

REPORT of

FORAY NEWFOUNDLAND & LABRADOR



September 15-17, 2006

Lavrock Centre
Avalon Peninsula

Andrus Voitk

SPONSORS:

The Department of Environment, & Conservation:

- Parks & Natural Areas Division
- Wildlife Division
- Salmonier Nature Park

Western Newfoundland Model Forest

Gros Morne Cooperating Association

Sir Wilfred Grenfell College

Memorial University

Gros Morne National Park

Terra Nova National Park

Quidi Vidi Brewing Company



An organized event of the Humber Natural History Society

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NOTE: Just as the foray tries to serve many interests, so also this Report tries to serve its many constituents. Some of the material may be too detailed, some too tedious and boring, much of it irrelevant to many interest groups. The biologist may be interested in how many collections of a species came in. The park interpreter may want to know what are the common mushrooms in her park. The foray participant may just want a memento of what went on. The mycologist may wish to know what species fruit on the Avalon. And so on. If much of it is not pertinent to you, please ignore it. You need not feel bad for not reading it all. It is easier to write one report, including things pertinent to faculty, participants, sponsors, biologists, other mycologists and mycophiles and so forth, than trying to write a separate Report for each group. Yes, I'm lazy!

Copies of this Report, the Reports for 2003 - 2005 and Cumulative Species List can be downloaded in pdf form from the mushroom section of the Humber Natural History Society's web page, <www.hnhs.ca/mushrooms/>. Please feel free to use or circulate this and any of the other documents.

Comments & questions — mushrooms@hnhs.ca

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FACULTY

GUEST

Arne Aronsen *Torød, Norway*
Dave Malloch *New Brunswick Museum*
Ed Lickey *University of Tennessee*
Ron Petersen *University of Tennessee*
Roger Smith *University of New Brunswick*
Mike Wood *San Francisco, USA*

LOCAL

Michael Burzynski *Gros Morne National Park*
Faye Murrin *Memorial University*
Andrus Voitk *Humber Natural History Society*
Gary Warren *Canadian Forestry Service*

TRAIL LEADERS (in addition to the above)

Guest

Alan Fleming
Bill Richards

Local

John Maunder
Judy May
Mac Pitcher
Maria Voitk

Quuqout Chefs

John Mølgaard, Gene Herzberg, Murray Colbo

Registrars - Judy May, Maria Voitk

DOCUMENTATION

Michael Burzynski
Ross Collier*
Natalie Djan-Chékar
Jeri Graham
Claudia Hanel
Susan Knight*
Anne Marceau
Meherzad Romer*
Roger Smith
Aare Voitk*
Andrus Voitk
Mark Wilson*
and many others

* "student volunteer"

TRAILS

1. Salmonier Nature Park (provincial)

Boreal forest. Boardwalk all the way.

2. Salmonier back to — Avalon Wilderness area (provincial)

Boreal forest, bogs. More remote, rougher trails but easily passable.

3. Butter Pot Provincial Park

Boreal forest. Good trails.

4. La Manche Provincial Park

Boreal forest. Good trails.

5. Castle Hill Historic Site (federal)

Boreal forest, fields of lawn. Good walking, moderate hills to climb.

6. Atlantic Charter Historic Site (federal)

Littoral grasslands, sand dunes
and Sugarloaf Trail (community)
Hilly. Montane, some barrens.

7. Hawke Hill Ecologic Reserve (provincial)

Significant climb. Subalpine.
and Deer Park (community)
Relatively easy walk. Lush and moist protected boreal forest with some southern plantlife.

8. Cape St. Mary's Ecological Reserve (provincial)

Flat walking over some heath. Coastal highlands heath with dwarf trees.
Area divided into segments with groups responsible for foraging their segment. At least 1 1/2 hr's drive from Lavrock, each way.

PARTICIPANTS

Reverse alphabetical order.

Roger Zilkowski	Corner Brook NL
Graham Zilkowski	Corner Brook NL
Mike Wood	San Francisco CA
Marian Wissink	St John's NL
Mark Wilson	St John's NL
Gary Warren	Corner Brook NL
Jane Wardzinska	San Francisco CA
Maria Voitk	Humber Village NL
Andrus Voitk	Humber Village NL
Aare Voitk	Humber Village NL
Sid Torraville	Port au Choix
Lorretta Torraville	Port au Choix
Helen Spencer	Torbay, NL
Beth Spencer	Torbay, NL
Roger Smith	Fredericton NB
Monika Saurermoser	Roddickton NL
Meherzad Romer	Corner Brook NL
Bill Richards	Fort Saskatchewan AB
Mac Pitcher	Holyrood NL
Hilda Pilgrim	Roddickton NL
Ron Peterson	Knoxville, TN
Laura Park	Harbour Main NI
John Molgaard	St John's NL
Elke Molgaard	St John's NL
Faye Murrin	St John's NL
Judy May	Humber Village NL
John Maunder	Pouch Cove NL
Anne Marceau	Rocky Harbour NL
Dave Malloch	Little Lepreau NB
Ed Lickey	Strawberry Plains TN
Francine Lemire	Corner Brook NL
Susan Knight	St John's NL
Clara Jenniex	Humber Village NL
Karen Herzberg	St John's NL
Gene Herzberg	St John's NL
Pat Hayward	Rigolet, Labrador
Claudia Hanel	Corner Brook NL
Sarah Graham	Corner Brook NL
Jeri Graham	Corner Brook NL
Jamie Graham	Corner Brook NL
Rae Fleming	Edmonton AB
Alan Fleming	Edmonton AB
Nathalie Djan-Chékar	Witless Bay NL
Ava Djan-Chékar	Witless Bay NL
Murray Colbo	St John's NL
Ross Collier	St Alban's NL
Michael Burzynski	Rocky Harbour NL
Randy Batten	Conception Bay S NL
Arne Aronsen	Torød, Norway

It is a sad comment on our society but I removed the e-mail addresses that are usually found here. Many people find these a convenient way to stay in touch with some of the participants they befriended at the foray. Unfortunately this practice is no longer safe. This report will be distributed electronically and posted on our website. Spammers send spiders or crawl engines all over public sites and copy any e-mail addresses found there to add to their lists for future spam distribution. Thus any address posted on our site will eventually attract spam.

Apparently if you put your address up as a graphic or image, most spiders will not recognize it as a bona fide e-mail address and will not copy it. With the fast pace of technology, even this may have only a limited time to work.

Therefore, if you lost somebody's e-mail whom you wish to contact, please let me know and I'll be pleased to send it to you. My address is on the obvious graphic below:



PROGRAM



6:00 PM – 7:00 PM

Supper

7:00 PM – 8:00 PM

Arne Aronsen: *Small is beautiful — a short journey into the world of Mycena*

8:00 PM – 9:00 PM

Ron Petersen: *Mushrooms, mating and molecules: Newfoundland 2006*

Around the talks

Mike from Newport and other locals drop in and other important stuff

FRIDAY, Sep 15, 2006

3:00 PM – 9:00 PM

Registration

4:00 PM – 6:00 PM

Welcome reception

Hosted by the people of Newfoundland and Labrador through the Ministry of Environment & Conservation, The Hon. Clyde Jackman, MHA, Minister.

6:00 PM – 7:00 PM

Supper

7:00 PM – 7:30 PM

Mushroom ID Contest winners & other important stuff

7:30 PM – 8:30 PM

Gary Warren: *Polypores of Newfoundland*

8:30 PM – 9:30 PM

Andrus Voitk: *The May Model of a mushroom foray*

SATURDAY, Sep 16, 2006

8:00 AM – 9:00 AM

Breakfast

9:00 AM – 4:00 PM

Forays

1:00 PM – 2:00 PM

Lunch

4:00 PM – 6:00 PM

Quidi Vidi Mushroom Quuqout

Beer courtesy of Quidi Vidi Brewing Company



SUNDAY, Sep 17, 2006

8:00 AM – 9:00 AM

Breakfast

10:00 AM – 12:00

PM

Cape St Mary's Blitz

1:00 PM – 2:00 PM

Lunch

2:00 PM - 3:30 PM

TABLES SESSIONS

3:30 PM – 4:00 PM

Wrap-up & Thank you



REPORT



As in past years, this year's Foray was sponsored by The Humber Natural History Society, aided by its several kind partners: **The Department of Environment, & Conservation, the Hon. Clyde Jackman, Minister (Parks & Natural Areas Division, Wildlife Division & Salmonier Nature Par), Western Newfoundland Model Forest, Gros Morne Cooperating Association, Sir Wilfred Grenfell College, Memorial University, Gros Morne National Park, Terra Nova National Park and Quidi Vidi Brewing Company.**

Youth was a noticeable component of this year's participants — we had three children and a significant number of students and participants in their thirties (or even less). We enjoyed our largest ever number of participants, mushroom enthusiasts from Labrador, the Great Northern Peninsula, Central Newfoundland, the West Coast and the Avalon (yes, even St John's) joining others from Alberta, California, Tennessee, New Brunswick and Norway to forage the autumn woods of the Avalon Peninsula for species to be identified with the help of experts. Little over one-half of the participants were newcomers to our foray.



The Foray started, as in previous years, with a Faculty Foray for our experts. This provided faculty an informal forum to meet each other, walk the foray trails and explore our unique mycoflora.



The Foray opened with a reception by the Department of Environment & Conservation. Pictures of Cape St Mary's and other memorabilia were presented to our out of province guest faculty members on behalf of the people of Newfoundland and Labrador via the Department of Environment & Conservation. All registrants received a handsome registration package from the Department.



Small teams, under expert leadership, went forth into selected trails, foraging for mushrooms. This was the first year that mushrooms were a bit scarce but despite that, a very interesting variety of species was collected by the foraging teams. The weather was pleasantly sunny for the event.

As before, foragers were very diligent about the use of collecting slips - virtually no specimen came in without



a slip. Specimens were sorted with attempt to identify at least to genus. These were submitted to the experts' eagle eyes and authenticated specimens taken to the exhibition hall.



Despite all this help, the experts were still kept busy into the night, seeking to finally pin a name on some elusive and pesky little mushroom. Although there were fewer mushrooms out than in previous years, the cull was impressive.

As anyone with experience of forays knows, the final species list often

reflects as much the interest of the identifiers as the available mushrooms. For example, this year's list shows a goodly representation of the genus *Cortinarius*, whereas the genera *Entoloma* (as opposed to last year) and *Russula* do not figure prominently. This is just the nature of the event. Our experts did yeoman's work, using microscopes, chemicals, tomes of books and each other for



consultation to produce a list, backed with photographs and voucher specimens. The latter part of the process was carried out by the biggest contingent of "volunteers" it has been our fortune to have. We have always enjoyed good support from all levels of government but this year this specific aspect of our foray received even better support, allowing us to engage more young people in the database work than ever before.



Saturday was devoted to foraging the diverse regions of our various protected areas on the Avalon. Two of the forays were dedicated to mushroom photography, one led by Californian Mike Woods, author of the large mushroom website MykoWeb, and the other by Canadian nature photographer Roger Smith. Roger and his Documentation



Team photographed all identified specimens, after which voucher specimens were dried for archiving in the Gros Morne National Park Herbarium.

Sunday was devoted to a unique habitat - the coastal highland heath at Cape St Mary's Ecological Reserve. Participants were divided into teams and dispersed over the Reserve in an effort to cover the entire area.

The Quidi Vidi Mushroom Quuqout was a huge success, even though we had a temporary slip-up with our sponsor's product. The person in charge of picking up the beer fell ill and arrived a day late, completely forgetting about the beer in the interim. Conscience stricken, she drove to three stores in order to get enough Quidi Vidi product for the Quuqout (afterwards she collected them from our sponsor, although she did have to go to the main office

and take a lie detector test that she only bought Quidi Vidi product! Under the eye of Chef-in-Chief Johannes Mølgaard, sous-chefs Murray Colbo and Gene Herzberg cooked up a storm, completely oblivious to the beer drama playing out around them. The Sin City Quuqs fried every edible mushroom from miles around and every last scrap was eaten. The evening scientific programs provided varied and informative talks. Friday we had an overview of the polypores of our province, followed by a dissertation on the relationship of a foray to the mushrooms of its region and how species lists may be used to compare habitats. Saturday we had a personal journey through the world of the very beautiful mycenas and a discussion of various approaches to species concept in mycology and how this has been pursued with in vitro mating studies and current DNA studies. The talk was all the more interesting because some of the species studied had been shipped to him from Newfoundland, showing us how our mushrooms fit into the larger scheme of things.



The end result: **741** collections processed, **189** mushroom species identified, **40%** new to our forays, bringing our cumulative species list to **570**.



HIGHLIGHTS

MYCOLOGICAL & OTHERWISE



Highlights are personal. What moves you may not move me and vice versa. These are some of mine.

Top of the mycological highlights for me must be finding something I have sought for a few years, *Hemimycena lactea* under juniper. This led to further exploration of



junipers on the island and an eventual story, mailed to foray participants under the guise of a Preliminary Report. Specialized habitats have their unique mycoflora and often reward you with beautiful surprises.

There's no denying that finding the rare *Amanita wellsii* in profusion at Cape St Mary's was a thrill. Sure, a preliminary scouting team already found it there last year, so we came fully expecting it, but still — a real highlight! After a bit of rain the mushrooms were in prime shape, without the usual drying or bleaching from exposure. Obviously most people found it attractive, because there were several collections brought back. Wish I had a picture of the whole pile! It was also nice to confirm its mycorrhizal partner, the arctic bear-berry willow, *Salix uva-ursi*. Cape St Mary's also yielded one of the most hauntingly beautiful mushrooms, a white *Hygrocybe*, species yet to be determined.

Another highlight was seeing the very rare boreal felt lichen in Salmonier Nature Park under the guidance of



Salmonier's lichenophile, Mac Pitcher. Mac treated us well throughout and did not mind our trampling his holy places. As a reward, Michael Burzynski spied an unusual mushroom amongst the lichen on a balsam fir. It is pining away in our collection, still nameless. We do not keep unidentified specimens, but this one is special...

Even though we have visited there often, seeing the landscape and the birds at Cape St Mary's was still one of the non-mycological highlights. For several reasons, so was the little episode about forgetting to pick up the beer and then going off to buy some from several stores, to get enough Quidi Vidi product.

Best of all was the positive response from so many participants. More than in previous years, people came up and told us they would be sure to return next year. Others came up and offered to take on some tasks for next year's foray. This was a far better feed-back than any form could provide. I am now eagerly waiting to see you in 2007.



HEATHER DENIZENS



The May model tells us that traditional forays will never recover all the mushroom species in a region. Common species are recovered each time and the less common species with variable frequency. In that case, how can we maximize the number of species recovered? One way is to explore all the diverse specialized habitats of the region. Each habitat has its own mycoflora, some of which may be quite common in, yet

unique to, that habitat; those mushrooms will not be recovered by general foraging. Thus, although the number of species in any specialized habitat may be small, the likelihood that they are new to the list is quite high.



Examples of specialized habitats are bogs, mountain barrens, alder thickets, coastal sand dunes, etc — you can think of as many as your imagination allows. Mushrooms fruiting under juniper provided an example. Specialized habitats often reward you with not only new species to add to the list but also mushrooms of incredible beauty. However, everything has its price. Places not commonly explored often harbour mushrooms not commonly encountered, ie not commonly described. In other words, they may be very difficult to identify because literature is lacking or unavailable, hidden in very obscure sources.

One such habitat that we explored during the foray was heather. As other plants, heather has some mushrooms associated with it, some because they are exclusive heather partners and others because they thrive in conditions like those supplied by heather. Our search was rewarded with three small mushrooms of delicate beauty. True to form, they proved somewhat difficult to identify.



The commonest small, hairy, white cup fungus is *Dasyscyphus virgineus*, not exclusive to heather. The same genus has some species, apparently exclusive to heather. Although comfortable with this identification, based on the material supplied, the identifier could not exclude some of the others with absolute certainty. Similarly, the identifier of *Ramariopsis rufipes* was happy with the identification, although unable to exclude two potential contenders with certainty. The identifier of the small galerina-like mushroom was much less happy with its identification as *Simocybe reducta*, stating that it was the “best fit” from the available literature. What fun!

SPECIES LIST

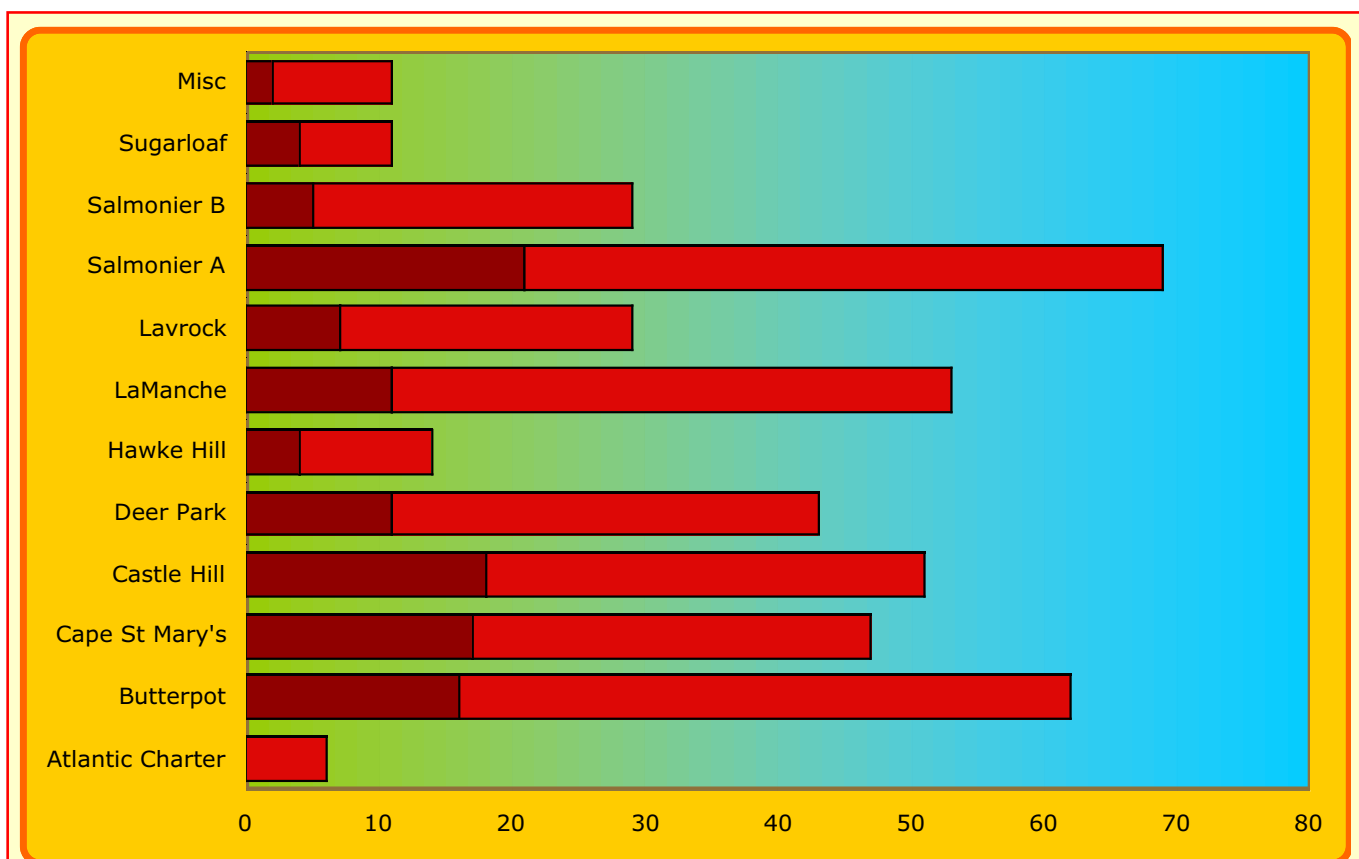
189 SPECIES, 76 (40%) NEW TO NL CUMULATIVE SPECIES LIST

Developed by Michael Burzynski & Andrus Voitk with plenty of help from the Faculty and the Documentation Team
Authenticators: Arne Aronsen, Ed Lickey, Dave Malloch, Faye Murrin, Ron Petersen, Andrus Voitk, Gary Warren, Mike Wood

NOTE:

1. Taxonomy in Barron: Mushrooms of Ontario and Eastern Canada has been followed, as a base. Where it made sense, or where faculty urged us, more recent convention has been adopted; common usage or sense has been followed for species not named in that book.
2. Names in **blue** indicate species new to NL cumulative species list.
3. Names in **green** indicate species common to all our forays to date.
4. List tentative - further study may cause revisions.

This list may seem unnecessarily complex. Just look at the first column, if all you want is to know what species were identified. Because this Report is also a report for the use of our sponsor, the Department of Environment and Conservation, the list shows the breakdown of what was found where. This enables each protected area to develop its own database, as well compare with other areas and the whole province. The numbers in each box indicate the number of collections for that species from that foray trail. This information is summarized in the chart below. A simple list and the updated cumulative species list for all our past five forays are available to download from our website <www.hnhs.ca/mushrooms/>.



Number of species from each foray trail

Dark red indicates species new to NL cumulative species list.

The numbers of collections per trail are not comparable and do not necessarily reflect the respective amount or diversity of mycoflora along that trail, compared to others. Some trails were surveyed twice (both at the Faculty Foray and the Main Foray), some are only part of a foray group's destinations and Cape St Mary's was surveyed both at the Faculty Foray and by all foray participants as a "blitz".

That said, the data suggest considering change of Atlantic Charter-Sugarloaf combination for something more productive in the future. For more of what the data reveal, see "What do the data mean?", right after the Species List.

SPECIES	Nr collec- tions	Atlantic Charte r	Butte rpot	Cape St Mary's	Castl e Hill	Deer Park	Hawk e Hill	LaMa nche	Lavro ck	Salm onier A	Salm onier B	Suga rloaf	Misc
<i>Agaricus campestris</i>	1												1
<i>Albatrellus peckianus</i>	1					1							
<i>Amanita bisporigera</i>	2		1					1					
<i>Amanita flavoconia</i>	12				4	3		1		4			
<i>Amanita fulva</i>	1									1			
<i>Amanita muscaria var. guessowii</i>	1								1				
<i>Amanita porphyria</i>	9		2		3	1		3					
<i>Amanita rubescens</i>	6		1			2				3			
<i>Amanita vaginata</i>	3		1					1		1			
<i>Amanita wellsii</i>	8			8									
<i>Amylostereum chailletii</i>	1									1			
<i>Armillaria ostoyae</i>	1									1			
<i>Boletus subglabripes</i>	1			1									
<i>Boletus subtomentosus</i>	5			5									
<i>Bovista pila</i>	2			2									
<i>Bovista plumbea</i>	1								1				
<i>Calocybe carnea</i>	1								1				
<i>Camarophyllus pratensis</i>	4			2					1	1			
<i>Cantharellula umbonata</i>	2						2						
<i>Cantharellus cibarius</i>	10				3			2	2	1	1		1
<i>Cantharellus tubaeformis</i>	21	1	3		3	3		1	3	4	2	1	
<i>Catathelasma ventricosa</i>	1					1							
<i>Cerrena unicolor</i>	1												1
<i>Chalciporus piperatus</i>	4				1				2	1			
<i>Cheilymenia fimicola</i>	1									1			
<i>Cheimonophyllum candidissimum</i>	1			1									
<i>Chlorociboria aeruginascens</i>	2		1			1							
<i>Clavulina cristata</i>	11		5	3	1					2			
<i>Collybia cirrhata</i>	1		1										
<i>Collybia tuberosa</i>	3							1		1			1
<i>Cordyceps ophioglossoides</i>	1		1										
<i>Cortinarius acutus</i>	10		1	1	1	3				4			
<i>Cortinarius agathosmus</i>	1									1			
<i>Cortinarius alboviolaceus</i>	1										1		
<i>Cortinarius anomalus</i>	1					1							
<i>Cortinarius armillatus</i>	3		2					1					
<i>Cortinarius brunneus</i>	2							2	1				1
<i>Cortinarius brunneus var. glandicolor</i>	2		1		1								
<i>Cortinarius callisteus</i>	1							1					
<i>Cortinarius camphoratus</i>	5				1	2				1	1		
<i>Cortinarius caninus</i>	1			1									
<i>Cortinarius corrugis</i>	1			1									
<i>Cortinarius evernius</i>	24		5	2	1	8		1		5	1	1	
<i>Cortinarius flexipes</i>	2									2			
<i>Cortinarius flexipes var. inolens</i>	2							2					
<i>Cortinarius furvulaeus</i>	1					1							
<i>Cortinarius glaucopus</i>	1		1										
<i>Cortinarius hemitrichius</i>	3				1					2			
<i>Cortinarius huronensis</i>	6		1		3				1	1			
<i>Cortinarius limonius</i>	7		2			1		1		2	1		
<i>Cortinarius malicorius</i>	5		2		1	1		1					
<i>Cortinarius mucifluus</i>	16		2		7			3		4			
<i>Cortinarius obtusus</i>	1							1					
<i>Cortinarius paleaceus</i>	9		3		2	1		2		1			

SPECIES	Nr collec- tions	Atlantic Charter	Butte rpot	Cape St Mary's	Castl e Hill	Deer Park	Hawk e Hill	LaMa nche	Lavro ck	Salm onier A	Salm onier B	Suga rloaf	Misc
<i>Cortinarius pholideus</i>	1							1					
<i>Cortinarius porphyropus</i>	1			1									
<i>Cortinarius semisanguineus</i>	6							5			1		
<i>Cortinarius semivestitus</i>	1		1										
<i>Cortinarius stillatitius</i>	5		2						1	1	1		
<i>Cortinarius tortuosus</i>	1									1			
<i>Cortinarius traganus</i>	7							7					
<i>Dacrymyces palmatus</i>	7		2			2		2		1			
<i>Dascycscyphus virgineus</i>	1				1								
<i>Endogone pisiformis</i>	1					1							
<i>Entoloma fuscotomentosum</i>	1		1										
<i>Entoloma sericeum</i>	1			1									
<i>Exobasidium vaccinii</i>	4				3	1							
<i>Fomitopsis pinicola</i>	12		2		2	4		2		1	1		
<i>Fuscoboletinus laricinus</i>	10		2			1	3	3	1				
<i>Fuscoboletinus paluster</i>	4		4										
<i>Fuscoboletinus spectabilis</i>	5	1					1			2	1		
<i>Galerina marginata</i>	1			1									
<i>Galerina paludosa</i>	6		1	2			1			1	1		
<i>Gloeophyllum saepiarium</i>	10		2		1	2				4			1
<i>Gomphidius subroseus</i>	1					1							
<i>Gymnopus acervatus</i>	2							2					
<i>Helminthosphaeria clavariarum</i>	1			1									
<i>Helvella lacunosa</i>	3									3			
<i>Hemimycena lactea</i>	2		1		1								
<i>Hirschioporus abietinus</i>	6				3			1		2			
<i>Hydnellum pineticola</i>	2		1						1				
<i>Hydnum albomagnum</i>	2				1			1					
<i>Hydnum repandum</i>	1				1								
<i>Hydnum rufescens</i>	1											1	
<i>Hydnum umbilicatum</i>	4		1	3									
<i>Hygrocybe calypteriformis var. alba</i>	1			1									
<i>Hygrocybe cantharellus</i>	2			1					1				
<i>Hygrocybe coccinea</i>	1			1									
<i>Hygrocybe coccineocrenata</i>	1			1									
<i>Hygrocybe conica</i>	6			1	2				2		1		
<i>Hygrocybe laeta</i>	2		1	1									
<i>Hygrocybe miniata</i>	10	1		3		1	1	2		2			
<i>Hygrocybe punicea</i>	4			3						1			
<i>Hygrocybe virginea</i>	3								3				
<i>Hygrophoropsis aurantiaca</i>	5							5					
<i>Hypholoma capnoides</i>	5					2				2	1		
<i>Hypholoma elongatum</i>	2										2		
<i>Hypholoma fasciculare</i>	1									1			
<i>Hypomyces hyalinus</i>	1								1				
<i>Inocybe lacera</i>	2								2				
<i>Inocybe lanuginosa</i>	1									1			
<i>Laccaria bicolor</i>	1											1	
<i>Laccaria laccata</i>	35	8	1	11	1	2	1	2	1	5	2	1	
<i>Laccaria longipes</i>	1							1					
<i>Laccaria proxima</i>	4			3					1				
<i>Lactarius camphoratus</i>	17		2		3	7	1	1		2	1		
<i>Lactarius deceptivus</i>	12		6	2				2		1	1		
<i>Lactarius deterrimus</i>	4				2					1		1	

SPECIES	Nr collections	Atlantic Charter	Butter pot	Cape St Mary's	Castle Hill	Deer Park	Hawke Hill	LaManche	Lavrock	Salm onier A	Salm onier B	Sugar loaf	Misc
<i>Lactarius glyciosmus</i>	2			1				1					
<i>Lactarius helvus</i>	1	1											
<i>Lactarius hibbardae</i>	7		1					3	1	1	1		
<i>Lactarius lignyotus</i>	1											1	
<i>Lactarius lignyotus var. canadensis</i>	1						1						
<i>Lactarius representaneus</i>	1			1									
<i>Lactarius thyinos</i>	4				2				2				
<i>Lactarius uvidus</i>	1			1									
<i>Lactarius vinaceorufescens</i>	3			1	1					1			
<i>Leccinum atrostipitatum</i>	2							2					
<i>Leccinum aurantiacum</i>	1					1							
<i>Leccinum niveum</i>	4		1	1				1	1				
<i>Leotia lubrica</i>	33	1	2	3	2	10	1	1	2	8	1	1	1
<i>Leotia viscosa</i>	3					1		1		1			
<i>Leucoagaricus leucothites</i>	1											1	
<i>Lichenomphalia umbellifera</i>	1			1									
<i>Lycogala epidendrum</i>	3		1		1	1							
<i>Lycoperdon nigrescens</i>	1		1										
<i>Lycoperdon pedicellatum</i>	2			2									
<i>Lycoperdon perlatum</i>	1			1									
<i>Mycena adonis</i>	5		1							3	1		
<i>Mycena borealis</i>	10		1	1	1	1				5	1		
<i>Mycena citrinomarginata</i>	1				1								
<i>Mycena filopes</i>	2			1					1				
<i>Mycena hemisphaerica</i>	2									2			
<i>Mycena laevigata</i>	1									1			
<i>Mycena maculata</i>	4					2	1			1			
<i>Mycena metata</i>	2									2			
<i>Mycena rubromarginata</i>	4					1		1		1	1		
<i>Neolecta irregularis</i>	7		1		1	1		1		3			
<i>Nolanea stricta</i>	1		1										
<i>Onygena equina</i>	1									1			
<i>Panaeolus campanulatus</i>	2			2									
<i>Panaeolus foeniseccii</i>	1			1									
<i>Panellus stipticus</i>	1				1								
<i>Paxillus involutus</i>	11		4		1	2		1	1	1	1		
<i>Pholiota astragalina</i>	3									3			
<i>Pholiota lenta</i>	1			1									
<i>Pholiota scamba</i>	1				1								
<i>Pholiota spumosa</i>	2		1					1					
<i>Phyllotus porrigens</i>	5		1			2				1			1
<i>Pluteus atricapillus</i>	2				1					1			
<i>Pseudohydnum gelatinosum</i>	1												1
<i>Psilocybe semilanceata</i>	4		1	2					1				
<i>Ramaria fennica</i>	1			1									
<i>Ramaria rubrievanescens</i>	1												1
<i>Ramariopsis rufipes</i>	1				1								
<i>Rhytisma ilicis-canadenus</i>	1		1										
<i>Rickenella fibula</i>	1		1										
<i>Rozites caperata</i>	6		4		1			1					
<i>Russula aquosa</i>	1									1			
<i>Russula brevipes</i>	1			1									
<i>Russula compacta</i>	1		1										
<i>Russula emetica</i>	1									1			

SPECIES	Nr	Atlantic Charter	Butter pot	Cape St Mary's	Castle Hill	Deer Park	Hawke Hill	LaMance	Lavrock	Salmonier A	Salmonier B	Sugarloaf	Misc
<i>Russula fragilis</i>	2				1						1		
<i>Russula laurocerasi</i>	2				2								
<i>Russula nigricans</i>	2									2			
<i>Russula ochroleuroides</i>	1											1	
<i>Russula olivacea</i>	1				1								
<i>Russula paludosa</i>	2					1				1			
<i>Russula peckii</i>	16		1	3	2	12	1	1		4	2		
<i>Russula vesca</i>	6		1		1	1		1		1	1		
<i>Russula xerampelina</i>	1		1										
<i>Sarcodon imbricatus</i>	1							1					
<i>Simocybe reducta</i>	1				1								
<i>Stropharia alcis</i>	1									1			
<i>Suillus cavipes</i>	15		3				4	6			2		
<i>Suillus grevillei</i>	10		7				1	1	1				
<i>Suillus intermedius</i>	2						2						
<i>Tricholoma atosquamosum</i>	1				1								
<i>Tricholoma fulvum</i>	3		1					1		1			
<i>Tricholoma fumosoluteum</i>	4				1					1	1	1	
<i>Tricholoma intermedium</i>	2				1	1							
<i>Tricholoma myomyces</i>	1							1					
<i>Tricholoma pessundatum</i>	6		1			1		3	1				
<i>Tricholoma sejunctum</i>	20		3		5	6		1	1	2	2		
<i>Tricholoma virgatum</i>	4		2		2								
<i>Tricholomopsis decora</i>	1					1							
<i>Tricholomopsis rutilans</i>	2			1				1					
<i>Tylopilus porphyrosporus</i>	1				1								
<i>Xeromphalina campanella</i>	4		1							2			1
TOTAL COLLECTIONS	741	13	111	90	88	99	21	93	39	130	35	11	11
TOTAL SPECIES	189	6	62	47	51	43	14	53	29	69	29	11	11
NEW ¹	76	0	16	17	18	11	4	11	7	21	5	4	2
COMMON ²	24	4	18	9	16	15	18	17	8	18	13	4	3
UNIQUE ³	105	1	11	25	10	8	3	11	6	19	2	5	4

¹ New species to the NL Cumulative Species List

² Species found during all our previous forays

³ Species found only on (the) one foray trail during this foray

WHAT DO THE DATA MEAN?

As always, our data speak. You already saw that they suggested that the Atlantic Charter trail might be replaced with something more productive. Thus, the data allow us to make evidence based decisions on how to improve our foray experience. More of this a bit later.

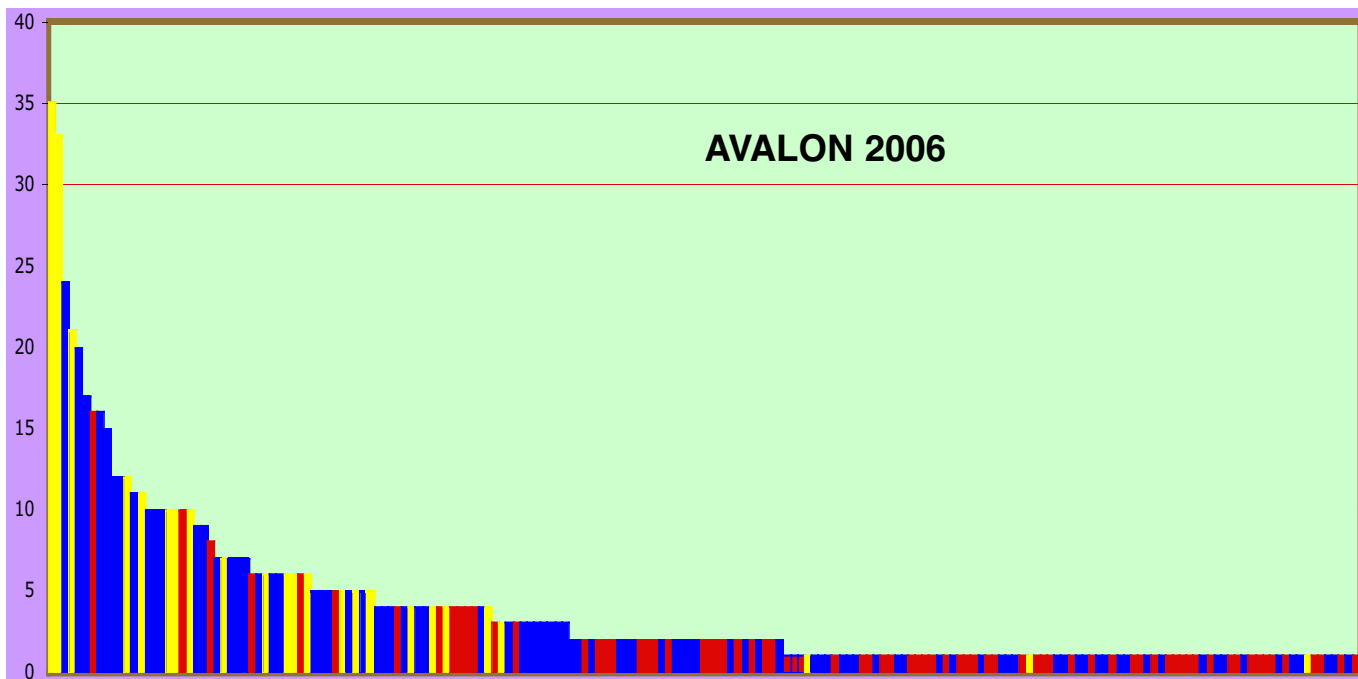
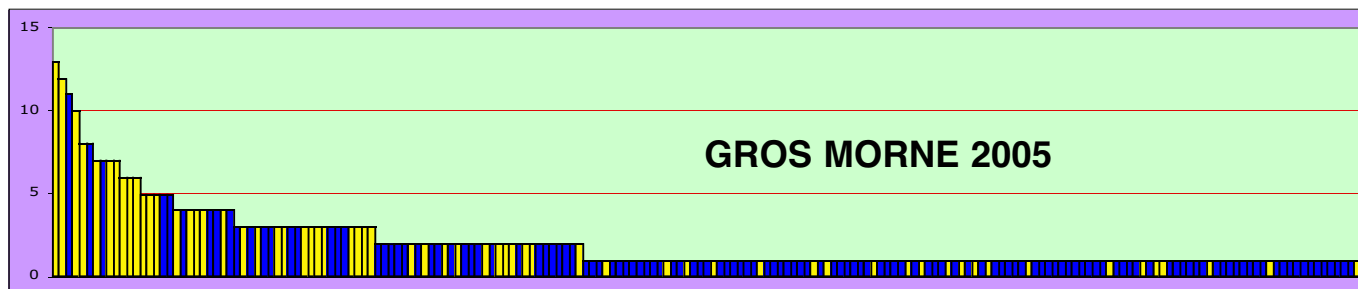
What else do they tell us? Look at the two graphs on the next page. Both show the same thing, one from Gros Morne in 2005, the other our Avalon

foray of 2006. Each bar represents one collected species. The height of the bar represents the number of collections of that species. To allow comparison, the scale along the Y axis is the same for both graphs. The first thing that hits the eye, is that this year the beginning of the graph is much taller, while the tail end remains unchanged. In other words, uncommon mushrooms (at the end) are still represented by single collections but the number of collections of common ones more than doubled.

We shall get to the explanation of this in a moment but first, let us notice some other differences.

Yellow bars represent those species found at every foray to date. Two things become evident: this time they are fewer with a different distribution. Both of these differences were predicted by the May model. Our first three forays all took place in Gros Morne. It should not be surprising that many mushrooms turned up in the same location year after year. When we added a foray in Labrador, the number of species consistently present at both sites dropped; some

species found consistently every year. By the time of our Avalon foray we have additional data from one foray in Labrador and this one on the Avalon. With the addition of two different regions to the mix, those species common in Avalon (represented this time by 10 or more collections) are no longer those common to all our surveyed sites. As we add new sites, the number of mushroom species found on all sites each time can be expected to decrease and they will be less likely to be concentrated among the common species for the new foray sites.



species common in Gros Morne were not found in Labrador. Each time a new site is added, the number of species consistently common to all regions decreases. Therefore, adding a survey on the Avalon again reduced the number of species consistently found at all sites. This suggests that the habitats of Avalon may differ from those of Gros Morne (and Labrador), even if the regions may be the same.

Now, study the distribution of the yellow bars. In Gros Morne the commonest mushrooms, represented by 5 or more collections, were mostly those

Now, look at the red bars in the Avalon graph. They represent species new to our cumulative species list, species we have not found on any foray before. It is reasonable to expect them to be somewhat uncommon and thus it is not surprising to find most among mushrooms of which only 1 or 2 collections were found. What is surprising is to find some among the common finds of this foray. *Cortinarius mucifluus* was collected 16 times, the seventh most common species of the foray. It is difficult to believe that we have not found it in Gros Morne in three years — I know that it fruits there. Both *Cortinarius stillatitius*

and *Amanita rufescens* are quite common in Gros Morne, yet we have recorded neither at our previous forays. *Mycena borealis* was collected 10 times, from six of our nine major trails and from habitats as disparate as those around the moist and lush boreal forest of Deer Park and those of the exposed and inhospitable coastal highland heath of Cape St Mary's. Surely such a species must exist throughout the province — we just have not been able to recognize it before? *Amanita wellsii* presents a different story. Eight collections of it are recorded yet it is a very uncommon mushroom, not only here but everywhere. We recorded so many only because we surveyed a very special habitat, Cape St. Mary's, where it seems to thrive enough to be common.

Now, let us get back to why the big difference in the number of collections from previous practice (the 2005 Gros Morne graph looks just like that for 2003 and 2004 before). Well, the night before the foray a talk about the May model of a foray mentioned that information is not only gleaned from the number of species but also from the number of collections or the “commonness” of a species. My guess is that when people heard this, they collected a species on re-encountering it, even if it was collected before and/or the Database Team felt that there was a point to the tedious recording of repeat collections of species already amply documented. Whatever the reason, there was a significant and abrupt change of behaviour, apparently in response to information gleaned from a “scientific presentation”. In this instance it seems our data suggest that presentations devoted to broad ideas are of value: people learn from them and, if justified, alter their behaviour by what they learn. (That, of course, is only one possible explanation. An obvious alternate explanation is that there just were that many more mycological “weeds” on the Avalon. My impression, although I have no data to verify it, does not support this.)

At first blush this seems counterintuitive. When I ask what sorts of talks we should have, people always request talks devoted to recognizing mushrooms or groups of mushrooms, not “scientific” discourses. Yet, whenever people speak to me afterward about our talks, invariably they mention talks devoted to broad “scientific” concepts. It seems that talks about species concept, evolution, genetics, migration, habitat, substrate and the like have

increased our understanding of how fungi behave and where they and we fit into the greater picture.

Although over the years we have had excellent talks about mushrooms or how to master specific groups of mushrooms, not once has anybody commented to me how helpful these have been in recognizing more species. Not once! It seems that although we want them, we are unable to benefit much from talks like “How to identify the Russulas” or the like. This despite having had undisputed world experts among us giving excellent talks about the mushrooms of their special interest. Let us look at three examples where our data suggest that these lectures, while enjoyed by the ears and eyes, have left no significant permanent trace in our gray matter.

1. *Amanita vaginata* is the common mushroom after which section Vaginata was named and *A. fulva* is the commonest species of that section in our area. Why were both identified for the first time this year? In all past years we have had a world authority on the genus *Amanita*, who has been able to distinguish several similar species within the genus. Left to ourselves, we are able to recognize only the two common species in the section that we knew before. Shocking! I had already imagined myself a bit of an amanita expert from this association but the data suggest his knowledge has not flowed to me by osmosis.

2. In 2005 we had a world authority on the genus *Entoloma*; he identified many species and gave us one of the most lucid lectures on this genus. Did we learn? This year very few entolomas were identified, especially considering the many specimens discarded for lack of identification. Although he did his best for us, we learned relatively little.

3. This year we had a mycena expert, who gave us a talk on the genus and identified many new (for us) species, among them *M. borealis*, discussed earlier. This seemingly ubiquitous mushroom probably fruited at our other foray sites as well but went unrecognized. OK, fair enough, we did not know it then and thus did not identify it. But what about next year? My guess is that not only shall we not recognize most of the mycenae added to this year's list, but we shall also be unlikely to recognize this commonest of mushrooms again. Am I wrong?



The gray-brown *Mycena borealis*, one of over 30 such medium-sized gray-brown mycenas; most require microscopic morphology for differentiation.

These doubts did not come to me from thin air but from our own data. All these years I have pleaded with our experts to lecture to us about how we might recognize the mushrooms of their special area of interest. Our data suggest that this has not worked. The fault is certainly not in the expert. It probably is not even in us. It seems that the didactic lecture, no matter how well organized and presented, by no matter how great an authority, is just not an efficient vehicle for teaching practical skills. Based on the evidence provided by our data, perhaps we should use our experts in a more practical setting. Probably the best would be to collect with an expert but at the foray we have too many people and too few experts. A practical compromise might be to encourage more broad topics for the didactic presentations and plan to increase the exposure of participants to the experts in better scheduled hands-on Tables sessions. Hopefully, examining the live specimens collected from our own area with an expert may prove to be a better learning forum than a didactic lecture with slides.

A few considerations are in order. First, not everybody wants to learn the names of all mushrooms she meets. Some are content to walk in the fresh air, enjoy some camaraderie and reestablish ties with nature. Others take joy in painting or photographing mushrooms for their beauty, without having to know their names. Many just wish to learn a few edibles

and know which poisonous ones to avoid. We all have different wishes and expectations, all of them equally valid.

Second, learning is an active process based on repetition. It is unrealistic to expect to learn even a small genus at one foray or one lecture. That takes years and most of the learning has to take place outside an annual foray. Despite all efforts, many of the mushrooms (gray mycenas like *M. borealis* are a good example) cannot be identified by gross morphology alone but require differentiation of microscopic features as well. That said, it would still be nice if participants came away from each foray knowing a few more mushrooms. It would be nice if we could tap into the expertise of our distinguished faculty a little more effectively, so that we retain a bit of their knowledge beyond an ever-lengthening string of Latin names that most of us are unlikely to use.

Third, we should not lose sight of the fact that there is more to forays than learning mushrooms. Everybody appreciates good presentations with beautiful pictures. They have artistic value, contribute to the general “mushroom atmosphere” of the foray, are often the best of entertainment and may serve as a potent magnet to attract the neophyte to this pursuit.

In other words, decisions about the format of a foray depend on its perceived aims. However, no matter what those aims, the data we generate can provide evidence on which to base decisions that would otherwise rely on the three G-s: gut feelings, good intentions and guesswork.

There are many other interesting things seen in our data beyond the foregoing. If you have the time and are willing to buy red wine, I shall be pleased to discuss them with you for hours or as long as the wine holds out. These issues were raised to demonstrate that the gathering of these data have a real and intrinsic value beyond the making of a list of Latin names. They were also raised to make you aware of them and to solicit your input and ideas of the direction we should take and how we should go about it. If you agree, it would be comforting to know and if you disagree, it would be especially helpful to know that. If you have any thoughts about these matters or what changes might improve future forays, please send me an e-mail to: mushrooms@hnhs.ca

