flowers subsolitary, short-peduncled; antheridium calypulate; Caliculus leafy or leaf shaped regular, the leaflets elongate, lance-obtuse, with the margins scabrous like the stem leaves; - scales of the anther. lanceol. acute, appressed. colored & brownish-lined - Rays elliptic about 8, 3 dentate, 2-plicate, shorter than the ^{caliculus}, divergent-divaricate, golden yellow, - among Willows, in sandy swamps & sloughs, - 402. Sagittaria latifolia & 403 Sagittaria angustifolia 404 Ranunculus with the former 405.

The water edge all along full of Sagittaria (402.)

we, with *Amaranthus penniculus* Nutt? & 399 a *Cyperoides*, with *Gramen* 400.

Weather beautiful, we determ. to drift down the river all night. Clouds from the N.E. about 10 o'clock. -

Aug.
25.

From Traverse des Sioux down the St. Peter River.

Vitis riparia in ripe fruit. 10 o'clock we reached Six's Village on the River banks & edge of the Water. 406

foliis 3-5 lobis - 407 a very scabrous Gramen. 408. *Zizania aquatica* in the Water with *Sagittaria*. 409. from the banks of the River -

410. on our last encampment, with 411. *Urtica* with horizontal fan-shaped racemes; with 412 *Urtica* with verticillate racemes - with the high *Carduus* 413. & 414 *Helianthus*, started from our encampment about 10 o'clock & arrived at 3 o'clock at the entrance at St. Peters. Weather fair. N.E.

Aug. At St Peter's Mr Sibley's Am. Fur Co. Est.

26. At the Pilot Knob & on all elevated dry gravelly prairie situations 415 *Euphorbia corollata*. extends down to the margins of the woods, with 416. *Aster sericeus* which is one of the plants - omnibus locis but only on such soils which may be properly termed barren gravelly soil. 417. *Prenanthes Serpentina*, on the slopes of the bluffs among harel & other bushes, mixed with all those rough plants associated among the harel in the prairies & shrubs on the borders of Woods, 418. *Vallisneria spiralis*, this remarkable plant I found in the water of the Mississippi, close by the junction of the St. Peter river, on the water edge on muddy places floating. - 419. *Iva pinnatifida* of my remark book, properly the *Ambrosia elatior* of Linnæ I believe grows on rotated spots on the high & lower prairies, sandy shores of Lakes & river & abundant near cultivated grounds. often with the *A. trifida* which is very abundant around the spot of the bluffs at St Peter's & generally also near cultivated ground, particularly along the St. Peter river near the Indian Corn fields at Lac Qui Paré, - mixed with the *Bidentis* - 420. *Liatris Squarrosa*, a plant which is found generally very abundant when it appears, on dry sandy plains, on slopes & tops of elevated gravelly & sandy prairies often with the *L. pilosa*? of Willd. abundant near the Pilot Knob & at the sandy borders of Woods, more abund. at the sandy elevations at the Iva

[104] verse

Aug. At St Peter's Mr Sibley's Am. Fur Co. Establishment.

27. Des Sioux, a very ornamental plant, - 422. *Ptero-caulon*? this plant appears in every low wet & damp situation, on margins of swamps, rivers & ditches from 2 to 3 feet high, flower through the whole of the autumn untill the frost destroys it, this is the great medicine of the Sioux Ind. the long (black root) has an sitting aromatic taste. 423. *Chelone glabra*. The only plant I found of this species is the preserved specimen out of a swamp, in the borders of the Woods, with 424. *Polypodium* associated with (406.) (*Synzyges*.) 425. *Helianthus*, fol. lance. acum. This is again but apparently a plant ex omnibus locis. - In the dry prairies it remains a low 1 foot high, the lower it is situated the higher it is more vigorous & hexarient is its habitus on the first it has generally 1 flower. and in the rich bottoms 4-5 feet high & branched with many flowers. with 426. *Aster* fol. amplexicaulis lance. acuminat. flor. coerul. bilobis. - 427. *Aster* from the limestone quarry of Mr Sibley below the establishment. - this is the beautiful species, found on the gravelly & high ridges of the Coteau des Prairies. generally 8-12 inches high & much diffused & branched, with a rose lilacine flowers. (see description lower down) - Post *Aster* 233. [Another descript. given before.] Radical leaves lanceol. subspatulate, often acute, 3-5 nerved. (leaves with elevated pellucid nerves, veins re-

[105] veins re-

Aug. St. Peter's, Mr. Sibley's Am. Fur Co. Establishment

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Post Aster 427. Root sublignose, creeping, stem short, straight, often a little flexuose or subdecumbent, terete, glabrous, grayish brown, woody & very brittle, branched, irregular ~~diverging~~ ^{diverging} branches ~~at the apex~~ leaves sessile, subclasping, cartilagineous serrulate along the margins, scabrous on both sides, one- or absolutely 3 nerved, most all lanceolate & divaricate, on a young shoot from the root I found the leaves distinct spatulate, & a few of them bidentate at the apex, the stem leaves are all lanceolate and acute, branch leaves much smaller linear lanceolate, superior & floral leaves still smaller ~~and with the linear~~ ^{and with the linear} & dilated ~~towards the apex~~ ^{towards the apex} & slightly incurved. - branchlets very thin & leafy, irregularly spreading one-flowered, ^{flowers} sessile & densely surrounded by leaves, which form the outer ~~perianth~~ ^{perianth} row of scales linear & long acuminate, carinate at base, scabrous on the margins, upper half & apex green & white & rugose, punctate, & reflexed, rays numerous about 30-36 long linear, point reflexed, purple violet: pappus plumose. 4. Limestone Rocks 12-18 inches high.

trilobate, strigose, ciliate, cauline leaves very long linear-lanceolate, rigid, twisted and very characteristically marked with two notched teeth towards the point, sessile, patente & diverging, 3-5 nerved, the nerves less elevated, & canaliculate, (*) so that the point appears much sharper. - The superior leaves narrower & the floral ones merely scales, incurved, very distinct & hispid-ciliate, - stem very stiff & strict, divided into many flowers bearing branches, which form a level-top-corymb, - branches generally bear 6-14 flowers, - branchlets 1 flowered, - flowers erect, the branchlets erect-patente, - Antheridium most globular, scales lance-obtuse, closely appressed, with membranaceous margins, so that they might be added to the division

Aug. St. Peter's Mr. Sibley's Am. Fur Co. Establs

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Aster with scales marked with green (*) dots (by Beck.) - Rays about 20. (*) on scales with two longitudinal confluent green stripes which leave along the centre a light stripe & the membranaceous margins. - Disk bright yellow, after blossom fuscous. 12-14 inches.

Post Aster 420. Caulis exaltato, erect, sublignose, ramose, divided, terete, canescent, or grayish brown, superior leaves, semi-amplexicaulia, cordate-appendiculate, flavid, lanceol., acute, 3-nerved, middle nerve below elevated, both sides ^{short} pilose, margins scabrous, a little undulate or twisted, paler beneath, (if the leaves were petioled, they would appear hastate leaves, except being rounded at the appendages, - Superior leaves patente, also sub-undulate, & twisted a little, so the superior & floral ones, - all of them are pulverulent & scabrous on the margins, - branches patente, reddish blue, white pilose, at the base of the branchlets flexuose, branches form a convex corymb or clustered panicle, each for itself, - Antheridium flattened, outer row leaf like, about 10, mostly connivent, at the base, linear-acuminate, elongate, ciliate, pubescent, striped & reticulate pellucid, and elegantly recurved, - inner ones narrower, all nearly even in length - Rays about 30. 3 rows very long, linear obtuse, (points a little darker & reflexed.) lined or dark striped; - Disk orange yellow; - this beautiful species grows among the hard bushes, on hill slopes with the rough Solidagineae Monarda clypea. & others. Woods border. - Aster serotinus Willd. 428. On the inundated bottoms along the Mississippi Bottonia glastifolia? 429. Gentiana coccinea Damp heights, Rocky damp or cool & dry situations, frequently among bushes mouth of St. Peter River.

30.

430. *Aster* caule erecto, subflexuoso, ramuloso, purpureo-
glabro vel nitido, - fol. rad. laxis, longe petiolat.
cordato-ovata, acum., basi cordato crispo, supra ve-
bro, subtus pubesi. & pallido; marginibus scabris; pe-
tiolis long. canaliat. consolut. scabro-fimbriatis -
fol. super. petiolo decurrent. patentibus, basi crispis
subulul. - fol. superna sessile, ^{erect} patent. lanceolat.
acumin. - fol. superna sessile, linear lanceol. acu-
minata. - ramificat. et inflorescentia pyramid.
panicul. axill. patente, ^{longe} diverg., foliosa, - racema.
his secundis; pedunc. 1 floribus; ramulis callogon. sup.
exaratis. - anther. subcylindric. squamis dense imbricatis
appressis, ovatis, acutis; apice viride-guttata, mar-
ginibus membranaceis, Ravis duplicatis, lincibus
attusis truncatis & plicatis. - This species varies much
in different portions of its habitus, generally in the
covering & color. The branchlets are beset with flo-
ral leaves, more scales, which are more or less acute,
peduncles 1 flowered, 1 inch or less long; the lower ones
as common, the longest, branchlets & upper stem fur-
rowed, - perianth. subcylindric, pointed with a dark green
dot, margins white membranaceous, - Rays in a double
row about 12 in each. linear obtus lanceate, with 2
folds, Dark with about 12 to 15 florets, a little reversed
golden yellow. among hazel bushes, in the woods, in
deep shades, often very abundant, & I believe the
same species appears in the open Prairies under
different habits. - 18 to 24 inches high. -

31.

431. Stem erect, branched, - rad. leaves - long petioled
D, petioles canaliatate & convolute often crisp,
winged, villous-fimbriate, the winged substance
with longitudinal parallel yellowed veins - leaves
distinct cordate, caudate acuminate, dentate-
serrate, or only serrate, at the base entire &
often crisp, pubescent above, paler & white vil-
lous underneath, reticulate, nerves & veins yellow-
cidi - Superior leaves with more broadly winged petioles
narrowed & contracted near the base of the leaves,
ovate acuminate, about 5-nerved, regularly serrate
from the middle; - Superior & Supreme leaves wi-
thout distinct petioles; a little contracted tow-
ards the base, all the leaves diverging, floral leaves
minute, lance acute or acuminate, those of the
peduncles scaly, curved, & a little undulate. Rami-
fication pyramidal forming the panicle, bran-
chlets divergent, forming little regular panicles; ra-
cemes, diverging from the branchlets, 1-4 flowered.
Anther. cylindrical, scales long linear acute or acum.
with the points a little loose, and a dark green
upper half and whitish membranaceous margins.
- Rays in a single row, elliptic, - linear, truncate,
2-plicate, true lilac, about 10?, a little revolute,
florets of the disk about 12, golden yellow, with
the former, but more in dry gravelly soil, & open
warm situations, borders of dry woods, - (The upper
part of the stem sulcate, and at the axils of
the leaves pubescent, - in the woods the stem is often
villous.

Sept. At St. Peter's Mr. Sibley's Am. Fur. Co. Est.

Sept. At Mr. Sibley's Am. Fur. Co. Establishment
St. Peter's.

432. Aster, Stem erect, robust, stiff, ramose
foliose, green purplish shining, upper part &
branches puber., & a little sulcate. (rad. leaves de-
cayed;) Superior leaves lax, divaricate-petio-
lous, sessile, long-lanceolate, acuminate, serr-
ulate, remotely & unequally serrate from the middle
undulate & crispous towards the base; nerves &
veins reticulate, pellucid; - Superior & Supreme
leaves the same but patente-diverging; branches
patente, forming a pyramidal panicle; branch-
leaves uniform sessile, erect-patente or patente
diverging, uncurved, lance-acute & acuminate.
branchlets again forming a panicle, 1-5 flowered
beset with floral leaves, very lanceolate minute, in-
curved acute; - perianth. Dilated, with many
scales linear, subulate-acuminate, most of equal
length, Rays in one row, a great many, linear ob-
tuse, most white, a little plicate, regular & gene-
rally very perfect, a little recurved; Disk with about
25 florets, golden-yellow, - all the leaves are of
a fine green without any covering, & with sa-
brous margins, paler beneath, - On Road sides
& high brushy situations. -

433. Solidago, caudex caespitose; Stem erect, vinate,
flexuose, square & subulate, squares often a little reflex-
ed pilose, the rest of the stem shining; - cauline leaves
as subcordate, ovate, acuminate; Decurrent down
the petiole, incisely & acutely dentate-serrate, part
green above, paler & white pilose beneath & more or
less diverging; - upper leaves lanceolate, more acum.
serrulate in the middle; - Superior leaves lanceol. ex-
treme, divergente-divaricate, entire, smooth. - Floral
leaves short, minute, subulate. Inflor. intraxillary,
panicle spiked; racemes axillary, elongated (lower
ones.); upper ones short, erect-patente, with the flowers
single or in pairs, - scales spreading & lanceolate
obtus., with a light green stripe along the midribe.
perianth. cylindrical, - florets of the rays 5-6 -
rays elliptic-oblong, 2 plicate, - florets of the disk
about 9. Stamens spreading & exserted, golden
yellow. - Borders of woods; Shady banks of
streams never in open sunny situations, & rarely
distinguished by its leafy spiked panicle, by
its soft membran. leaves & dark green foliage
in general, a very ornamental plant. -

From St Peter's to Lac D'Esprit. under
the guide of Mr. Nicolet.

Sept 14. Left St Peter's at 12 o'clock at noon. —
from the top of the high bluffs near St Peter's a
lilac variety of Aster (426) Ast. serotinus. with
434. Gentiana 5 flora. with the G. crinita & 435. G.
ochroleuca. all of them appear more or less fre-
quent along the margins of lakes & woods, rivers.
* under white & red oak. — On the table land is
the Oak. the Euph. corollata abundant, but their time of
flowering is gone. — We passed at Sunset Castle.
Rock reached Vermillion River at 8 o'clock in
the evening, having travelled a distance of about
15 miles, Weather fair S.W. 10 o'clock at night
Th = 43.0. — A beautiful Aurora borealis —

From Vermillion to Cannon River.
(Yanibus data. Watapah —)

Sept. 15. Crossed Vermillion River at 6 h 30 m —
crossed a very extensive prairies, including
several small & muddy rivers. covered with
rough grasses — 436. Solidago, foliis angustis
conduplicatis repliatis. glaberrimis. floribus
corymbosis compactis aureis. — 437 Arundo
the common Reed of the Swamps. — At
6 h 20 m we arrived at Cannon River. — the banks
are not richly timbered at the crossing place
the soil is poor & sandy & the hills are
down to the River. — Here were all these plants
together which generally are found on dry sandy
slopes — Solid. pyram. & lunata. Gent. crinita.
Saponaria on the top of the shrubby bluffs —
lower down is Gent. ochroleuca abund. with
Prenanth. serpentina. & Pren. cernua (?) Helianth.
pinnatifid. with ripening seeds also Eryngium
aquaticum, is scattered abundantly. Liatris ovata
stark. most gone, the scarious in some flowers
yet. — The Agrostideae & Paspal. with most ripe
seeds. Helianth. (345.) — NB. Every species of
Aster in flower. Weather fair, cloudy in the
afternoon, S.W. 18 miles from Vermill. River.

From the crossing Place of Cannon River
to Lac (Lakata) (Izura Mde.)

Sept. 16. At the crossing place of Cannon River 438 Aster. Stem erect, elongate, a little sulcate & striate above and scabrous; peniculate-ramose; - lower leaves petioled, petioles broad, membranaceous, margins convolute, fimbriate at the base, and along side of the membr substance. - Latex of the leaves unequal, cordate at the base, ovate, undulate, dentate-serrate, crisp at the base, pale & white pilose underneath; upper leaves ovate lanceol. serrulate, sub-prime leaves most entire, patente, yellowish-reticulate, lance-acumin.; floral ones minute, linear; branches axillary, patente, short, rigid, in a pyramidal panicle arranged, racemes close, subopposite, of ten axillary, regular small panicles; bractelets & racemes sharply sulcate, racemes generally 3 flowered; peduncles short full of acute scales, on smaller floral leaves.

We started at 10 o'clock & crossed Cannon River at 10^h 20^m. the river is about 60 yards wide, 3 feet water - & has a very swift current, the timber where it appears is chiefly Amer. Elm. & White Soft Maple, with white & Red Oak on the heights, & Bet. populifol. after crossing we traversed a prairie with rough weeds, & on some damp places the Gentiana 5-flora was in the most beautiful state of perfection, in company

From Izura Mde through Bois franc, to
Lac Titanka tanninar.

Sept. 17. Left our camp at Izura lake at 5^h 30^m entered the high timbered parts or sections of Cannon river, what is called by the french Bois franc. - Red & white oaks, White & Sugar Maples, Black Walnut, Fraxinus acumin. Celtis occident. are here to be found in a perfection & health & size which is not to compare with any timber at the St. Peters River or the Mississippi about St. Peters. Viburnum Opulus var esule was in ripe fruit so the Alice, a species of Cornus. - We had to cut a road through this magnificent & valuable wood, - Taxothylon fraxineum is abundant, also Panax 5 folium, Aralia hispida and nudicaulis, Orchis spartabilis in seed; when we got through we stopped at the Prairie for breakfast. 439. Aster foliolosus. this Aster is on all prairies abundant & forms a part of the principal colors of the vegetation. We reached at 3^h 50^m. after a rain shower the beautiful Lake Titanka tanninar. Weather fair in the forenoon, cloudy & sultry, & afterwards a rain shower of 2 hours in the afternoon. 44 miles from our last encampment.

G. Saponaria, Pedicularis pallida and some few of Gent. ochroleuca & saponaria. Reached our Campment at 5 o'clock, having traveled 15^h miles. Weather fair. Rain at 8 o'clock in the morning.

Observation of the ^{waiting} Eclipse of the Sun at the
 Lake Titanka tanninan, or the Lake of the two an-
 cient Villages.

Sept. 18. Lake Titanka tanninan is very beautiful situated.
 The place of our Camp was at the South end of the
 Lake bordered right & left by ~~the~~ woods of little
 consequence, we only had the view of one half
 of the water sheet, it on account of a high
 elevated ridge like point at the east bank,
 which narrows the extent of the Lake at that
 place, and this, our camping spot no doubt
 was once the place of one of those ancient
 villages. Some ruined Indian lodges, build of
 logs & covered with bark, which are still to be
 found there are of a more recent time, the
 level extent of ground as far as the banks are
 cleared from timber, appear to me as having
 the ~~same~~ appearance of a wasted field, this
 part however is not large at least not more
 than 2 or 3 acres, Digitalis & Panicum Ama-
 ranthus & chiefly Strawberries cover one part
 of it, Vitis riparia is creeping along the sand
 at the banks of the Lake, we found them full of
 bunches ^{some} of them were very good. - Here on
 the sand beach is the Polarisia grass, again very
 abundant mixed with the Euphorbia Diversifo-
 lia. The first day & in ripe seed the latter still green
 with some flowers. - with Ranthium Humarium &
 Bidens (H. O. I.) with B. coreopsis? - One individual of
 Pyrus coronaria. - ^{*}Minisperm. canad. abundant -
 acorns falling - Artemisia biennis gone - Digitalis
 & Panicum ripe - Smilacina racemosa (of mine) with
 ripe scarlet berries on the timbered shady banks ripe

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Liatris

Lake Titanka tanninan.

Sept. 18. Squarrose & Dioscorea - Mamondia ripe.
 This day was one of the most beautiful days
 I remember - The morning sun shone undisturbed
 by clouds on the beautiful sheet of
 water calm & serene was the whole atmos-
 phere, the Lake appeared like an large Mirror
 sky blue with its beautiful shrubbery & group
 of Oaks & Lindtrees, ashes on both sides & in
 the distance, - This picturesque scene was still
 brightened when a ^{number} of Swans off about 3 or
 10 were descending to navigate over this part
 of their favorite elements. - The day passed
 undisturbed by any inconveniences, and at
 1 o'clock we made preparations for the obser-
 vation of the eclipse - the result of which
 is with proper meteorological observation
 reported in the diary of Astronomer
 observ. of Mr Nicollet. The effect of the
 eclipse seemed to prolong the day, and as
 easy & pleasant was the evening after
 this beautiful & interesting day, which we
 spend in a very social manner & good
 humor -

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From Lake Okaman to Lake Wapataki
on Lac aux Racines croche.

Sept. 21. Left our encampment at 1^h. 20^m P.M. —
passed again very broken country, Swamps
on which elevated borders the *Cypripedium*
pubescentis was very abundant — whole woods
of *Betula populifolia* 30 feet high & 1 $\frac{1}{2}$ feet
diameter, so confined is this tree here that
I could not discover any other different tree
for more than 2 miles. We encamped at
5 o'clock, compelled by stormy rainy weather
at an extensive swamp, having travelled 7
miles. S.W.

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From Lake Okaman to Lake Wapataki
on Lac aux Racines Croche.

Sept. 22. Left our swampy encampment early in
the morning & reached Lac aux Racines croche
at 10^h 15^m. This lake is full of *Nymphaea*
alba, the roots of which are gathered by
the Indians as a winter food, where the
name derives from. We only stopped a few
hours here, proceeded further about 1 o'clock
P.M. through a very much obstructed wood
which contained large & fine timber, the same
variety as is mentioned about Connon River
we reached Rivière la Pêche at 5 o'clock, after
crossing it we encamped at the opposite side. — The
bed of the river is about 40 feet wide, full of
gravelly banks, current swift but little water
of this season. Its name derives from the
Equisetum uliginosum which grows very
abundant along its banks, called la Pêche
by the voyageurs. — Weather Rainy, Showy.

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From Rivière la Puelle (Tchankasna-sna) to
the River Tchanyushka, a tributary river of
Fremont Fork of the Makato river.

Aug.
+
20

Sept. 23. After the necessary Astron. Observations
we left our camp at 11 o'clock A. M. we had
about 1 mile more of woods to cross, after-
wards we reached the high prairie; we pass-
ed Lac aux Puelles. & encamped close by
the Tchanyushka river at the right bank,
where we met a band of Wahpekutch In-
dians, encamped at the Lac la Puelle —
Gent. angustifolia very abundant on the high & dry
prairie. — 14 miles

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From River Tchanyushka to the Makato
River.

Sept. 24. The Wahpekutch Indians collected last night
at our camp, returned this morning when
they received their presents of Mr. Nicolle.
We were detained until 2^h 30^m. when we
started, crossed the above river, passed a little
wood of overcup oaks, here we encamped having
travelled 9 miles from our encampment. here
Amorpha nana was very abundant around
the borders of the swamps in ripe seed & still
some green foliage. Weather fair.

[123]

From Tchanyushka River to the Makato River.

At the Makato River.

Sept. 25. Left our encampment at the oak wood at 7^h 30^m in the morning - passed 2 Summer lodges of Wahpekutch Indians - crossed Merry River, another tributary stream (30-40 feet wide) which constitutes Fremont Fork of the Makato. - This river has timber of middle size, *Juglans nigra*, *Negundo fraxinifol.*, *Celtis occidentalis*, - after having crossed the river we reached another high prairie, crossed a little lively stream & reached another high prairie with *G. angustifol.*, *G. japonaria*, & the *Solidago* (436) - *Setaria major*. reached Sanjuteh okuahn Mide or Beaver Lake with some oak timber, & at 11^h 30^m we reached again the very rich & extensive bottom prairie & woods of the Makato river, passing through the woods we arrived at 2^h 45^m & crossed it until 3^h 15^m - here we were compelled to stop for the want of timber on our further road. - The river is about 20 feet wide at the crossing places & 3 feet deep in an average, - the water is very clear, the bed gravelly & very swift current - 447 *Aster*, stem strict, green, shining, grooved, branched, forming an often coned, at the top - (anther leaves sessile, semiamplexical, patent, lanceolate, elongate, long acuminate, revolute at the base, entire, out of the middle sharply serrate, (base undulate,) entire at the point, thick, scabrous on the margins, glabrous on both sides, (softly shining with a bluish tinge, (seruginous) - all other leaves behold

Sept. 25.

448. *Erigeron* ~~symmetricus~~ abundant on the high (open) & gravelly escarpments along the banks of Makato - with *Phaseolus* (399) & *Aster salignus* along the shades among the willows at the waters edge. - *Oenothera biennis* very abundant on these escarpments - Gramen (446) *Lactuca* very abundant. - The timber on the left bank along the course is chiefly overcup oak - on the prairie close by is the same vegetation, the above described *Aster* is mostly confined to the hummocked places & along of the course - *Amaranthus frutescens* is mixed with the willows - *Polygonum convolvulus*, - *Poa reptans*, - weather fair. N.W. moderate cloudy evening clear night - 9¹/₂ mile dist. from our last encampment.

same shape, but proportionally longer pointed, points reflexed, those of the upper stem, the axillary leaves of the branches are cordate, lanceol. acuminate, - The midrib with 3 parallel lines, with two parallel vein-like nerves on each side, veins of the leaves reticulate pellucid, - This character of the nerves & veins is visible on the larger size stem leaves, the higher & smaller ones having only pellucid line along the midrib. - but are decidedly 3 nerved & also reticulate veined; - Branches all patent, foliose, branchlets generally with 1, rarely with 2 flowers, - panicle loose, flowers straight, branch. & branchlets generally more green, than the stem, also with the peduncles thickened towards the show. - Ray anther, cylindrical, scales lance. very acute, green & succulent towards the middle & the apex, whitish & membranous towards the base; base appressed, points recurved; - Rays about 24, lance, obtuse, slightly 2-plicate, revolute, lilac colored. - Disk elevated in the centre, about 20 florets, annular yellow, afterw. amaranth.

From the Makato River across Coteau Croche
to the Jehanskushka Watapadan - or to the
Rise of the maple trees.

Sept. 20. At 6^h 35^m we started & ascended the Coteau croche
a little beautiful group of mountainous hills, crown-
ed with many irregular most conic shaped tops.
before we had a wide level prairie to cross -
without seeing any thing of timber or wood around
us. - crossed several deep grassy lakes. - On the Co-
teau croche I found the Aster (427) very abundant
full of very perfect flowers, of a beautiful lilac-
purple & orange disk about 8-10 inches high in the
apparent strata exposed top on coarse gravel
in its immediate neighborhood *Listera fimbriata* &
Astragalus asper. - The prairies are already in
the color of autumn, only very few flowers are
to be found scattered over their vast extent, not
all the many is only *Gent. crinita*, *G. angustifolia* -
G. Saponaria. & *G. ochroleuca*. - *Solidago stricta* Michx.
Aster (447.) *Melicanth.* (345.) *Aster sericeus*. & *Aster* 427.
which species I have collected also from Mr. Sibbey's
Quarry St. Peter's where it appeared luxuriant in dense
conglomerate bushes 1/2 feet high quite different to
Aster foliolosus? some *Eupatorium perfoli-*
atum in sheltered swamps. - After we travelled
about 20 miles we encamped at the Jehanskushka
Watapadan river. Weather - cloudy all day, & dull,
we stopped at 5^h 30^m.

From Jehanskushka Watapadan to Lake
Warhasa and to the Lake Omanhu Wita.

Sept. 21. The Jehanskushka river is on that place timbered
with *Ulmus americ.* *Fraxinus americana* but its name
refers to sugar maples which are visited by the
Squirrels in the Spring, it is about 20-30 feet wide
& 1 1/2 feet deep at that place. and with high banks.
We left our camp at 7 1/2 50^m & arrived at 9 o'clock
at the crossing place, 3 miles off., where we took
the Astro. Obs. - here, the high dry gravelly banks
were covered with the *Gent. angustifolia* in the highest
state of perfection, the *Lespedeza* (363) in ripe seeds. -
reached Warhasa Lake or Lake of the poplars at
at 5 o'clock we reached the Lake Omanhu Wita on
the Lake with the Walnut Island & the Juglans
procera is abundant on the Island of this Lake, some
of them are also scattered along the banks mixed
with *populus grandis*. 448. *Polygonum* with
the green common pyramid. *Artemisia*, in the sand, with
Polanisia graveolens, *Potentilla lupina*, *Amorpha fruticosa*,
& found also plants of this year from the *Sage*
resist (187) along the sandy beach. - Weather beautiful.
This is a very beautiful lake.

From Lake Omanhu Wita to the Des Moines River.

Sept. 28. We departed from our camp at 7 o'clock in the morning, went for some hours over a wide prairie - at 9 o'clock we reached two lakes of $\frac{1}{2}$ mile length each. Lake Manyaska, the Lakes of the white cliffs, and before we left a group of Lakes at our right. Lake Okamampodan was the largest (the Lakes of the small meadow) timbered sparingly like the former Lakes Pop. grandid. Frax. acum. We proceeded with great anxiety to reach the Des Moines River to day - at 3 o'clock P.M. we crossed one branch of it (Pike river?) with very high banks, after a continual ascension of hills through a very broken country, we came on an extensive plateau, found several large & beautiful lakes, but very sparingly timbered, full of boulders around the banks - chiefly granite - overcup oak & Frax. acum. Vitis riparia - reached a creek close by the Des Moines River at 7 o'clock in the night, before we had to pass a great ridge with large boulders of granite - swamps, we were compelled to pass - we found wood & water, one of the fairest I ever saw - cloudy from 5 o'clock P.M. until 8 evening - 25 miles

Visible plants of the prairie - * Aster sericeus - * Aster foliolosus * Solidago (351) * Gentiana angustifolia. Astragalus deurgens. Rosa va. pennsylvanica. Anemone ludoviciana? Oxybaphus (112) Menchona americana. Ceanothus americanus. Anemone (212) Melianthus (345) Gramen (328) Petalost. viol. Petal. candid. Solidago nemoralis Ait. Silphium pinnatif. - Lonicera (326) Gram. (296) Liatris maritima Liatris scariosa. Liatris ciliata. Gram (336) Conocarpus torquatus Baptisia tinctoria? Anemone virginiana. Gramen Polypogon. Rubus argutus? Androsace purpurea * Aster (424) * Pedicularis pallida. Penstemon immanis Nutt. Penstemon exaltatus Nutt. Leptandra virginica Nutt. Glycyrrhiza sp. Polygonum erectum Muhl. Atriplex arenaria Nutt. Silphium compositum. Scirpus canad. Rudbeckia digitata. Penstemon bicolor. Galium septentrionale. Polygonum amphileum. Glaucous Graminae from the basins Leersia angustata Swartz

From Des Moines River over the dividing Ridge of the Waters of the Mississippi & the Missouri to the Great Spirit's Lake.

Sept 29. Left our Camp at 7 o'clock in the morning, after we made one mile we crossed the Des Moines river at 8 o'clock to breakfast & the Astron. Observations, on the left bank. - On the bluffs of the right bank (which is at that place only 150 yards off) on the slope is the Anemone macrocarpa Michx. very abundant. 40-50 feet high & about 2-2 1/2 feet Diameter, on the left Bank are very few, perhaps more lower down. Populus grand. of large size & Frax. acum. The river is 40-50 yards wide 1-2 feet deep in average, full of granite & other boulders, current swift, water edge embowered with Salix petiolaris. - The bottom weeds are generally the high Carduus & Helianthus (425) - Solidago (351) and the Artemisia folia lanceol. subint. graphaloides. leaving this place we ascended the dividing Ridge of the Waters of the Missouri & those of the Mississippi, here was again the Rosa parvifolia very abund. (on the ridge) with Amorphus canescens & Rubus. prop. Conocarpus torquatus. We reached Lac D'Esperance at 4 P.M. - Weather fair, high S.E. after sunset.

F.

At the Great Spirit's Lake. Minni Wakon.

Sept. 30.

Lake of the great Spirit, Minni Wakon (Sioux) Lac. Spirit of the Voyageurs comprises a large group of Lakes of different sizes. The most extensive is about 20 miles from W. to S.E. & 4 miles from E. to W., it is for its height very well timbered though only interruptedly. The banks are alternately sand beaches or fortified with immense accumulations of granite & gneiss boulders. - these boulders are beautifully dressed with different beautiful plants, as they contain in their intervals a rich composition of Loam Gravel - sand - Rotten Shell from the Lakes - weed thrown out by the waves. - The sandy beach is however very naked, generally an undulated bank 40-50 yds from the water edge & 6-8 feet deep. with a few ^{loose} Oak & Fraxinum shrubs. - On the sand beach - *Polenista graveol.* with *Panicum* (400) *Sporaea lagunosa*. *Physalis* ^{obscurus} ~~obscurus~~. *Amaranthus nanus* Nutt. *Convolvulus sepium* Lin. *Oenothera bicolor* Lin. *Ambrosia elatior*. *Erigeron pinnatifidus*. *Euphorbia hypericifolia* & *diversifolia*. *Asclepias speciosa*. *Aster multiflorus* ^{var. glaberrimus}. *Senecio* ^{var. glaberrimus}. *Geophthalma* Des. ^{var. glaberrimus}. ^{var. glaberrimus}. Among the granite & gneiss boulders. 449. *Dalea atropurpurea*. *Amorpha fruticosa*. *Darlingtonia brachyloba*. *Lycium latifolium*. *Rhus glabra*. *Rhus radicans*. *Lactuca elongata*. *Asclepias syriaca*. *Cynanchum acide*. *Astragal. octococcus*. *Bidens corymbosa*. *Prussia longicaulis*. *Arabis hirsuta*. *Erigeron pyramidalis*. *Convolvulus sepium* L. - *Phaseolus*. sp. 7. *Aster salignus*. *Polygonum persicaria*. *Polyg. erectum* Muhl. growing on the wood *Salix pedicularis* *fraxinus puberula*. *Populus grandidentata*. *Quercus alba* *formis*.

At the Great Spirit's Lake, including the adjacent Lakes - October.

Oct. 1.

~~was Sept. 30.~~
449 *Dalea atropurpurea*, with 451. *Potentilla* sp. 452 *Gnomen*. with *Gnomen* (317) *Gnomen* 452, with 453. *Physalis* *viridiflora* probably the same, collected at Pelican Lakes. - *Syrphus* *dear*? (392.) Weather stormy S.E. - rain at night, but only interruptedly until 1 Past midn.

Oct. 1. // from the woods 454. Umbelliferae - *Dioscorea*. Root ~~tuberos~~ tuberos like celery, tubers caudate fibrous. Radical leaves long petioled, 3-5 or 6 from the caudex ascending, erect, petioles semiterete, canaliculate, striate pubescent, very little hollow, short vaginates at the base & toward the caudex. Leaves ternate, petioled petioles unequal the central one longer, (all of them more flattened than the general petiole), canaliculate, with an elevate longitudinal groove in the channel which runs up to the petioles of the leaves, & to the axils of the leaflets. - 3 other elevated nerves on the back of the petioled petioles - parts of the leaflets broad, leaflets linearly & unequally ternate, rhomboidal. Deeply dentate serrate, a little mucronulate, deeply excised, acuminate, large leaves & odd ones often sessile or subsessile & (laciniate) pinnatifid. - petioled petioles petioled, those of the leaflets diverging, axils of the leaves villous pubescent, nerves & leaves in general underneath very slightly pubescent, nerves on the surface above reticulate, dark green, above petioled underneath but not shining. - petioled leaflets with the sides (lateral) decurrent. - Stem erect ramose, articulated, hollow, sulcate, striate pubescent, leaves sheathing the ternate branches at the base. long ternate petioled on my specimen gone. - Corolla elliptic.  flat on one side, winged on two sides, & convex on one side the convex side with 3 elevated lengthwise traversing & a few slighter nervs. margined, corolla obtuse pointed or full. Ped. winged whitish membr. all of a pale brown color. 1 foot high. about. ~~the woods~~ Lac. Spirit, Minni Wakon. Leaves fresh. Rocky moist shady situation, woods. [131]

Lac Des Esprit

October 2. The Wood & timber Shrubs & c., around the Lake of the great Spirit. - These Wood are about 12-15 feet above the level of the water mark present. - Regular accumulations of granite boulders, Inauwaka ~~are~~ show the former extent of the Lake, which are at some places about 500 yards distant from the present banks of the Lake. - The woods 1. Ulmus americana 2. Juglans cinerea, 3 Fraxinus acumin. 4 Celtis occident, 5. Tilia americana. 6. Populus grandid. 7. Ulmus fulva. 8. Nyssa fraxinifol. 9. Sambucus canadensis. 10. Cerasus ob. ovata, 11. Prunus Chickasaw. 12. Vitis riparia. 13. Tamus. 13. Ribes 3 florum. 14. Rhus glabra. 15. Salix alba. # Rhus glabra. - Stem bluish brown, gray dotted, young fresh lower colored bluish red. petioles articulated & indurated thus at base, & pubescent with the stem opposite & subopposite, along lanceol. cordate acuminate equally serrate, 7 nerved with alternate ribs, one to each serrature; shining green above, glaucous underneath. - Leaves 8 or 9 pairs & 1 odd one. # Ribes 3 florum, fol. 3 lobis, Spicis axillaris 1-2 & 3. petiol. foliisque subtus albo-sericeo pubescentibus - petiol hisp. basi plumoso-ciliato - 16 Rosa pruri-flora. 17. Smilax armod, leaves cordate, mucron. 7 nerved, shining, pubescent, circhis 2 axill. oppos. at the foot of the petiole, young leaf buds thorn like, pointed & enveloped - berries in small clusters, umbellike, abundant, ink blue. Smilax rotundifolia. Lina 19 Rhus radicans. 20. Quercus a seed plant, foliis subtus subvabris pallidis, supra nudis, nitidis, serratis. - Smilax 17 # Spinis nigris divaricatis, reflexis, foliis meo. subt hamatis, hinculis fimbriate short acum + 2. Quercus. ~~divariformis~~. 19. Evonymus atropurp. 20. Symploc. ricarpus naizemovus, which is abund. all the way from St Peter's.

From Lac Des Esprit to the Des Moines River
over the dividing Ridge. Return road.

October 3^d Left our camp at Lac Des Esprit at 12^h 30^m proceed N.E. reached Des Moines River at 6 o'clock in the evening after crossing we encamped on the right bank, in the narrow timbered bottom, with Quercus macro. the bluffs along the river on this side are about 80 feet high in some places, with some overhang, they are gravelly & covered in some places with granite & old red sandstone boulders, with Linum rigidum, Potent. arguta, Polygum, Paspalum? & Oenothera canadensis, the bottoms full of Bromus (368) & Silphium perfol. & other rough plants. Weather fair, sky serene. West W. 14 miles -

21. Crataegus armod with horizontal spine like thorns, fol. ovatis, 5-7 lobis (lobis oppositis) acuminate serrate, white tomentosa underneath, light green & pubescent above, sometimes the leaves are 9 lobed, petioles pink long, young bark white, branches diverging, 15-20 feet high. Chazy woods - Crataegus cordata to Aril. 23. Salix petiolata 3 fol. longissimis subres. (short & dilated petioles) sinuate - Serrate, serratures mucronulata, midrip above subcordate, cutting, ciliatis, pubes. serratures sharp & acute - young wood blood red, brown with whitish dots, old wood ash colored, leaves tinted with one to several edge up, long leaves are falcate, from the stony banks 455. Aster Salignus. with Astu (426.) Weather fair calm. On rocky damy places in the wood Geastrum Stellatum.

From Des Moines River to Lake Okamanpidan. River
Return road.

Oct. 4. Left Des Moines River at 10^h 15^m passed some lakes swamps, most all of the same appearance as they are already described - only less timbered. - arrived at 6^h 20^m at the great Lake Okamanpidan - prairie the entire appearance of the late autumn - only *S. angustifol.* - *Baptisia tinctoria*? abundant on elevated situation but all the seed destroyed by worms. - also *Passiflora carolinensis* abundant, but dead & off from their roots - weather fair. W. 15 miles from our encampment.

From Lake Okamanpidan to the River of the Lakes River. Return Road.

Oct 5. We took the necessary astronom. observations, & left our camp at the Lake Okpd. at 6^h 30^m in the morn. passed along side of the immense & beautiful lake, which is in some places well timbered & fortified with large accumulations of boulders on its banks, - *Ulm. amer.* & *fulva*, *Tilia amer.* with *Aquies macroceph.* some *Fraxinus acuta* constitute the timbered banks - some part are more extensively timbered & they appear like timbered bottoms, at 11 o'clock we reached another extensive lake still better timbered but more wood-like with very large Elms & Oaks. - *Pet. cand.* & *viol.* abundant. - *Eryngium aquaticum* & *Beanothus amer. gland.* 456. *Eupator. pubescens.* & *Crataegus cordata* Ait. - A prairie island with sugar maple trees where the Sioux go to in the spring. - Beautiful lake very & very broken country, a great many prairie islands of Oak (overcup). - We reached one of the branches of Des Moines River at 4^h 52^m crossed it & encamped on the opposite timbered heights. Weather fair. W. 85, 0° at noon. 17 miles distant.

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460. *Spiranthes cernua* Richard. Root lignose - ^{tuberous} ~~tuberos~~
 (horizontal) warty, contracted, scape erect, short, stiff, covered
 with appressed lance-acute or acuminate sheaths, which are
 lined & glabrous, spike dense, flowers cernuous, bracts
 lanceolate & long acuminate, lip elliptic? entire, mar-
 gins a little involute crispous and crenulate, subun-
 guiculate; outer segments lanceolate, diverging, co-
 lumn carinate, obtuse. - From the sandy hills near
 Embarrass River, Sept. Found by Mrs Fremont &
 Flandin - 6-10 inches high, has a very agreeable & strong
 scent. Description from dried specimens -
 whole plant glabrous.

461. *Solidago*. Stem ^{erect} robust, elongate, terete, sulcate,
 leafy and pubescent above, corymbose paniculate
 divided above. leaves lanceol. (sessile) acuminate, more
 or less diverging, entire, or appressed incisely - serrate,
 often denticulate ^{ate} serrate, hamous hispid on both sides,
 3 nerved, reticulate pellucid veined, nerves subvillous un-
 derneath, branches, with the branchlets form a pyramidal
 panicle, more or less regular, and compose a conglomerate pa-
 nicle, racemes ^{short, horizontal,} remain a little reflexed with the point
 peduncles, filiform, 1-3 flowered, white pubescent with the
 branchlets & upper stem. perianth cylindrical. scales few -
 rays short. - Floral leaves very minute long subulate.
 + lanceolate, obtuse, divaricate. linear lance acute loose-
 imbricate, yellow obsolete greenish lined, whitish margined.

S. procera. [138] St. Peters.

462. *Solidago*. caule ^{elongate} erecto glabro, subsulcate ~~long~~
 divided into a panicle at the top. - stem leaves
 sessile, diverging, broad lanceolate, acuminate, at-
 tenuated at the base, ^{appressed incisely} serrate ~~often dentate~~ - serrate
 from the middle towards the apex, glabrous on both
 sides, or scabrous ^{& paler} beneath, margins scabrous, flowers
 leaves white - ciliate, branchlets ^{hispid} divaricate recurved
 ed, racemes short and ~~paniculate~~ ^{glomerate} recurved. Anthodium
 cylindrical, scales unequal, linear, ^{sub acute} ~~obtus~~ white
 membranaceous, with ^{subimbricate} 2 greenish confluent nerves towards
 the apex (peduncles and lower scales pubescent), rays
 short, divaricate, elliptic, with 3 confluent light lines,
 Pappus plumose.

463. *Arbutus Uva Ursi*, caule lignoso ^{ramoso} ~~pro-~~
 strato, foliis alternis, secundis, petiolatis, obovatis,
 glaberrimis, ^{supra nitidis} ~~coriaceis~~, reticulatis, (ramis, prostratis,
 foliosis), marginibus ^{terguinis} ciliolatis,

452, *Gramen* ^{stem} Root geniculate, ^{articulate} ~~fibris~~ ^{roots in} fasciculate,
 finely and densely fibrillate, very villous, wiry, lignous,
 white, stem geniculate, articulate, joints ^{proliferous}, root
 ing, leaves sheathing the stem, sheaths sulcate, white silky
 ciliate, much longer so ^{at} ~~above~~ the base of the leaf, which
 is jointed, spreading, linear, long acuminate, with a conti-
 lagineous & pellucid scabrous margin, plaited; grasslike re-
 gular, pyramidal. lower branchlets divaricate or horizontal
^{paniculate} ^{filiform} with the racemes generally 3 flowered, spikelets one-flowered
 all ^{ped} short peduncled, ^{flaves} paleae 2, unequal, both cari-
 one of them very small, the other longer than the ^{rate},
 [139] rest

with scabrous lines or keels, inner valves like the outside ones scabrous, all acute. — *Pod spectabilis* Pursh.
Solidago 436. — Stem erect, stiff, foliose, ^{lined} terete, glabrous, leaves equitant, spreading from the base, falcate, concave acute conduplicate, scabrous along the margins, about 3-nerved radical ones very long, ^{lar} attenuate towards the middle, branches, spreading, sheathed from their base by axillary leaves, subterete, with sessile opposite lanceolate, mucronulate, appressed leaves, racemes ⁱⁿ clusters at the top of the branches, pedicels furrowed, pubescent, scales of the anther, few, obtuse, one-nerved, fimbriate, sub-ragose; rays linear obtuse short, saffron yellow. —

Vermillion River (Sioux country).

448. Polygonum, stem erect, ^{terete} branched, ^{shortly} subterete flexuose, striate, grooved; (branches & leaves) stipulated branches spreading subterete, slender, ^{mostly} undivided; ^{tubular} stipules white membranaceous lacinate, leaves subsessile, lanceolate acute or ~~obovate~~ acuminate, upper stipules not lacinate; nut sharply triangular, brownish black, shining, flowers axillary, solitary or in pairs. — Sandy banks at Spirit Lake.

Physalis 453. Root caespitose, stem, prostrate and ascending, flexuose, subterete, pubescent, leaves ^{in unequal pairs} petioled, sides ^{with this} unequal slightly decurrent down the petiole, ^{broad} ovate, acute, ^{unequally} serrate-dentate, nerves & veins white tomentose. Fruit with the peduncles pendulous, calyx vesicular glandular pubescent, reticulate, teeth short acute, [140]

conspicuously ciliate, berry Reddish Yellow, —
464. Aster Senecius, Root thickened, contracted with few radicles, stems solitary or several, slender, wingate, branched, terete, almost shining yellowish brown;

Eupatorium, stem erect, branched, terete, pubescent, leaves petioled, opposite, 3 angular cordate, acuminate, ^{coarse} serrate, subscabrous along the margins, divergent, petioles canaliculate by the slightly decurrent sides of the leaves, pubescent with the under side of the leaves, branches opposite spreading divergent, their leaves shorter petioled, racemes corymbose at the top, pedicels pubescent, elongated, with filiform scales on floral leaves; scales of the anther, linear, ^{obtus} 3-nerved, curved pubescent, membranaceous margined conspicuously fimbriate, seed black ^{pent} tetragonous shining, Pappus marginal elongated, subplumose.

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455. caule erecto, foliis ^{paniculato-ramoso}, paniculato-ramoso, subsul-
cato glabro, foliis sessilibus ^{divaricato-reflexis}, divaricato-reflexis, lance-
olatis, elongatis, acuminatis, ^{lasi attenuatis} mediis serratis, gla-
berrimis, marginibus scabris; ramis subintegris;
ramis axillaribus patentibus, brevibus, pubescentibus,
floriferis; floribus apice congestis, pedunculis brevibus,
pubescentibus; antheris imbricatis, squamis linearibus
subacutis marginibus albo-membranaceis fimbriatis
apicibus viridibus; Pappiis numeris, linearibus obtusis
brevibus, albis.

467. Dartingtonia, radice incrassata, ^{herbo} carnosu-lignosa, caulibus
erectis, ^{subflexuosis} elongatis, ramoso, angulato-nervoso, glabro, sublignoso,
medulloso, foliis bipinnatis, multijugis; petiolo generalibus
sulcanaliculatis, angustis marginibus pilosiusculis, basi
petiolum ^{inferiorum sub-tergulo} glandulosum, ^{partibusque apicibus} glandulosum
acutis; foliolis valde-approximatis, ^{minutis} sessilibus (basi obliquis
to oblongo-lanceolatis, obtusiusculis, ciliolatis, uniner-
vibus; stipulis filiformibus elongatis; ramis ^{patenti-di-}patenti-di-
vergentibus, ^{angustatis} floriferis; floribus axillaribus pe-
dunculatis, divergentibus, elongatis, ~~inverso~~ rigidis, flor-
bundis, ~~ramis~~ floribus sessilibus, legu-
minibus turbinato-congestis, faliatis, acutis, 3-5 per-
mis.

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Vegetation of the Mountain Island in the
Upper Mississippi. October

This place exhibits a great variety of
Subalpine plants. At the foot of the rock
close to the water the common *Quercus ra-*
bra & *Ulmus americana* & *U. fulva* constitute
the principal trees, like in the other bottom
woods in that region, and with *Cornus stolo-*
nifera as the most prevailing understorey;
besides that is the *Smilax laurifolia* ve-
ry abundant and at this full of its bunches
or umbels of black berries, in the midst of
its dense foliage. The lower rock, shaded
by the trees is covered with *Polypodium vul-*
gare & interspersed with *P. phegopteris* & ba-
shes of *Vaccinium uliginosum* var. *alpinum* Michx.
hang immediately above it on the nearly perpen-
dicular rocks, still nearly in full blossom -
Up to the height of about 80 or 100 feet the
Pinus strobus fills up the intervals of the
mount, and as they are sheltered by the rock
they are larger than in any other place
I saw on the banks of the Mississippi. - At
the foot of those graceful pines, the *Chi-*
maphila corymbosa of Pursh, and *Goodyera*
[150] [151] pr-

besides form scattered groups, among them also the *Micracium marianum*, at this time the first was with ripe fruit. The upper Rocks more exposed to the weather was full of different ferns, among which the *Asplenium rhizophyllum* Willd. and *Pteris atropurpurea* Linn. with a few plants of *Anabis laevigata* Cand. — On other places of the lower rocky intervals *Pyrola rotundifolia* & *elliptica* with their evergreen leaves were covering the ground, and at the same place *Monotropa uniflora* was in great abundance. There must be a great variety of Orchideous plants at that place, I only noticed a ~~withered~~ withered stalks of some species of *Platanaria*, *Cypripedium* and *Spiranthes* —

Petalostemon villosum Nutt.

This beautiful species of *Petalostemon* I met first at the sandy and elevated prairies at the Traverse des Sioux, close by the fort of the Am. Fur Co. where it is noticed already on

other page. After we left that place I never saw it again for the whole first journey. On our second trip to Lac d'Esprit I searched for it with great care but nothing was to be seen of it, nor was there any such sandy hills in the whole country until we reached Vermillion River on our Return Road, there, on the top of Castle Rock hill, on the almost base on Thrift Sand, I found it in great abundance & perfection in ripe fruit, with *Amorpha canescens* & *Baccharis*? *Arbutus Uva Ursi*, *Poa festinata* & other more common plants. Again I missed it in the whole neighbourhood of St Peter on the left bank of the Mississippi, & down the Mississippi, as far as one mile below Riviere aux embarras, on the bastions of Thrift Sand of Carver's and Featherstonaugh's fortifications of the ancients, and here again in abundance and with *Baccharis*? among whole fields of *Geastrum hygrometricum*, often solitary in the prairies with *Amorpha canesc.* The last time I found it on the Thrift Sand hills on the left bank of Lake Pepin. —

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