GREAT LAKES CHAPTER

North American Rock Garden Society

FALL NEWSLETTER, SEPTEMBER 2008

CALENDAR OF CHAPTER MEETINGS ** meeting details below**

****SATURDAY, SEPTEMBER 20: FALL GARDEN TOUR & PLANT SALE**

MEETING:	**10:30 PM – ca. 3:30 PM**
PLACE:	**Clarence & Betty Owens', Pat Byler's, and Libby & Michael Greanya's Gardens (see map insert)**
BAG LUNCH:	**ca. NOON at Libby & Michael Greanya's**
PLANT SALE:	**1:30 at Libby & Michael Greanya's**

**** SATURDAY, OCTOBER 4: ROCK GARDENING WORKSHOP**

(focused on construction and soils)

MEETING:	**1:30 PM – ca. 4:00 PM**
PLACE:	**Tony& Susan Reznicek's (see map insert)**

**** SATURDAY, OCTOBER 18: Wisconsin-Illinois Chapter of NARGS 40th Anniversary POTLUCK, LECTURE, GARDEN TOURS, & DINNER WITH RICK LUPP**

We are invited to attend as guests. Rick seldom accepts speaking engagements, so it will be a special event.

PLACE:	**Olbrich Gardens, Madison, Wisconsin**
POTLUCK:	**NOON**
PROGRAM:	**1:00 PM Rick Lupp of Mt Tahoma Nursery:**

GARDEN TOURS & optional DINNER WITH RICK LUPP

CONTACT Barbara Wetzel aparkplace@aol.com FOR MORE INFORMATION

MARK YOUR CALENDARS:

Saturday, January 17, 2009:	**Annual Winter Potluck Meeting**
Saturday, May 9, 2009:	**Garden Tour & Plant Sale**

DETAILS WILL BE IN THE WINTER POSTCARD

UPCOMING NATIONAL MEETINGS – see below and your Quarterly for details.

Eastern Winter Study Weekend hosted by Potomac Valley Chapter in Reston, Virginia (near Washington, D.C.) **30 January -1 February 2009**

Western Winter Study Weekend and NARGS Annual Meeting hosted by Columbia-Willamette Chapter in Portland, Oregon **13-15 March 2009**

From the President

It certainly has been an interesting year for gardening. The winter and spring brought enough moisture to return the Great Lakes back to near normal levels. I can't remember a spring when all the flowering trees and shrubs put on such a beautiful and bountiful display. And now, at least for those of us in the southeastern part of Michigan, we have gone without rain for weeks. Ah, the joys of gardening.

In this issue of the Newsletter we have a fine piece by Don LaFond. This issue also brings a change in its format. Past speakers talks will be shortened versions. This is to save space for other articles and information contributed by our members. The full versions of the speakers' notes will still be available, but on our Web-site. Yes, the Great Lakes Chapter now has its own Web-site. As of this writing it is a one page wonder with basic information about our chapter. See it at www.glcnargs.com. The multi-page version, with the full length speaker notes and maybe some photos if the speakers give permission, is currently in the works. It will be up soon so keep checking for it. Several of the web-site pages will be needing contributions from you. Please send your additions for the Web-site to me. Send Newsletter articles to Tony Reznicek.

I hope you have been potting up extras from your garden for our Fall Plant Sale & Garden Tours. On September 20th Betty and Clarence Owens garden will open for us to visit in the morning before the Plant Sale. Clarence will be giving tours of his large garden which is full many mature and unique plants. This year the Plant Sale will be hosted by Libby and Michael Greanya. They have a beautiful garden on a lake in Jackson. A short distance away is Pat Byler's garden. Several of us got a preview of these gardens this summer. They are not to be missed.

Changes in the format of our Plant Sale:

1) We will have a few choice items available for Silent Auction. Next to each item will be a piece of paper to put your name and bid price on. Then put it in the sealed container next to the item. Highest bid wins. If you have a special item you wish to donate (plant, book, trough, etc.) please contact me. We will also be doing this at each of our meetings so we need donations.

2) We will be cutting down the number of plants for the main Auction. This will put more choice plants on the tables for the rest of us.

3) Before the Auction starts we will be selling Raffle Tickets. They will be $2 each or 3 for $5. The first ticket drawn – grand prize winner – gets their choice of any plant for FREE before we even start the Auction. After the Auction four more tickets will be drawn and these winners get to pick one plant each (which you must pay for) off the sale tables before anyone else, even before donors with the Red Tags. Then those that have Red Tags from their donated plants will pick and after that the rest of us will pick.

Our next meeting on October 4th will be a Rock Garden Workshop focused on crevice gardening at Tony and Susan Reznicek's. This will be a great opportunity to see how a master makes a rock garden – you won't want to miss it!

I do hope you have been collecting seed from your garden to donate to the NARGS Seed Exchange. This is a very important part of NARGS, but due to the decrease in membership (which all garden organizations are going through at this time) seed donations are down. We need your seeds! Speaking of membership, please bring along a friend or acquaintance to our meetings so they can experience the wonderful world of interesting and unique plants that we grow.

Hope to see you at the Plant Sale and the Rock Garden Workshop.

John Serowicz

The Oct. 4 Crevice gardening workshop

Though the concept is old, the modern crevice gardening as a form of rock gardening that helps with growing special alpines in our climate has had a renaissance with Czech rock gardeners. Come to a workshop at Tony and Susan Reznicek's and feel the texture of the soil mix needed for this type of garden, and see how rocks are place and how the bed is laid out. We will have copies of The Crevice Garden and Its Plants by Zdenek Zvolanek available at the Plant Sale. People wishing to come to the workshop, or contact either John Serowicz or Tony Reznicek for a copy.

Why Vegetarians Shouldn't Eat In Wyoming

by Don Lafond

Like most rock gardeners I wanted to take a trip to see some plants in the wild. Unfortunately my family doesn't necessarily share my passion for plants. This meant that my plant hunting wanderings would be done alone. But in order to do this, I had to bribe my family with a trip to the Wisconsin Dells after I returned. So, at the end of June of 2006 I left to see the Black Hills, Big Horns, and Beartooths. I have traveled to the West several times in my past but not in the pursuit of flowering plants. This time I wanted to see alpines and so confined my travels to only the highest altitudes. In the Black Hills about 6000-7000'. Not all that high compared to the Rockies, which rise over 14,000'. The relative low altitude of the Black Hills, was a good way to acclimate slowly to high altitude exploring. Driving west across the plains

watching the mountains rising up in the distance is always exhilarating to a flatlander like me. Arriving in Rapid City, South Dakota, the Eastern gateway to the Black Hills, I stopped to get directions then impatiently drove into the hills. I stopped often, sometimes for cows in the road, sometimes for dots of color in the hillsides. The first thing I saw blooming was *Lilium philadelphicum*, short and reddish-orange, a favorite of mine, that was found in shaded ravines. A good start I thought. The hills are forested mostly with *Picea glauca* and *Pinus ponderosa*, but open and grassy under the trees. I saw Lupines in a nice blue and white bloom and a pinky white *Calochortus*. On top of a particular high ridge that was pointed out to me, extensive bulldozing had wrecked much of the knob. There was a small section that evaded the destruction. It hinted that before it was disturbed was a natural rockery. There were some very prostrate Junipers, some herbaceous plants and an *Erigeron* that wasn't in bloom. I also found a dwarf *Liatris* that wasn't in bloom.

Towards evening I began to look for a campsite. In National Forests in the West, often you can camp any were you want, so I took my pick of likely places. Driving through the hills there were a few homes and every so often a fence or a cattle guard in the road. But by and large there was very little sign of civilization. With dusk approaching I settled on a nice place to make camp – a very simple camp, a small one-man tent, a blue tarp for a dining fly and a fold up table to set my stove on. Sitting down to eat I heard a loud shuffling noise accompanied by 6 or 7 Black Angus cows coming out of the woods, looking very much like a gaggle of cackling old women berry picking. Looking down at my 14" high tent, it looked somewhat inadequate. Oh well, how hard can it be to scare off a few cows? I grabbed a pan and a spoon and they left. Only to return several times getting louder each time. They next returned with help. He made a noise that would make a Scottish highlander take full notice. The beast appeared, complete with snot shooting from his nose, wanting to know why I had the audacity to camp in his living room. I tried the spoon and pan trick only to have him circle my camp bellowing in ever-closing orbit. He stood staring at me, stomping his hoofs. I picked up a rock knowing very well that I could plug him between the eyes, but then I remembered my 12 gauges in the truck. My mind went to a picture of a mad cow smashing me into my truck. The walking strip steak decided to enter my camp, knocking over my table and stove. I retreated, trying to keep the truck between him and me. I <u>hate</u> cows! I hollered at the beast to leave or I would eat him but he knew that I didn't eat cow. The beast then stomped my tent and retreated to give me just enough time to get my camp wadded up and stuffed in the back of my truck. It was now dark. I was hungry, only knowing I was very close to the Wyoming border with very little gas, I drove off. I <u>really</u> hate cows!

Looking at my map I guessed at my location and headed west. I was rapidly gaining altitude. I could make out the shadows of the mountains, but no obvious places to make a camp. A Ford pickup can go a long way on a 1/8 of a tank of gas. Coming down from an adrenalin rush, I really needed to stop. After midnight I saw a large parking lot. There were no lights, no buildings, just a sign that mentioned something about Apache Indians. Going to the very back of the gravel lot, I unloaded my previous camp in a heap next to the truck. Fishing out of the mess my sleeping bag and sleeping pad, I slid them in the bed of my truck, climbed in and went sleep. Sometime later I woke to a car pulling up next to me. I heard a police radio. The dispatcher was saying not to investigate with out backup. The cop said he would be fine, and was leaving his car. When he got closer I saw his flashlight and I asked what I could do for him. He asked if I was sleeping, said that was fine, and left. Tom toms! I was dreaming about Indians banging tom tom drums. They had me cornered in a small ravine. I woke to light trying to seep through the early morning fog and drums. Yes, tom toms. I crawled back out of my truck and noted were I was – mountains on all sides rising from the small gravel parking lot. From one direction the drums would pound a simple beat, then from the opposite direction they would start again. They sounded off all the way around me. For Christ sakes were was I now? Very puzzled I drove away. I was in Wyoming. I still needed gas and I was still gaining altitude. How long would my truck run on E? After a short way the truck quit. I coasted for many miles. Sometimes gaining speed too rapidly, but not wanting to waste the inertia, I used my brakes sparingly. Finally I spotted a bar with a gas station, but it was 5:30 in the morning. I waited. Around 8 am someone must have took pity on me and sent their young son out to pump my gas.

I was finally on my way to the Bighorns. Wyoming is a place of paradox. The corners of the state have dramatic high mountains, with the center a high ugly desert. The Big Horns rise from the desert with high snowy peaks that said "Come on up and I'll show you something cool". I used Ira Goroff's very informative article in NARGS Quarterly, volume 64 # 1 to navigate. In this article he gives exact directions to locations of alpine plants and natural rock gardens. Off US 14A, is Hunt Mountain Rd, perhaps the best stop of my trip. About 1½ miles up the road near the top of the mountain was a textbook rock garden; a large limestone outcrop that juts out. It seemed as everything was in bloom on that 3rd of July. In flower I saw *Primula parryi*, *Hymenoxis grandiflora*, *Mertensia ciliata*, *Erigeron*, *Aster*, *Penstemon*, *Phlox*, and others. One of the great joys of life is to lose all track of time, which is fine at home, but I don't

recommend it on top of a mountain. What jolted me back to earth was a lighting strike that seemed to of hit my truck a half a mile below me. Oops! I picked my way back down the mountain to my truck. It was around 3-4 pm, so I decided to head further into the mountains to find a place to make camp. I found myself racing a thunderstorm on a road rapidly becoming a rutted Michigan driveway. I kept saying to myself just over that next rise it looks as though I will find a place to hide. Wrong! The road kept getting higher and the storm was quite fierce, what if the lighting hit my truck? I found a small group of trees so I went there to hide - I know, I know, that's not were you go to shelter from lightning, but to a flatlander it was a calming little shire to hide. When it cleared I found I was parked in front of a little trailer, luckily no one was home. I moved down the road a ways and made a camp. I heard cows in the distance but there was a fence 25 yards in front of me so I felt safe enough. After the camp was set up I went to explore, I was camped just below the top of a different mountain and I found a marker that said it was at 10,900'. It was very open and wind swept but covered in all kinds of blooming grasses and plants. I went down and made my dinner. Sitting in my lawn chair I was relaxed and content watching sheep on the far side of the fence. A loud noise interrupted my reverie, sound carries a long way out there and I couldn't see anything for quite a while. Here I was at 10,900' and a pickup drove past me pulling a very large boat. Then some ATV's thundered past. Hmm, now maybe I understand why people sit on their porch watching traffic. Then another ATV drove past carrying some 12' long vinyl siding loaded crossways, bending itself into "V" shape – and I thought rednecks were only from the South.

The next day dawned clear and crisp. I wanted to find *Aquilegia jonesii*. According to Iza's article it was about 4 miles from US14A. Driving back to US14A and counting mileage to the place where they were supposed to be was crazy, it looked like a parking lot. I kept driving to another spot were *Kelseya uniflora* and *Telesonix jamesii* subsp. *heucheriformis* were supposed to be and there they were. A couple of football fields away stood a grouping of huge rocks that looked like a giant made his own garden. Very high on the vertical walls of the deeply pock marked reddish limestone clung the *Kelsea*. Some of the low green humps were very large, 2-3' up to 6' wide. I tried to take some pictures but these plants presented a problem I couldn't solve with my cheap compact digital camera. After looking at the *Kelsea* until my neck hurt I started walking around the rock formation. All over in shaded crevices was the *Telsonix*. The plants had seed and a few flowers showing at the same time. I now have a plant on tufa from that seed collection in my garden. *Primula parryi* and *Mertensia* were flowering and in front of the melting snow in shade was *Ranunculus eschscholzii*. Then I noticed that it was starting to get slightly darker. Way off in the distance was a storm. This time I got out of the way in time. However, I still wanted to see *Aquilegia jonesii*. Driving back to the spot where it was supposed to be, I stopped. The spot looked as if someone had spread fist-sized chunks of limestone and rolled them with an asphalt roller. I had been fooled the first time by the appearance. Note to self – look down. The columbine was all over, mixed with *Eritrichium*, *Erigeron*, and *Townsendia*; all in bloom but the *Aquilegia*. I walked over several acres looking for a columbine flower, the closest I got was one dried-up ghost. I heard ATV's again, and gun shots! Ricochets sounded off around me so I hit the dirt! On July 4th, the Northern redneck cowboys were out on their combustion ponys. I stayed hidden until they saw my truck. When approached I asked what they were shooting at, they replied "rock chucks". What the hell is a rock chuck? I didn't ask. They left. I left too on my way to Beartooths.

When traveling out west if you eat cow you will eat well; I don't. At the time I wish I did. Cows must out-number people in the West by 10 to 1. People in the West don't know how to cook anything but cow. During one day's lunch and dinner in Wyoming I saw many folks of Mexican or Central American decent, and I assumed that I could get some decent Mexican food. They put tater-tots on their burritos and tacos! For dinner I ordered fried chicken, they deep-fried it in thick batter, like the kind used on frozen fish from Mr. Gorton, and when I found the chicken inside it was the size of a sparrow. Know wonder there are more cows than people.

On to the Northwest corner of Wyoming, near Yellowstone. The Beartooths have a different feel than the Bighorns. They are steeper, the rocks are gray and red, and the light seemed more radiant. The Beartooths straddle Wyoming and Montana. Heading South from Red Lodge, Montana the mountains rise aggressively upwards. The road is not for the faint of heart – ziggging and zagging with 180° hairpin turns ever upward. The guardrails are close to the side of the road and seemed inadequate. Wherever the road cuts into the mountain (almost always) the rocks sprout rock garden plants the way they are supposed to look like. I went high into mountains and made a camp by a small lake with a river and a waterfall and I saw no bloody cows, ATV'S or guns. Peaceful! The next day I drove to Bear-tooth Pass, 10,947'. On the way it rained slush balls the size of softballs. At the pass is a parking lot. People were walking a few hundred yards to a large rock pile to look through the clear blue sky to see Idaho in the Western distance. I of course was looking down at the Persian carpet at my feet. *Eritrichium*, blooming by the hundreds with *Erigeron*, *Polemonium*, *Douglasia*, *Cerastium*, and *Myosotis*. Where do I walk, were is my trowel, and why can't I breath? It took a long while but I did make

it to the rock pile. Upon arrival a little girl asked me why I was looking down and how come I walked crooked? So I asked her if she liked Persian carpets and did her mom make her take her shoes off in the house.

February 9, 2008 Meeting – Maria Galletti
by Laura Serowicz

The meeting and potluck lunch featured a talk titled "*Newfoundland Native Alpines*" by Maria Galletti of Alpines Mont Echo Nursery in Quebec, just north of the Vermont border. One of her favorite places to botanize is Newfoundland which is well known for having dwarf strains of many different species of plants which makes them highly suitable for rock gardens and Maria's been responsible for selecting and bringing many of them into cultivation. The reasons Maria goes to Newfoundland all the time is because of its incredible landscapes and the fact that most of the arctic alpines grow at sea level and are accessible close to the roads. She usually goes in the fall when it is best to collect seed and cuttings, so often she does not see the plants in flower.

Newfoundland does not have any high mountains; the Long Range Mountains extending from the southwest corner of the island to the tip of the Great Northern Peninsula with an elevation of 500-700 m [1640-2300'] are more like high hills that are rounded and eroded over millions of years and most of the rock is granite [being one end of the Appalachian Mountains]. The alpines growing in the higher mountains included: *Diapensia lapponica*, *Loiseleuria procumbens*, *Phyllodoce caerulea*, *Epigaea repens* and *Woodsia ilvensis*.

Newfoundland is famous for its serpentine rock which is another very important habitat for plants. The exposed rock is an orangey-red and has a high level of heavy metals. There are quite a few mountains in the Long Range Mountains where you can see serpentine rock, but the most accessible place is the Tablelands in Gros Morne National Park. You can drive right up to the foot of the mountains and find many wonderful plants even though the soil is infertile. There are 3 conifers which are predominant in serpentine soil: *Juniperus communis*, *Juniperus communis* subsp. *saxatilis* and *Larix laricina* subsp. *prostrata*. Among the plants that grow in serpentine soil are: *Sarracenia purpurea*, *Rhododendron lapponicum*, *Potentilla fruticosa* var.*tenuifolia*, *Campanula rotundifolia*, *Silene acaulis*, and *Adiantum aleuticum* subsp. *calderi*.

The Western Coastal Barrens are calcareous, and the most important western Newfoundland plant habitat. The primary rock is limestone and most alpines prefer limestone for the nutrient content. The two most important sites richest in plants are Cape Norman limestone barrens and Point Riche coastal barrens. These sites are very accessible because they are just off Newfoundland's Viking Trail along the western coast, so you only have to walk off the road to view the plants. The limestone barrens look like a natural crevice garden, with the bare rock full of cracks and crevices. There is hardly any vegetation except for in the patches of peaty wet areas and the crevices; where you will find most of the wonderful plants. In these calcareous barrens you will find such jewels as: *Cypripedium pubescens* var.*planipetalum*, *Dryas integrifolia*, *Asplenium viride*, *Solidago multiradiata* var.*arctica*, *Epilobium latifolium*, *Cochlearia groenlandicum*, *Erigeron hyssopifolius*, *Gentianopsis nesophila*, *Oxytropis campestris terrae-novae*, *Saxifraga paniculata* subsp. *neogaea*, *Saxifraga aizoides*, *Tanacetum huronense* var.*terrae-novae*, *Mertensia maritima* and *Smilacina stellata* var.*crassa*. Often the plants in the calcareous barrens form carpets of many species growing together; it is wonderful to see so many plants interwoven in one small area.

Maria loves the native arctic alpine willows and other dwarf shrubs which keep drawing her back to Newfoundland. The arctic alpine willows are very variable in habit and leaf form, and they hybridize readily among and within species. Thus willows have a lot of variation and they often confuse amateur botanists, but some are quite distinct in their forms and can be identified quite easily. Maria showed *Salix vestita*, *S. reticulata*, *S. herbacea*, *S. calcicola*, *S. jejunum*, *S. uva ursi*, *S. candida*, *S. arctica*, *S. cordifolia*, and S. *arctophylla*. Other dwarf shrubs included: *Shepherdia canadensis* var.*prostrata*, *Betula nana* var.*michauxii*, *B. pumila*, *and B. glandulosa*, *Lonicera villosa* var.*prostrata*, *Gaylussacia baccata* and *Myrica gale*.

Many plants are found in heathlands, bogs, fens, and tuckamoors. Heathlands are barren lands dominated by ericaceous shrubs and carpeted mainly with sphagnum and caribou moss. The typical rock is usually acidic granite. Bogs are wetlands characterized by sphagnum moss. Fens are wetlands with silty soils dominated by sedges and grasses. Tuckamoor is the Newfoundland name given to the very difficult to walk through boreal habitat with stunted, wind-swept, dwarf (about knee-high) junipers and balsam firs. Among the plants found in these habitats are: *Empetrum nigrum*, *E. eamesii*, *E. atropurpureum*, *Rubus chaemamorus*, *R. arcticus*, *Vaccinium vitis-idea* var.*minor*, *V. oxycoccus*, *Kalmia angustifolia*, and *Rhodora canadensis*.

Wet alpines, growing in the peaty wet patches include: *Pyrola asarifolia*, *Parnassia palustris* and *P. parviflora*, *Pinguicula vulgaris*, *Primula egaliksensis*, *P. mistassinica* and *P. laurentiana*, and *Saxifraga oppositifolia*. Maria ended her talk with several vignettes that showed more of the charms which bring her back to Newfoundland again and again. If you

would like to read the complete notes from Maria's talk which included much more detail on growing these wonderful plants go to our new website at www.glcnargs.com.

April 5, 2008 Meeting – Tony Reznicek
by Laura Serowicz

Tony Reznicek gave a fascinating talk titled "*Alpine and Mountain Plants of Western China*", which featured many of the plants Tony saw when he was there in June of 2007. For our temperate gardens, China is probably the most interesting place in the world botanically because most of it has a temperate climate, with regular winters and summers (at least in the northern regions), and it has a remarkably diverse flora. Unlike North America and Europe there were never continental ice sheets covering China, so the flora of China is probably twice that of North America and includes an incredible amount of species that survived there through the Pleistocene that were extinguished elsewhere in the world. The very richest part of that flora is in a region of western China Tony explored known as the Three Parallel Rivers area. It is called that because the three great rivers of Asia, the Salween, the Mekong and the Yangtze, all run parallel north-south through there. This orientation of the mountains and the giant river valleys also may have allowed the migration of plants into this region from the tropics and warm temperate zone and gives a distinctive tropical flavor to this temperate flora.

Tony was interested in the climate of the region and at the hotel in Kangding they had a map with all the cities and climate data. Tony plotted them out by elevations (from 1310-4200 m high), summer maximums (up to 39°C) and winter minimums (down to -38°C) and compared them to Ann Arbor temperatures to get some idea of at what elevations in that part of the world plants might be hardy for here. Of course our extremes make it a little more problematic for plants of the high mountain regions, especially our hot summers. Also although at our latitude of about 28-30°, they are at much higher elevations in China. In the "Flora of China" many common genera have lots of species e.g., *Polygonatum ca*. 50 species, *Androsace ca*. 90 species, and so on. With such a rich flora, Tony decided that he was okay with not keying everything out.

Tony organized his talk into a vegetation-zone framework starting low and going up the mountains. At very low elevations [1000-2300 m] are very dry, hot communities. Very little from that region is hardy for us unless it also occurs higher up. Among the species Tony showed from this elevation were: *Leptodermis pilosa*, *Daphne holosericea*, *Incarvillea arguta*, *Lilium regale*, *Corallodiscus lanuginosus*, *C.* (possibly) *bullatus*, *Indigofera pendula*, *Cotinus*, *Ceratostigma minus*, *C. griffithii*, and *Buddleja davidii*. So there are a lot of interesting and showy plants at the low elevations.

In some ways Tony's favorite community is in the middle elevations [2400-3900 m] which, where moisture allows, has a tremendous deciduous forest and that is where the huge diversity of woody plants occurs. There are tremendous old growth forests there which include giant oaks and *Betula utilis*, with a bark very much like paper bark maple. One of the interesting things is despite these being fundamentally deciduous forests there are a lot of conifers that are entwined in with the forest, such as *Tsuga dumosa* and a weeping larch, perhaps *Larix mastersiana* which is endemic to the Wolong region. Many of the tree species are extremely localized in occurrence – one mountain range, or one valley system. Some other familiar and different plants include: *Magnolia officinalis*, *Cornus controversa*, *Salix magnifica*, *Davidia involucrata*, *Aesculus wilsonii*, *Actinidia kolomikta*, *Schisandra sphenanthera*, *Neillia thibetica*, *Syringa komarowii*, *Euonymus cornutus*, *Deutzias*, *Sambucus adnata*, *Corydalis flexuosa*, *Paris polyphylla*, *Cardamine macrophylla*, *Epimedium davidii*, *Panax japonicus*, *Arisaemas consanguineum*, *Polygonatum*, *Smilacinas henryi*, *S. atropurpurea*, *Calanthe tricarinata*, *Rodgersia aesculifolia*, *Adiantum venustum*, *Phytolacca clavigera*, *Pleione bulbocodioides*, *Iris tectorum*, *Saxifraga* spp., *Pinguicula alpina*, *Gentiana* sp., and *Potentilla fruticosa*

If you go higher, from 2600-3500 m, the forests shrink in diversity, but you get a lot more oaks and pines. In many respects some of our most interesting plants for cultivation come from here. In these oak-pine forests Tony saw: *Caragana franchetiana*, *Rosa omeiensis var. pteracantha*, *Sorbus filipes*, *Rhododendron wardii*, *Salix* sp., *Streptopus simplex*, *Morina bulleyana*, *Polygonatums*, *Podophyllum hexandrum*, *Androsace rigida*, *Nomocharis aperta*, *Lilium lophophorum*, *Meconopsis horridula var. racemosa*, *Androsace bulleyana*, *Primula sikkimensis*, *P. cockburniana* and *P. poissonii*, *Stellera chamaejasme and var. chrysantha*. There is a bit of a tropical element in the high oak-pine forest, the classic examples are *Roscoea tibetica* possibly *R. humeana*, *Incarvillea zhongdianensis* and *Ficus ti-koua*. Orchids are a characteristic and abundant feature of the oak-pine forests on limestone or mineral soil not in peat. Among the orchids Tony saw were; *Cypripedium flavum*, *C. guttatum*, *C. smithii*, *Platanthera* sp., *Oreorchis erythrochrysea*, and *Phaius delavayi* [syn. *Calanthe*].

Higher than the oak-pines, at 3000-4000 m you start getting into what might be boreal forest, and indeed it shares a lot of similarities; e.g., spruce, fir, birch, poplars, and alders, except there are 20-30 species of each. At a little over 14,000' it is very often

humid and misty, but you are still in forest and lots of water everywhere. Among the plants here were: *Clematis montana*, *Helleborus thibetanus*, *Allium ovalifolium*, *Primula involucrata*, *P. palmata*, red- or red-orange-flowered *Caltha palustris*, *Meconopsis punicea*, *Paeonia lutea*, *Moneses uniflora*, *Arisaema elephas* and other *A.* spp., *Bergenia purpurascens*, *Primula secundiflora*, *Paraquilegia anemonoides*, *Polygonatum hookeri*, and *Androsace spinulifera*. If it is too dry for forests at this elevation, as many areas are, then you get grasslands. Tibetan grasslands are not a single community, there are many kinds. The acid sand plains are full of diverse vegetation; and anything yaks won't eat does well, including *Euphorbia nematocypha*, *Iris barbatula*, *Vincetoxicum* sp., *Aletris* sp., *Drosera* sp., and *Thermopsis barbata*. One of the great highlights which Tony really wanted to see was the dry rocky limestone grasslands which are quite different. In this area are *Incarvillea mairei*, *Gentiana* sp., *Stellera chamaejasme*, and *Androsace bisulca var. aurata*.

Further up, past the conifers, one thing that really surprised Tony was that there was an enormous amount of communities dominated by a huge diversity of shrubs. It is sort of above the treeline but definitely not tundra, because these are tall, bristly, very hard to walk through shrubs with tremendous diversity. Many of these shrubs are uninteresting, lots of *Berberis*, willows, *Caragana*, honeysuckles, and *Leptodermis*, but there was also *Rhododendron*, *R. phaeochrysum*, *R. flavidum* and *R. intricatum*. Among the other plants were: *Sophora davidii*, *Lonicera* sp., *Daphne tangutica*, *Spireas*, *Cotoneaster* [possibly *C. adpressus*], some really nasty, bristly roses and *Caragana jubata*. Lots of things grow under the shrubs such as *Corydalis pachycentra*, *Podophyllum hexandrum*, many *Fritillaria*, *Rheum alexandrae*; *Arisaema dilatatum*, *Meconopsis pseudointegrifolia*, *M. integrifolia*, *Lilium euxanthum*, *Incarvillea compacta*, and *Cypripedium tibeticum*.

The alpine tundra [4000-5000+m] could be a whole talk in itself, but Tony did not spend a lot of time on it for two reasons: first, he thought he'd talked long enough, and second, this is really high up and so a lot of it is impractical for us because we will not be able to grow them. The tundra here is incredibly rich, with lots of interesting plants; many species such as *Rhododendron nivale*, *Arenaria obtusiloba*, *Solms-laubachia pulcherrima*, *Corydalis* sp., *Meconopsis henricii*, *Androsace tapete* and *A. delavayi*, *Primula advena var. euprepes*, *P. amethystina* and *P. nanobella*, *Incarvillea forrestii*, *Daphne aurantiaca var. calcicola*, *Anemone rupicola*, *Diapensia purpurea*, *Cassiope selaginoides* and possibly *C. pectinata*, and, very high up, the plant that Tony was really eager to see *Chionocharis hookeri*

There are still things that haven't been introduced to cultivation because the flora is just so rich. A lot of the plants that had been introduced were from one gathering and often introduced into Great Britain, where because their climate is milder it didn't matter at what elevation it was collected, but for us we need better genetic strains that are hardier. It is interesting how some of these species have a huge elevational range, so there is a lot of variation in heat tolerance and hardiness. For the complete notes on Tony's wonderful talk as well as some of his photos go to the new Great Lakes Chapter website at www.glcnargs.com .

Bette Lowe

We failed to include in our Spring Newsletter the sad news that Bette Lowe passed away late last summer (Aug 29), too late for inclusion of a notice in our Fall Newsletter last year. She was an active member who attended many of our meetings over the years and will be missed. She was 91 years old.

Chapter Officers 2007

Please contact your officers with questions or comments

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We strongly encourage people to join both the Great Lakes Chapter and the National Organization

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