

03:00 - 11:45 - 8:25 AM

2

LTEMP sampling 21-VI-2007

I am to meet Dawn Magness + headquarters at 03:30 to leave at that time. Dawn arrived at 03:37 and we departed shortly thereafter.

Today we will be working of Skelton Lake Road, plots: C15, D1, M11, M12, S29.

We reached plot C15 at 04:39, a few minutes before sunrise. There are quite a few hungry mosquitoes! This is a pure stand of black spruce (47 bark vintage) with a sparse understory of Vaccinium vitis-idaea and Geococcyx luteus.

At vehicle 05:30. Next is D1. In vehicle 06:38.

Next is M11. In vehicle 07:37. Next is M12. Lots of great Delphacids! Need to look at this sample. What was strange was that there were plenty of Delphacids, but almost no greenhorns - only a few sedges. Back at vehicle at 08:30. Next is S29. At truck 09:54.

A

03:15 - 12:40

3

LTEMP sampling 22-VI-2007

Just above site AZ7 on a rock outcrop I observed a very young (Red instar?) Litterbug. I found no harvestmen, but I did see a Lithobid contipede eating a Tipulid. It was under a rock.

Not far from the trailhead (~300m?) I collected a Cyrtus and a legume.

Work KENWR 26-VI-2007

Keeping specimen of *Neatridopsis* (Pentatomidae)
from my parents' DeVillie Rd. house. Using
Rider (1989)

1 → 2 → undata (Say)

Work KENWR 27-VI-2007

Keeping Scolytid specimen (185 using Furniss (2002)

1 → 10 → 12 → 13 → 1

↳ 14 → 15 → 16 → 17 → Pityophthorus

Cryptalus ruficollis from Kenia Peninsula (Wood)

Scolytid specimen 4961 (link 1.6a 2276,

Carphoborus

Keeping a Curculionid E. tul from near head quarters
under cottonwood park (dormed (s)) on 9-VI-2007

using Arnett & Thomas (2000) p. 251

1 → 2 → 3 → Leptinae Key III p. 252 1 → 11 → 12 → 14 →

15 → Agathidium? Requiring Hatch (1959)

Keeping Sphelid from (Cachemut Dr.
at using Goulet & Huber (1993) p. 292
1 → 2 → X

Key to Sphelidiformes, p. 280
1 → 2 → 3 → 4 → 5 → 6 → 8 → 11 → 12 → 14 → Astodidae?

Tryps ~~Crabronidae~~ Crabronidae p. 297

↳ Crabroninae → 75 spp. in nine genera in Canada.

B. Hart and Meade (1976)

02:45 =

(Work KENNER 28-VI-2007)

(LTEM sampling)

We sampled 5 points off of Skiate Loop Rd. We returned to headquarters at 10:45.

(30-VI-2007)

Peggy is visiting the kids at her home. We left at ~07:15 before they rose. We chartered Red Mountain Marine's M/V Beaufort, a small inboard boat, to take us to Tackelof Bay for us to walk on the beach. We left Homer Harbor at 08:00. Our skipper is Truemy. It is a glorious, sunny, calm day. We brought Bo with us.

We were dropped off at the dock in Tackelof at 08:30 and walked up the bay on the rocky beach. I found some lice under bark of Sitka spruce bark, but I did not manage to collect them. We poked around Tackelof Bay while the tide was out until ~09:30. The nearest thing we found was an octopus. Kim spotted it. It was a large octopus under a rock. It had two big chunks of fish with it. I tried to pull it out, but I could

not hold on to it. I cut my hands on the barnacles. Next time I will bring a bucket and gloves! We then walked down the road to Kasitsna Bay. It took us a little over an hour. We lunched on the bay at 11:00. Afternoon

I poked around. I found a couple of bristle tails under bark of Sitka spruce just above the high tide mark. It looked different than the Petridobius I have seen. It was darker with a conspicuous paler median stripe. We then walked to the outside of the spit, then took a break.

[REDACTED]

We returned until 13:30, then walked

Work KENUR 2-VI-2007

Keying specimen of *Hamaenus* using key of
Lattin (1964) pp. 122

1 → 2 → 3 → 6 → 7 → *Hamaenus acuminatus*

Work KENUR 3-VII-2007

Misc w/ John

- bulbs

- pp 7/17

- ~~Manitakes~~

- veg?

- TEMP samples to air stop

Asil Sandy Home Products

Keying specimen of *Agathidium*? (Leisidolae) using
key of Hatch (1957) p. 32 1 → subg. *Agathidium* Sells

p. 35 1 → 2 → 3 → *Lappasium*?

New trying Wheeler & Miller (2005)

p. 37 key to species groups of *Agathidium*
1 → 2 → 3 → *A. revolutum* group.

p. 58

1 → 2 → 3 → 4 → 5 →

Work KENUR 5-VI-2007

Justification

→ problem not mentioning climate change
in context of justifications. Deserves
sentence or P. : fact that we are
already documenting large scale latitudinal
shifts - changes in diversity w/o knowing
current diversity. - Good justification for
this kind of work

→ Dropped right into refuge w/out explaining
why. Need to introduce context - worthy
in refuge.

→ Pattern of diversity - latitudinal & elevational
gradients - appropriate

→ Reinstate figure.

→ Make sure KENUR, Kenj Nur, whatever
is consistent all the way through

→ Appendix summary - summarize pilot?

Methods - add domain of use.

DEM - check - 60m resolution, 30m

detect?

→

3rd overarching objective.

→ 3 quarters I ~~was~~ want to see.

veg structure?

- other general analyses?

~~detect~~ monitoring → recommendations?

- Power analysis of subgroup of time & for which changes can be detected.
e.g. 80% prob. to detect 50% change in 10 years.

Predictability; can be framed in two ways:

1. occupancy (frequency of occurrence) or
2. relative abundance

↓

Can make practical & ecological considerations, e.g. family vs. species monitoring; issue of detectability.

- Could mention whether other methods, e.g. barcoding

+ Need to link up occupancy / relative abundance power analyses.

Cut off preliminary results including table.

Perhaps other structure - products proposed

- Thesis

- list

- ideas in subsequent jobs

- diversity paper

- monitoring paper

use species diversity -

- Be more explicit in the
 tally of relative abundance
 by plot or family

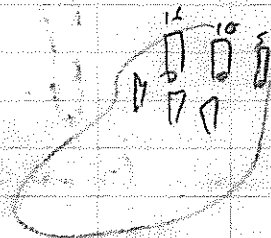
- mention that analysis is at α level.

plot relative diversity indices

All data for each point

- should do summary regressions

Map of S



Also, range of all 90 families

	P
S	

relative abundance etc.

90/4

(9-VII-2007) KENNOR

I asked Ed to look at Sphagnum. He thought that
 the majority of my sample is Sphagnum magellanicum.

(10 VII - 2007 work KENNOR)

Acquisition list for LTEMP work

- plastic wrap
- large plastic tote
- ziploc bags (gallon & quart)
- 2 soft paint brushes, ~1 inch flat.



Ed wants a collecting kit for Lake Clark.

-flashing

(12-III-2007 week KEMUR)

To do: -pack for tomorrow

- register UAF (Lpays?)

- mail ARLIS books

- mail Fedysida?

- pick up

I: BIOLOGY/IM

IM bid.

Print Namaste map on platter.

Packing list

- AA batteries

- trash bags (15)

To pick up from home tonight

- food

= Zodia tabs or water filter

- stove & survival bag? or field bag?

- vials

Jun 13-VII - 2007

Before leaving, HQ

- more TP - MSDFS?
- Killjars?

Short list of most remote Nunavut, I would like to sample (N to S)

(1795), (1808), 1834, 1805

↑ 2nd one 2 most isolated.

Arrived at head quarters (by lake) at 06:05.

John and I left headquarters at 06:45 in his rig. We arrived at Marine Helicopters in town at 08:30. Rick is our pilot. We will be starting out on the NE end and working our way S.

Our ship is a Marine Helicopter Bell Long Ranger III, N306MH Navy, khaki, and white.

In chip at 09:59. Planning on flying over 1795 en route to 1850.

We took off to the N. After passing the end of Kachemik Bay there were a lot of low clouds

in the mountains, but we found our way up the Fox R. valley.

On ground at 11:09 at 1848. I saw a little spruce! We are close to the original LZ. Here is Salix arctica, Saxifraga, ... I took several photographs as we approach from the air. This is sparse. Empetrum nigrum. Taraxacum. Salix arctica (var?) Epilobium angustifolium & Lotus,

John collected a Bombus from Saxifraga. I collected & John got some wolf spiders.

Took a soil sample

(pods on 60-18584

149.817

149.81734 error: 2.7m

1106m

Dug soil core to 20cm. Lots of small roots. Did not reach bottom, just too many roots.

profile: ~~kgc~~ live moss: ~2cm

organic: 4-5cm

rest is mineral

~~with~~ roots to bottom

gray loess silt

Also Cryptogramma Taken at 12:07

In ship at 12:17. I think next is 1850.

Flew over 1850 and decided not to stop based on Ed's opinion. Gaining 1795 now.

There is an isolated ridge. Ditch for 200
40' as we are flying.

On ground at 1795 at 12:38.

I dug a pit. Mixed (less mostly), sand, gravel, and rock. This soil is better developed than last one. By 1 dig 35cm deep and did not reach the bottom. Live is shallow (5cm) Organic is 23cm. Looks like some peat distribution by ice.

60.09461

150.15965

ele 1466

accuracy 4.1m

In ship (3:33). I did not collect many arthropods: a few small spiders.

On ground 13:47 at 1853. This is a richer site.

1853 is an old-looking, relatively rich, typical looking alpine tundra site.

I dug a soil pit at

60.00636

150.30222

ele. 1248m,

accuracy 2.3m.

This pit was fairly deep. I did not reach bedrock, but many rocks inside. It is dark ~~loose~~ silt & sand. I dug to 29cm. I cannot discern any horizons other than live plants are about 1cm. Roots to bottom.

Back in ship 14:45. I did not find many insects. There were Muscid(?) flies and bumblebees, but I was not able to collect them. Next is 1808

We stopped at this one. Next is 1816.

Stopped 1811 b/c looks like it had been ice-covered. Next is 1844. Skipped 1846 b/c looks like it had ice in it recently. Next is 1834.

06:30-

(17-VII-2007) Work KEMUR

(Lilly Lake Controlled Burn project)

This morning I headed the Berkeley songbirds. All yielded overtopped, though 1795 had fewer than the others. Mostly Callisphora and roses.

I was at the firehouse at 07:45. I did not have a pack - I am using my personal pack and attached a fire shelter on the side. I rode with Scott Strait, Josh Plate, Toby, Berke. We left before 08:00.

Toby and I got into Doug Newbold's and Jim Hall's truck at the junction of the pipeline and the road to Lilly Lake. We rode with them to the Lilly Lake crushing project. We arrived there at around 09:30.

We are now waiting for the briefing. It is warm, sunny, with no wind.

09:03 We extra FWS folks were assigned to a crew under Jan. We comprised Jan, Toby, Kelley, Molly, Sarah, Britta, Wyatt. We had reached E and the burn squad by 11:30. We lunched.

12:30 meeting. We will be pre netting this area (E vicinity). I will be running the pump. Kelley & (not Molly) is the pump guru. At 10:00 we received word that we ~~would~~ were bagging it for the day due to unfavorable winds. (Wrong direction and too strong)

On the way back I saw a small patch (~30cm diameter) of Matricaria on the side of the trail between F and A, but closer to A on (dashed line) the N side of the road. We were to A around 16:30, where we stopped for awhile.

Arrived at Htd 18:37. Pressed plants from 13-VII until 19:47.

work KEMUR 17-21-2007

05:20-

I worked on writing my presentation notes in the morning.

Rubin, Rick, and I left for Anchorage at ~07:50. We arrived at FWS in Anchorage at ~09:45. Meeting at 10:00.

Meeting on Tuesday in the ~~evening~~ afternoon
~4:00 (16:00). ~30 people from
Directorate.

First

John Delapp - Fish habitat initiative.

↳ advice → english w/ committees & plans.

What have you done? → was answered later

small writing
17 minutes

Focal area exchange -

points - do not read slide

To Rubin - could also introduce me as VP of
AKentsec.

I will have to stick around for dinner. Done by
15:00.

Rick

Instead of "struggling to set some way to
involve public" say that it is a way.

Mari

- liked climate change tie in at end.

- suggestions

site 3088

→ define plot size

2004 & 2006 time frame?

Elaborate in method

- Elaborate that grid is done

All three weeks of June - sampling water
& parameters.

- Maybe tie back into mandate. How

is this responsive to the market?

What are arthropods?

Define arthropods as

- Ending slide left hanging.

Maybe say at end that we signed - how much we finished.

- misspellings in vasc. plant list.

John Delapp had those:

Ron Laubenstein - subsistence.

Should mention that food is expensive

- And subsistence food is better nutritional value.

Selin

Alans

Sanguisorba canadensis

Robin suggested that I ^{say} how unique landscape monitoring it is, how useful it is to managers.

Flight # 831
arrived Home: 11:10

(19-VII-2007. w/ KFWK)

Keying small Sphecid wasps from Homer
using Bohart and Menke (1976) p.

57

1 → 2 → 6 → 7 → 8 → Pemphredoninae? p. 155

→

Key to tribes p. 158 1 → Pemphredonini p. 174

~~Key to subtribes p. 175~~ 1 → 5 → 6 → 7 → 8 →

Key to genera Stigmus? p. 188

Need Krombein (1973)

Now keying a Sphecid from Tustumena Lake,
a digging wasp with modified fore legs.

Same key, p. 57

Crab? 1 → 2 → 6 → 7 → 8 → 9 → 10 → 11 → 14 → 15 →

Crabroninae Crabra?

p. 359 → Crabronini p. 270

Key to genera p. 372

1 → 5 → 7 → 13 → 15 → 23 → 28 → 29 → 31 → 33 → 74

→ Crabra p. 406.

Shall request Fox (1895)

(23-VII-2007)

Keying Hylaeus bee using key of Sorelling
(1966) p. 166

1 → (♀) 8 → 9 → 10 → 11 → 12 → 13 →

Hylaeus (Hylaeus)

Keying Stigmus specimen using key of
Krombein (1973)

(Guessing ♀) 1 → 2 → 3 → 4 → 6 → 7 → hubbardi?

Looking at soil arthropods from Nunavut

Nunavut 1795

temporary label	taxon quantity	specimens taxon	
1795A	Collembola	•	1
1795B	on-shed? Acarina	☒ ☒ ••	22
1795C	Collembola	☒	7
1795D	white small purple Collembola	☒ ☒ ☒	29
1795E	Hemiptera	••	2
1795F	Collembola Entomobryidae?	••	3
1795G	red long-horned mite	•	1
1795F	deteriorating Collembola?	••	

65

(25-III-2007)

Keying Crabs with Bohart (1971) p. 232
1→18→29→33→36→37→ latipes?

Brookside Labs - pH, D, S, N, P, K

50017A

\$14-16 / test

Palmco 16 is \$40 / test

Brookside Laboratories Incorporated

(31-VII-2007) at Dominiqués

Keying Mycetophilidae

1574 - Mycetophilinae?

1631 - Sciomyzidae?

1680 → 1 → 3 → 22 → 23 → 24 → Mycetophilinae?

1702 → Sciophilinae? 25 → 26 → 27 → Mycomya

2121 - Mycomya?

2689 - 25 → 28 → 47 → 50 → 51 → 52 → 53 → 54 → 55

→ 56 → 58 → 59 → Bolitinae

3285 (Musc. Tipulid) 1 → 3 → 4 → 7 → Bolitophilinae

Bolitophila 8 → Bolitophila (Cliopisa) 12 spp.

unspread Shaw 1962

3579 74 → 75 → 76 → 78 → 79 → 81 → Allodiopsis?

2469 25 → 28 → 47 → 50 → 65 → 66 → 67 → Bolitina

→ Fisher 1937

Shaw, F.R. 1962. A key to the North American species of Bolitophila (Diptera: Mycetophilidae), with some observations on those described by C.B.D. Garret. Ann. ent. Soc. Am. 55: 99-101.

Laffoon, J.L. 1957. A revision of the Nearctic species of Fungivora (Diptera, Mycetophilidae). Iowa St. Coll. J. Sci. (1956) 31: 141-340.

Keying Lycid, specimen 3465 using a key of Mill. (beetles of NA) p. 175

1 → 2 → 3 → 4 → Dictyoptera ? species.

All of Dominiqués are D. aurea (or Eras aurea - they look the same).

det. Triplehorn 2004

Green 1951, 1953

Green, J.W. 1951. The Lycidae of the United States

Will coll. it E. aurea.

Keying Empidid, 2887 using MND p. 610

1 → 13 → 20 → 35 → Empidinae 36 → 37 → 41 → 42

43 → 44 → Philetus 2 spp. western

Melander 1928

Melander, A.L. 1928 (1927) Diptera, Fam Empididae. Fascicle 185, pages 1-434, plates 1-8 in P. Wytman, ed. Genera Insectorum. Bruxelles.

Keying 3578 1 → 13 → 20 → 35 → 36 → 37 → 38 → 39 →

40 → Rhynchomyia ??

4963 is Empis

Back at refuge keys plants.

from Nanatek 1848

Silene acaulis

Dryas integrifolia

Erigeron humilis

Polygonum boreale sp. boreale

Danthonia intermedia

8-VIII-2007 with ICENWR

Identifying Nanatek arthropods from Nanatek 1795.

1795 A	Eutimobryidae
" B	Acarina
1795 C	Oxychirovidae
1795 D	Isotomidae
1795 E	Erimemita (= Pemphigidae?)
1795 F	Eutimobryidae
1795 G	Acarina
1795 F	- Isotomidae - same as 1795 D, but some dead .. shed exuvium

10-Aug-2007 (with ICENWR)

1795 D - keying with Christman (1990)

84 → subterminal 8 > 4 87 → 89 → 95 →
97 → 99 → 101 → Isotoma!

Key 1795 F, an Eutimobryid,
using Christman & Bellinger 1998
p. 879
1 → 2 → 4 → 5 → Harmonella?

using Christman (1990)
Tonnoceus

(12-VIII - 2007)

[Skyline: overnight]

22:43 At the break spit. F had left the car at 22:16. It is still pretty warm, but getting dark already. I have to wait for me.

1.08. I realize that it will be a night. It is warm and still. There has been being harassed by a scorpion. I have seen quite a few bristled on the rocks up there. A few minutes ago I found my first hemipteran, I think an immature sparrow. It was actively scurrying down a new vertical lichen covered rock face when I saw it. It stopped in response to my light and approached itself on the rock. I took a photograph. As the lens cap I left and a flash started it. It ran to a slight delirium and approached itself again. ~~As we~~ we repeated this process twice. (lens cap off now). Ende Anne it scurried a few inches, but a delirium, and tried to hide by pressing itself against the rock. It eventually got away, I think by falling off for it was unable to be seen. At 22:40 it was 24°C! Min. 22:50 17°C and still. I + V 11/5.

02:30-

I have seen three more hemipteran now, all on the SW slope near the top. Two were sitting still, approached to the rock when I found them. I got a few photographs, but after a couple each they scurried off. I was not able to collect them. Both were oriented vertically with their heads low, abdomen up, and legs spread. The second photograph may have been the more ventral position. The first may have seen the light and stopped there. I am pretty sure the last one photographed was sitting still in that position already.

I also saw a bristled caterpillar (black body many) of crosswise lichen.

I also collected a hemipteran. I think I disturbed it by stepping on rock by it. It was scurrying up the base of a rock outcrop by my feet. I collected it live.

The night is beautiful. The fire ring behind Lake has had flames now. It was brilliant color. I have seen several shooting stars to the S heading S!

03:17 14°C still only a very gentle
warm breeze. I just watched two adults feeding
actively foraging. I just watched them they
pecked about the rock and nearby twigs, apparently
unfazed by my light. Immediately adjacent
I lost both of them one hit the twigs and
the other into a crevice. I saw a large bird-like
visit one of them. It skittered away.
The closest the harvestman got was about 1 ft
thick. All of the ones I had seen up until now
were males. They were small and slender. There
was a large well developed abdomen.

04:00 14°C The first twilight of dawn has
come. Things have been exciting since my
last notes I found under smaller harvestman (♂) sitting
in a depression (in small water hole), I tried
to catch it but failed.

I tried to catch the spot and found a ♂ on
a vertical face even a wing (wing out?) I photographed
it. It did not move I collected it and the next
morning it appeared to be dead.

Shortly after I started another that had a mark.
It was able to run swiftly carrying the mark.
It had a red in a little white bag and returned to

entry. I photographed it, the flash startled it,
and it ran into the 230m + another individual.
Just as I was about to collect it, another
one was running, apparently to take the kill. I quickly
collected all - harvestman were low. Mark was
dead already.

04:25 Getting ready to head down again. Still
can't see the sea for a while, just getting lighter.
Saw another bird-like one. Collected another
harvestman. It was sitting still not approaching
me on upper surface of rock.

(14-VII-2007) Furry R. horse tail

Ed, Toby, Miriam, Thich, Andrew, Bob, and I are at Furry R horse tail at 08:46 preparing to head to a wetland ~ 2 mi down trail to get a peat core.

WGS84 UTM E 0615558

N 6699523

GPS averaged location of core taken today.

14:25 - we had walked around a

We left the camp spot at 18:00 and arrived at the truck at 20:00.

At HQ 20:15 - left directly.

(15-VIII-2007)

Examining bristle tail from Mark Schultz.
- single large specimen with label 391#.

♀

Antennae shorter than body.

Looks like other two specimens.

♀ or ♂?

2+2 eversible vesicles on segments II-V only.
I see no sensory fields. Eyes fit Pedentatus.

stomach accurate to slightly $> 90^\circ$.

fits subgen. Verhoefilis.

Schultz

[REDACTED]

[REDACTED]

391#

392#

Keying 1795A (an Entomobryid) using
 Christiansen (1990)
 page 979

52/53 → 54/57 → 58/83 → 59/60 →
 61/69 Entomobryinae 65/76 → 77/78 → 79/80 →
 81/82

16-VIII-2007 work KEMUR

Keyed 1795F to Torricella flavescens

1795 I cleared and keyed to Isetoniella
limicola? - only species from AK according to
 Skidmore. - Actually not reported from AK.
 I may have damaged the specimen while handling
 it.

21-VIII-2007 meeting w/ John

Soil samples - do 5176 and 5001

GENOPRES

MONITOR

Check SPECIECH

2 Augustin requests - soil samples to Molin
 Furnies

~~Jan~~ Tustumena Lake 31-VIII-2007

Todd Eskelin and I we headed out to Tustumena Lake in search of specimens of adult ♂ Leptobanus borealis. We left HO around 09:00. At Shelburne 09:32. On near 09:45. We are first going to the mouth of the river to look at birds, then we will check a creek on the S side of the lake near the river mouth, then the gap to Caribou Islands. It is beautiful and sunny. We stopped at the passage on the ~~other~~ shore opposite Caribou Islands. Todd and I walked along the beach looking under driftwood, but we found no harvestmen. ~~The~~ The Lycosids were super abundant here. We collected nothing. Off for Moose Creek at 10:35. We reached Moose

Creek at 11:05. We found and collected, mostly live, a good series of Leptobanus borealis. I think I also got a couple of Mitopus morio. Both were under driftwood on the upper part of the beach just below the cottonwoods. Centipedes and spiders were their most frequent associates. I took photographs of the habitat here and of one male specimen, which I collected in alcohol. The location here is N 60.15310° W 150.70688° ± 7m, elevation 38m. Todd walked off in search of German Madwort.

Left Moose Creek at 12:04. We had packed to eat a bit. In truck driving at 13:01.

7-IX-2007

Keying out weaver from our house on Banner Lane. Using Levi (1973), p. 479
Key to groups of Araucus females.
1 → 2 → A. diadematus group ...