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About the Institute

The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

1943-4



MEMORANDUM
BOOK

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17

R-210 Open Side
R-211 Open End

32 SHEETS

E. LUCY BRAVIN
2702 MAY ST.
CINCINNATI
OHIO

Huron Mts: 1943-4 #

- July 25. Salmon Trout River
" 26. to Conway Bay via
Lake-shore trail;
return Conway Lake.
" 27. Fisher Creek -
via Trout Lake - Jves
Lake trail, down
Fisher Cr. to lake +
over knob to Pine Lake
" 28. Huron Mt Club -
Marquette + east
29. Marquette L'Anse
" 30. Ford Timber Land,
S. of L'Anse

July 25.

Entrance road - at
(rd to South) Salmon Trout
River

Maple-birch woods
with 3. maple & Acer penn
layer.

Scattered 3rd size hemlocks
& smaller.

Acer penn.	Asp. spec
Lonicera can	Tricentaly
Corylus (patches)	Marianth
Rubus parvif	Clintonia
Cornus alt	Smilacina
Phegop. Druff	Osmorhiza
prolatic	Aralia nud
Umbellaria perf	Asterma
Impatiens	Cercaria lute
Cinna	Ran. recurv.
Galium	Arisaema tri

Ostrya Lye. obsc
 Theriac in open spots
 Carex spp
 Cornus can
 Dryas sp. var. sp.
 (infl. taller, sides long)
 Adenocaulon, in prairie
 Botrych. virg
 Rubus trifl., in prairie
 Phegopt. long.
 Piptola sed
 Sclerophorus
 Aspl. f. f
 Milla nuda (rare)
 Viola pallens
 Osmunda clayt
 Anem. quinque-
 lat edge of hemlock
 Mitchellia Monotropa unifl
 Lye. luc Cyprip. acade

Not so badly
 deer-gorged

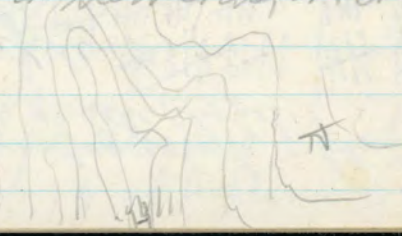
Low layer is dom. simple,
 with occasional green prairie
 sp. but very rare

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② Canopy comp.:- Slopes.

S. Maple		
Y. Birch		
Lilia		
Hemlock		
Ostrya		
Red Maple		

In deeper part of prairie,
 hemlock increases
 Also, at top of prairie slope,
 much hemlock, w. SM + Birch



(12) Canopy comp. flatter: -
or gentle slope.

S maple	###	###	###	###	###	###	###	###	###
	###	###	###	###	###	###	###	###	###
y. birch	###	###							

Tilia ||

Hemlock |||

###

red maple ||

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North of road.

(13) comparatively flat

S m.	###	###	###	###	###	###	###
------	-----	-----	-----	-----	-----	-----	-----

y. birch ### |

|

Tilia

Hemlock ###

||

red maple |

Hemlocks bet 300 + 400 yrs

More size here than in previous
years (today)

Mull humus on a sandy soil
black, grad. lightening

Belmont Salmon Trout Run

(14)

S. maple	 	32	
y. birch	 	17	
Tilia	 	24	
Hawlock		1	
red maple		7	
elm	 	28	
Thuja		6	
fir			
white spruce		1	
bl ash	 	12	

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Circaea lut.	Corylus
Arisaema	Acer penn
Cinna	Ostrud fern, near
Macaroch	run
Asp spin	Aspl. ff
Anem. querc	Viola sp
Aspl. acrost	Viola pallid
Carex spp	Osmor. sm
Hystrix	Brachyottr.
Impatiens	Poa
Y. violet	Cinna
Viola comp.	

Going into (or lowest part)

(15) wh spruce		
elm	 	
y. birch		
ash		
Tilia		
s maple		
Thuja		
fir		
red maple		

with lots of Ostr. ferns;
 Raportea (Corylus)
 Cirsium alp
 Anemone pulch
 Galium, high sprawling
 Urtica
 Rubia peruv
 Thalictrum
 Anemone can
 Osmonda sm
 + ystrif
 Clematis virgin
 Aquilegia can
 Aster mult
 Eup. urt
 Eup. jacobae

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After lunch -
 north side of rd,
 starting about 300 ft west
 (16) of rdway. Sample maple area

sym									
y bark									
hemlock									

This is maple woods;
 higher than elsewhere
 here but rolling & sl slope
 maple pepr down.
 Plenty of eye see, eye obsc
 asp spm Rubus eye
 Acer penn Dryopteris
 Aralia nud

July 26

To Conway Bay

Just where woods begins after Jack pines, a big red oak, with white pine.

(A big red oak was in woods bet. Pine Lake & Rush Lake)

On lower rock terrace -

Hemlock woods to eroding margin; there lots of hemlock, spruce & fir & spruce ^{rod rotted by humus} ground for 50 ft back from margin all moss covered, with *Leucobryum*, *Dicranum*,

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Hylcomnium - - -

in which *Chiozones* is abundant, also *Pennace*. At light margin, *Vaccinium* hanging on edge, white birch, red pine, white pine.

Coming out of pure hemlock stand - where maple & y birch, ch start, - *Populus grand.* (large) near margin. Also, as before, fir, hemlock, spruce.

A beautiful conifer margin to hardwoods, in lot spruce (wh) & hemlock about 1 ft dbh. pred.; also wh white. Small fir dom. a strip of hemlock woods again, this time with some y birch &

maple, runs along
base & slopes of old
rise. This also has
the young fir border.
This comm. contains wh.
pine (one 10 1/2 ft circ)

A very steep old bluff,
sand & soil, well darkened
by humus

About 100 ft back of
edge of old bluff - S. maple
& birch forest, as counter
impression tree
White pine with hemlock
at ft of & on top of old
bluff (Algonquian beach?)

At edge of present bluff
all the Lycop. mixed

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in cont. mats - Lycop. annot,
claratum, obscurum
In some places, Coptis
Linnæa

A large red oak in the
maple-birch hemlock
about as we round toward
Conroy Bay

Come down off of highest
part onto 2nd level, into
hemlock - wh. pine again

Conroy Lake, return
trail

Enter hemlock woods
Large wh. pine stumps
nearly 4 ft diam

This is an extensive
area of hemlock, which
was hemlock, wh. pers,
y. birch, + a few red
+ s. maple.

Great quant. of Lycop.
lucidulum, arvense
+ obscurum.

not much else, prob
because of deer, but
in gen. quite dense.

Plenty of hemlock
repr. of (not real small)
indicating continuance
of hemlock dominance
Jack pines (more
or less near Fourniers)
have red oaks scattered
thru (not large)

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July 27
Jules Lake trail

Soon after leaving
Front Lake trail - leaf
S. maple - hemlock y birch ^{red maple}
with lots of hemlock +
fir (much down) + spruce
growth. S.M. hemlock +
a few y. birch in 2nd layer.

Much Lycop. lucidulum;
asp spine, some Pteris
Oreopteris, Mitchella,
Colinus can., Aralia
truncata, Maianthe
Corylus, Acer penn
Lycop. obscurum, Grass (as 32)
Carex spp, Lonicera can.; Coptis
Then onto Fisher
Creek trail -

(17)

S. m. - hemlock - y. larch
here with huge wh. pine
(big pine 15 1/2 ft circ)

This tower above the
other trees

	###	###	###	###	###	###	###	###	###
S Maple	###	###	###	###	###	###	###	###	###
Y larch	###	###	###	###	###	###	###	###	###
Hemlock	###	###	###	###	###	###	###	###	###
red maple	###								###
wh pine	1								
Spruce, wh.									###
Thuja									###
Ostrya									1

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In places, the 3rd story
is dominantly conifer, &
hemlock & fir predom, &
some spruce

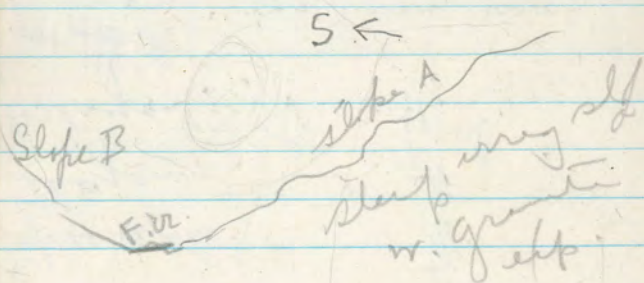
This area essentially
flat

Next big wh. pine -
where a little bit sloping
(toward Fisher Cr) & where
larger prop. of hemlock
otherwise same forest
next meadow. where
hemlocks very large

Little wet spots with
mosses -

*Phegopteris
nuda*

More wh. pines down
in the Fishes Cr. run
Also, up on the granite
knob - from creek
Slopes to knob have
red pine & wh. pine
wh. pine of various sizes
from small to very large



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Large hemlocks, too
a few of birch & red maple
(not large) & Thuja.

Fish Creek, - ample & some
Sleight pine.

Some fir mixed in on
slope - a few large enough
to bear cones - about 12 in +
dbh & 50 ft tall; in places, much

more wh. pine (of larger
tree) on slope A than of
other sp. This slope
here is almost Soviet

Slope B - heavily of
birch, etc.

Then creek turns &
opp. slopes are E + W +

both are rocky +
both are pine - wh. +
red.

Real cliffs, with
wh. pines in crevices
East facing.

W. facing, not quite
~~some~~ so cliffy but
granite etc. + grasses
asp. marginale
lots of small wh. pine
cliffs about 200 ft.
wh. pine on east face
to top; also red pine

This dry apparently
barren slope is
mostly white pine

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A little lower downstream
a less steep west slope
is hemlock (huge) w.
some white pine - a
beautiful hemlock park
w. lots of little hemlocks
& m. size of birch

Semi-flat, 15-20 ft
above creek + below rocky
steep slopes is ^{some s. slope}
hemlock - wh. pine + y. birch
wh. pine - 12 ft or more
groups of large pines, 30 ft + together
w. hemlock, a maple
& y. birch paper.

A spring spot
w. *Streptopus*
Oxalis montana
Phacelia dry, + narrow
& a palmately lobed leaf
larger than *crucifera*.

July 28

going east from Marquette
first beech tree* seen
15 mi. east of Jct. M28
+ US 41

Top of hill beech
prominent in M-B
woods:

Beech						
Sm. maple						
Y. birch						

3rd story is SM-B +
some Y. birch

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is usual undergrowth of
Phegop. nana, Asp. sp.

The above is a roadside
strip about 500 ft long
(at 22810)

The one counted is
just east of Deleton Rd.

Last beech* (in maple
sprouts) at 22811.

Enter Marquette Co
at 22814.0 -

Jct. M 28 + US 41
22825.4
22810

(Beech is absent from Marquette
Co - etc. for four trees)

* Same tree

Just near east edge
of Marquette, in
dune hill region -
lots of red oak with
maple.

West of Marquette -
a hill like top similar
topogr. to the one east,
is S.M., with some
of brake + J. lin. + red
(secondary + spruce) +
with young spruce +
fir beneath.

Some hill tops are
fine (wh. + red) + spruce

West of Marquette -
hilly; lots of red
oak, sometimes with

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maple.

A grassy hilly area
with young trees coming
in -

Spruce, fir, white pine
Thuja, all scattered
+ in groups - a totally
diff. landscape, more
like a subalpine meadow
in appearance. All
beautifully formed

July 29.

Some
again
in 1/2 hour

Somewhere between
Marquette & Michi-
ganome, hemlock
drops out, I believe
west of Ishpeming
More balsam poplar
A preponderance of
conifers makes things
look diff.

Still lots of s. m.
but in ordinary areas
always with spruce
lots of small spruce
& fir as understory
in ordinary maple &
aspen (mixed).

West of Michigan

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rolling land with
ridges (morainal?)

* Hardwoods on
ridges but no hemlock
On slopes appear to
go down to spruce
mixture, then to
spruce, or spruce,
+ Thuja, Larix in
depr. between, or in
places to real qual-
ing bogs, with Sphag-
num & Redum Cham.
Kalmia, Androm. Blue
Cranberry, etc.

Along guard road
starts an area of
hardwoods, prev.
maple, but very birch
with pine - -

(this is 1 mi. east of jet
of M200 US 41)

S maple		
red maple		
y birch		
wh pine		
spruce		
fir		
Thuja		

& fir in groups, not
counted because too
crowded

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Shrubby	Asp spec	
Corylus	Clintonia bor	
s. maple	viola	
red maple	Sleepyus	
y birch	Lyc obse	
Riverilla	Cornus can	
Sorbus	Brachyete	
Aur spic	Pteris	
Lonicera can	Aralia nud	
choke cherry	Trentales	
Cornus altern	Dryas	
	Lycopodium	
	luc	
	clav	
	Galium sp	
	Macanth	
	Dracopis mont	
	Aster macro	
	Trisetum	
	Mitchella	
	Polygonatum ful	

Adult humus layer
over a light grey
ponderosa

Summer 1950

The terrain is sort of
hummocky, with many
boulders, small humps
+ hollows

On some of ^{some} the mounds
some humus mixed
in, but still, a layer
of duff, here over
light brown soil
(cont) -

Tullum fern
Aspl ff

Down-slope, this changes
to y. birch

wh spruce

fir (not as large) -

shuja, wh. pine

The *Oryzopsis* drops out

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Rubus trifl enters

Phegopt. dryops

Epipactis (the bellone)

Linnaea

Coptis

Large stumps prot. wh. pine
of 28 & 41

at the junction, &
just beyond all
hardwood - maple &
birch. This is on
a higher area.

About 1 mi. farther -
we went in Fowl land on
little rdway.

Woods is SM, birch
& some elm & red maple

Going somewhat

downhill, more elm
& red maple, some
Thuja & wh spruce

About a mile more -
and large hemlock with
the r maple & y birch,
but not very many.

Then down slope
into wh spruce (large)
& Thuja & some wh
pine

(wh. pine probably
taken out from most
place.

Then up a little ^(on 41)
to 5 m w. y birch
& Tilia ^{& red maple} & middle size

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spruce (go into woods)

Lonicera denon

Corylus *Asarum can*

Lonicera can *Streptopus*

Acer spic *Clintonia*

Osm. clayt y violet

Rubus trif *Viola* ~~sp~~ ^(pallens)

Aster man *Thalictrum*

Rye luc *Impatiens trif*

" obs *Asp. spen*

Oryzopsis & *Brach* *Aspl. ff*

Large: - *Thyl* middle size

elm sp 3 m

red maple red maple

Tilia Thuja

elm y birch

Thuja spruce

(over)

Dense 2 maple lower layer

Humus is interm,
can be pulled up,
but soil darkened
for about 1 in. in.
then light - pondering
not sandy; on some
mounds, almost mull.
Herbs cont: -
D. breeches

in some places,
well mixed - i.e. a
crumb mull

Epipactis, nr pub.
Trollium cern Phegop. nurn
Cornus alt.
Cinna & other grasses

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This woods get hilly
with a cons. slope going
down north.

Slope woods same
as that rearward, with
syn.

Y birch
elm
Thuja (large)

dark humus over
podsolized soil

Sanguinaria Corylus
Osmunda Clay
Clintonia
Strep
Troll. cern
Asp. spin
Oxalis
Ryebur

① Slope Woods

3 maple ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~
 Y birch ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~ ~~|||||~~
 11111

Thuja ||| ||

Elm ||| |||

cherry | |

(P. serot.) spruce ||| |

fir ||

Osrya ||

Acer sp. *Fraxinus*
 O. alba *mont. Asarum*
Urtica *pallus* *Urtica* *crispa*
Ribes cyn.

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Very luxuriant, much more so than Huron mts.

Flattens somewhat & more larger spruce

Little evidence of deer

& woods become

Spruce - largest ←

Y birch (larger than dr. some with pine stumps)
 Thuja (but not as large as Huron mts)

More Cornus can, O. alba, T. canadensis in this mainly Coptes

Actaea
 Phegopt dry Osmorhiza
 Nepatica O. alba

② Higher flat: -

S.M. ~~###~~ ~~###~~ ~~###~~ ||||

red maple |||

y birch |||

Thuja ||

some fir in understory

a Sphagnum area
Thuja, red maple,
& Spruce

All of the above from
"go into woods" is
S. of Alberta, + about
2 mi. S. of Sturgeon
River bridge.

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July 30

③ Ford Timber Holding
~~between~~ ^{trib.} of Sturgeon & Sturgeon R.
A hemlock area

Hemlock ~~###~~ ~~###~~ ~~###~~ || ~~###~~ ||

y birch ~~###~~ ~~###~~ ~~###~~ | ### ||

wh pine stumps |

s maple || ###

fir ### |

red maple ||| ###

Thuja | |||

Spruce || |

bl ash |

Acer spic *Oxalis mont*
Rumex acan *Picea luc*
Corylus *Clintonia*
 Maianth
 Aralin nud
Carex spp *Asp spic*
Tricentatis *Mitchella*
Osm. clayt *Streptopus*
Habenaria green *Prolapallens*
 + long bracted *Phegopt dry*
Blunders of s maple *Epipactis, not ped*
 red maple
 fir
 hemlock
 spruce
 birch

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Hemlock about drops out
 + y. birch becomes dom.

y birch		
s maple		
red maple		
fir		
spruce		
hemlock		

Wh pine stumps ||||| 1
 add *Dryzopsis* more or less together
Aster amarus *Smylax*
Brachyl *Lycop*
Cornus can *Phegopt. purpur*
 *Humus black + drift-like
 about 1 in. over pale podsol

Locally, there are wet
hummocky spots (whole
woods " Dutch Sphagnum
& more tree line

After awhile, this
changes to S maple type
on land slightly sloping
North. & occ elm

To the west this goes
slightly down into an
undefined branch (?) of
Sturgeon river -

store,
wet sphagnum swamp
with
bl spruce

Thuja bl ash
y birch Cella
red maple Cella

Lot of Amunda ~~plant~~ ^{cinn} ^{cell}

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Coptis & Opalis in Sph, ~~Cella~~

at Sturgeon River bridge.
Along rather near river
but up on banks - no
wet margin for stream
flows fast -

Elm
y birch
Thuja
wh spruce large
Tilia

Lot of Acer spicatum
Cornus alt.

*
⑤ Steep slope - 1.2 mi
n. of Alberta -
Adiantum - large patches
Viola can
Trillium cern + ground
Emulacina rac
Aspl ff

Ribes cyn
macabeh Lonicera can
 aur spic
Staetopus Cornus alt
Aspl across

Big trees are :-

3 Maple - very large
Elm (very large) Lilia
 Y birch; occ. hemlock
Humus thoroughly
mixed + goes down
to a gray-brown earth

Asp spm. Polypodium^{pub}
Borrich veg Sambucus^{var}
Osmorhiza sp.
Gallium sp.

Smaller trees are -

3 maple
Lilia
elm

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cont. -

Ribes - currant

Dicentra - D. bceches

Viola eris Brachyotis

Actaea alba

Caulophyllum

Phegof. dry

Clintonia - seem to be umbell
while most of these are bore.

Dryopsis - on a mound

Cephaea alpina - on mossy
logs

Small maple not so
dense, i. not offering
so much competition
or more other things compete

Coming up onto flat,
most of the mull
plant drop out & here are
Lyc. obsc
more Clintonia

Humus is bet mud
& duff & can be
lifted off. About
2 in. thick gray soil
(darker than pebbles
this A.M.)

Young maple now
about 10 ft. - 4
the usual scattering
of maple woods
herbs

Back a little
ways, there are under,
depressing w. Carex
Drosera, Scut. latif

Come back to slope -
greater amt of small
Lilia is striking; to

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broken maple layer &
hence varied aspect of
M.M. underground
add -

Uvularia grand

~~Saxifraga~~

Lithospermum lily?

Corylus

Arisaema, gl. & broad

Sanguinaria

Allium tree

Mitella nuda m

little mound

occ. Laportea - bus

mostly in wet place

Cross highway &

start down steep hill

Trollius cern

Botrych virgin

Shepherdia

Taxus Smilacina
 Osmorhiza Aralia nudicaulis
 Sanguinaria

Big trees are

Tilia
 hemlock
 Y. birch
 Elm
 S maple

This spot covered

Humus more like
 top of hill across rd
 This slope lacks
 lux. of other

N. breeches - will here
 Aralia alba
 Tr. peruv.

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on east side of
 Another ravine
 with flowing creek
 black rocks

S maple

yew
 hemlock
 Tilia

Acer spic. Asp. sp.
 Elm Polyst. Braunii
 birch Asp. acrost.
 maple Betula v. nigra
 Tilia Urtica

Higher on slope -
 looks like quartzite
 The MM herbs not seen
 i.e. not many

The coming of the herb. plants of our M.M. awaits the proper soil development - & mull humus. These herb. plants in forest of same comp. as elsewhere - there are no other trees so far, in prof. is all that is possible.

The advent of these herb. plants gives to the ground layer something the aspect of the ground layer of the M.M.

This soil development seems to be limited to local areas

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on well-drained slopes. of. Mines Falls via Munising, slope of Ford property of July 29, & steep slopes of July 30.

Suitable areas in Huron mts, too, - but excessive browsing by deer obscures soil development.

Areas studied July 29 & July 30 are high above O'Arse. Come down hill for a long time.

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Moraines + Shore-lines
 of the Lake Superior
 region - Frank Perretts
 USGS Prof Paper 154-A
 1929.

Pre-Cambrian Rocks of the
 Lake Superior region
 USGS, Prof paper 184

~~22948.2 from road to rock face
 to .5 east side
 to 49.1
 50.1 at Alberta
 52.5 at River~~