

THE 937th MEETING OF THE BRODIE CLUB
MINUTES

The 937th meeting of the Brodie Club was held on Feb. 16, 1999 in the Ramsay Wright Building of the University of Toronto.

Chairman: Oliver Bertin
Recording Secretary: Jim Bendell
Editor: Oliver Bertin (phew!)
Attendance: 18 members and four guests
David Tomlinson, guest of Harry Lumsden;
Sylvia and Ernest DuVernet, guests of Jock McAndrews;
Mary Tasker, guest of Ron Tasker;
Charles Lennox, a corresponding member, travelled from Nova Scotia to attend the meeting

Minutes of the previous meeting were approved with minor amendments on a motion by William Carrick.

ANNOUNCEMENTS:

Bendell reported that David Fowle is home and recovering from his illness;

Lumsden announced a regional bi-annual meeting of the Federation of Ontario Naturalists on May 15 in Port Hope;

McAndrews has proposed Sylvia and Ernie Du Vernet for membership. This retired couple have been his guest for five meetings over the past year. They have a general interest in natural history, but a special enthusiasm for native peoples and archaeology. Their letter is attached.

SPEAKER:

Lumsden, as a member, needs no introduction. His talk was memorable because he made you feel you were there. He observed what you or I would have seen or done if we had been on the trip, and his emotions and reactions struck a resonance with us all.

Many things we had wondered about suddenly became real-- the Soviet Gulag labour camps, the current hardships of the people and the emptiness of vast regions of Siberia. Yet, for the naturalist, this was a land of great beauty and spectacular plants and animals.

We share a latitudinal and geographic proximity with Siberia, and there are similarities in habitats, vegetation and wildlife. Yet Siberia seems very different, suggesting little faunal connection between the continents. Perhaps, the Bering land bridge was more of a bottleneck than a traffic artery.

Lumsden illustrated his talk with his own slides from nature and books, and slides taken by Vernon Thomas of Guelph.

The Natural History of the Magadan Region
of Eastern Siberia.

My visit to the Russian Far East was for the whole of August, 1998, when I was the guest of Dr. Berkutenko, Chief Botanist of the Institute of the Problems of the North. My purpose was to collect seeds and plants for my garden in Aurora, Ont. and to see the fauna of this isolated part of the world.

There was no money in the institute for field work and Dr. Berkutenko had not been paid since April. Consequently, she was able to act as our guide.

Magadan is on the north shore of the Sea of Okhotsk, about 60 degrees N, halfway between the Kamchatka Peninsula and the Russian mainland. It has little to recommend it except for a good harbour which freezes over in the winter. Small potato fields are leased from the state and there is a state dairy farm. It is an intermittent permafrost area, with 1,500-meter mountains and a tree line at about 1,000 m. Magadan was the administrative centre for Stalin's Gulag system, where political prisoners were used as forced labour. There was no other rationale for a town this size.

Khrushchev closed all the prison camps 40 years ago and the released prisoners had the choice of returning home or settling in the area. Some chose to stay, and I met a number of their children, now in their 40s.

The Russians are determined not to forget the Soviet forced labour system. They have built a huge memorial to the many millions of people who died in the camps, but there is no reminder of Stalin anywhere.

Life is hard in Magadan. There are no roads or railway lines to Vladivostok and the voyage takes five days. Most of the people are civil servants, who have not been paid in months. They have limited heat and electricity in their apartments, and live on mushrooms and berries, and by fishing and hunting.

I went fishing three times, with gill nets or hook-and-line, catching about 30 small perch and some Pink Salmon. Whenever we pulled in salmon, Harbour Seals (*Phoca vitulina*) would turn up and try to grab the fish.

Birds were scarce along the seashore. The only place with a variety of birds was a few miles west, on Chernyi Cape. Slaty-backed Gulls and White-rumped Swifts (*Apus pacificus*) were probably nesting. Sooty (or Spectacled) Guillemots (*Cephus carbo*) were one of the few guillemots among the auks and puffins (*Alcidae*), which nest in the Sea of Okhotsk.

It seems that many species breed in from northern Japan, the Kuril Islands, the east coast of Kamchatka and the Aleutian Islands, but do not nest in the Sea of Okhotsk. Perhaps this is because the sea freezes in winter and the nesting season is not long enough.

The Sooty Guillemot has a very late breeding cycle and the

chicks may descend to the water with undeveloped flight feathers in late July or August.

Pelagic Cormorants (*Phalacrocorax pelagicus*) were flying up and down the coast at all three coastal sites we visited, and we flushed two Mallards from the shore at one site.

One of the most widely distributed species I saw was the White Wagtail (*Motacilla alba*), which occurred in considerable numbers on the shore at Magadan, a nearby creek mouth and in the rivers high in the mountains in the Kolyma drainage.

Crows and ravens were flying over the cliffs and a single Siberian Thrush (*Turdus sibericus*) was foraging on some open grassland. This thrush is not mapped for the region.

As we drove home, a Hazel Grouse (*Tetrastes bonasia*) flushed beside the road and flew into an alder forest. We also saw one Grey Wagtail (*Motacilla cinerea*) among a flock of White Wagtails, and Barn Swallows (*Hirundo rustica*) which I also saw at Vladivostok and Nakhodka. Domestic Pigeons were abundant, but House Sparrows were notably absent.

On a side trip, we found a honeysuckle (*Lonicera edulis*) with delicious purple berries which are highly prized by the local people. A warbler flitted about the trees, either an Arctic or Dusky Warbler (*Phylloscopus borealis* or *fuscatus*).

I was very close to a Goldcrest (*Regulus negulus*), which was well north of the mapped range. There was a small flock of Black-capped Chickadees (*Parus atricapillus*) in the shrubs. They are called Willow Tits in Europe.

There were many plant species along the shore and the cliffs, including *Saxifraga firma*, *Sedum cyaneum* and *Stellaria ruscifolia*. *Mertensia maritima* and *Lathrus japonicus* occurred on sand beaches just above high tide. They have an extraordinarily wide distribution in the northern hemisphere around the coasts of both the Pacific and Atlantic.

Other colourful beach plants were *Senecio pseudoarnica* and *Artemisia lagopus*.

After Magadan, we travelled 500 km. north by bus over horrible roads to Seymchan, at 63N, an aircraft refueling stop for American fighters being ferried to the Russian front and an administrative centre for the notorious Kolyma gold fields. The gold was originally mined using forced labour, but two placer operations are still working.

I saw very few birds along the road: European Kestrels (*Falco tinnunculus*) and Common Gulls (*Larus canus*) in a large flock on the Kolyma River, a covey of Willow Ptarmigan (*Lagopus lagopus*) and a Ural Owl (*Strix uralensis*), which is very like our Barred Owl. There was a hawk, soaring near where we stopped for a rest on the 12-hour journey, probably a Buzzard (*Buteo buteo*), which occurs further north than any others of this genus in Siberia. In Seymchan, there were crows (*Corvus corona*) whose calls were quite different from those of their cousins in Scotland.

We did several side-trips into the countryside to collect plants, mushrooms and berries. The birds included Common Teal (*Anas crecca*) and Pintail (*Anas acuta*), a Merlin (*Falco columbaris*), a Short-eared Owl (*Asio flammeus*) and ravens. A small wetland held a Greenshank (*Tringa nebularia*) but no other waders.

To my surprise, I saw several coveys and a flock of about 20 Willow Ptarmigan in the hay fields. Their normal habitat is in heath or tundra.

A single Stonechat (*Saxicola torquata*) perched on a shrub beside the road, and was the tamest bird we encountered on the whole trip. This was one of the striking things about Siberia-- everything was so wild.

While fishing for Grayling (*Thymallus arcticus*), I wandered into a Larch forest and found *Clamatis ochotensis* and *Pyrola incarnata*. The latter is regarded as the same species as our *P. rotundifolia*, but our plants are only 2 to 9 cm. tall while the Siberian version grows up to 30 cm. In a damp meadow, we found two Gentians, an annual *Gentiana barbata* and a common perennial in our gardens, *G. triflora*.

We visited a prison camp where limestone was mined to make whitewash. Some plants are beginning to root on the tailings and disturbed areas, including *Astragalus fruticosus* and *Crepis nana*.

At Seymchan, the forestry staff have not been paid in months, and all work including fire-fighting has come to a stand-still. To feed themselves, local people forage for mushrooms and berries.

Marina Vaselievia, Chief of Forestry, lent us their fully-tracked ATV on condition we paid for the gas. We set off in it for the Cherskogo Range and Mount Ezop, a 2,038-meter mountain at 63 degrees 19'N, about the same latitude as Baker Lake, NWT.

We travelled through open Larch forest (*Larix gmelinii*) occasionally passing extensive bogs or burnt-over areas in various stages of regeneration. We saw a European Kestrel and Common (European) Teals. The mountains showed almost no outcrops of rock. Rather, they were covered in moving scree except where *Pinus pumila* had taken root. This shrub is an indicator species for permafrost, and rarely grows more than two meters high. It has an interesting cellular structure in which moisture loss causes the cells to contract tenfold on the underside of the branches, and more when frozen. This causes the shrub to lie down in cold weather. It produces an abundance of seed which is eaten, stored and distributed by the Nutcracker (*Nucifraga caryocatactes*).

We passed several prison camps with signs that said: "We shoot without warning." The camps were abandoned 40 years ago, but the tailings are still bereft of plant life, and there are few birds of any kind.

Occasionally, the men fished for Grayling using a bare hook with a blob of solder on the shank, but we saw few other fish,

kingfishers, herons or other fish-eating birds. Along the road, plants such as Common Fireweed (*Epilobium angustifolium*) were common but few were in flower. As we climbed higher into the mountains, the arctic-alpine species *Epilobium latifolium* appeared at its flowering peak.

We passed a spectacular cliff which provided refuge for Snow Sheep (*Ovis nivicola*) but we did not see any. In 140 km., the only mammals seen were a weasel, a young Arctic Hare, a squirrel and a vole. The ATV would break down about once an hour, giving us an opportunity to botanize on the trail ahead. During a fierce thunderstorm we stayed at an abandoned Evan reindeer camp on an extensive river plain. Herding is still carried on by three native groups.

Auf-ice is an interesting ice formation found on braided river mouths that we found on the Verina River at an elevation of about 850 meters whereby water breaks through the ice and freezes again. Gradually, the ice becomes so thick that it survives the summer.

Most of the inland river beds were braided, a feature that I have never seen in the Hudson Bay watershed. Braided river beds indicate that the valley is choked with rocks and gravel eroded from the watershed. It also suggests that glaciation did not clean out the detritus.

His saw no evidence of glaciation at lower elevations in the Verina drainage, but there were terminal moraines in the mountains and a corrie-lochan that had been scooped out by glacial ice.

At the reindeer camp, I saw two Pechora Pipits (*Anthus gusatavi*), the only *Anthus* species mapped for this area; many White Wagtails (*Motacilla alba*) nesting inside the camp building; kestrels; burrows inhabited by Souseliks, a Siberian Ground Squirrel which emits a shrill alarm whistle whenever stalked by a dog; and Snow Sheep droppings. A Brown Bear was feeding on a slope a couple of kilometers away.

Growing close to the auf-ice, we found *Saxifraga firma* being worked over by a bumble bee. *Potentilla palustris* and *Taraxicum bendellii* (sic) were scattered among the grasses.

From Magadan to Seymchan and beyond, the rocks were schistose and the soils acid. We headed up the mountain to an area where a geologist had told us we might find limestone rocks. I carried hydrochloric acid and tested the soil and rocks at regular intervals, trying to locate calcium. The soil was very poor in nutrients, which probably accounted for the scarcity of wildlife.

To the west of us, we found *Rhododendron parvifolium*, a synonym for our own *Rhododendron lapponicum*, which is common on our Hudson Bay coast. This was exciting because this species only grows in the presence of calcium, a finding that was confirmed when we got vigorous bubbling from the acid. This limestone is dark-coloured, of Permian age, and looks quite

unlike our Ontario Ordovician limestone.

The scree below the cliff and the flats along the creek were rich in flowering plants, which included *Taraxicum bendellii* (sic), *Gentiana algida*, *Delphinium mydellianum*, Baby's Breath (*Gypsophila sambukii*), *Rhododendron adamsii*, *Anemone siberica* and *Papaver radicum*.

Perhaps the most exciting discovery of the trip was what I took to be three Blue Sheep or Burrhel (*Pseudois nayura*), silhouetted on a ridge. This species is placed between sheep and goats, and is known from Nepal to Kashmir, from Kansu Szechwan Shensi in China, and in the mountains north to Mongolia, but has not been recorded from the Cherskogo Range. This was not surprising since we were the first biologists to visit this area.

On the return journey, we stopped to examine a very dry scree slope which turned out to be varied and interesting. It had *Potentilla nivea*, Bleeding Heart (*Dicentra peregrina*), *Stellaria fischenana*, *Dianthus reprens*, *Saxifraga punctata* and others. A little later, we flushed a Snipe, a Pipit, a covey of Willow Ptarmigan and a large flock of Redpolls (*Carduelis flammea*).

After Magadan, we travelled to the Khabarovsk region, north-east of Vladivostok. It has an exceedingly rich fauna and flora but development of both the Russian and Chinese sectors has resulted in a serious decline of many important species. A study of the Chinese sector of the Ussuri/Wusuli River watershed lists four endangered mammals, 11 birds and 12 plants. In the Russian sector, there are three endangered mammals, 10 birds and 21 plants.

Heavy logging of Korean and Siberian Pine, and Manchurian Oak in the 1970s and 1980s has had an extremely detrimental effect on the large mammals of the region. These three trees produce very large seeds which are the main food in the fall and early winter for the Manchurian and Sika Deer and Wild Pigs. These herbivores are, in turn, the main prey of the Amur Tiger and Leopard.

A tiger research scientist told me there are only about 450 Tigers and 44 Leopards in the Russian part of the Ussuri forest. In the Chinese sector, the Tiger population has declined from about 76 in 1975 to 12 in 1991. Tigers are also found in Korea and Manchuria.

Tiger management is complicated because they kill at least five or six people every year. To compound the problem, unpaid civil servants are poaching deer and Wild Pigs, putting pressure on the predators' food supply.

The Himalayan Black Bear also occurs in the Ussuri forest. There are no estimates of numbers, but they are probably declining because they are heavily dependent on mast crops during the fall. Brown Bear and Wolves are found in the mountainous areas.

Vladivostok is at 43N, about the same as Niagara Falls. It

has a monsoon climate with most of the rain in July and August. The summer is as warm as Toronto, but the winters are much colder.

In Vladivostok, we went fishing for Flounder and saw many Black-tailed Gulls (*Larus crassirostris*), as well as Vega Gulls (*Larus argentatus*) and Slaty-backed Gulls (*Larus schistisagus*). Magpies (*Pica pica*) were abundant as were Jungle Crows (*Corvus macrorhynchos*), which attracted attention because of the raven-like beak. A flock of Common Terns (*Sterna hirundo*) were hunting over a freshwater pond from which we flushed a Gray Heron (*Ardea cinerea*), the only heron seen on the trip.

Red-rumped Swallows were nesting in typical mud structures under house eaves, while the Common Sandpiper (*Tringa hypoleucos*) was present on the shore. It looks like our Spotted Sandpiper, but without the spots.

We again saw White-rumped Swifts (*Micropus pacificus*), circling a cliff on an island close to the shore, where we found a single Eastern or Great Knot (*Calidris tenuirostris*), which breeds around the Sea of Okhotsk and migrates down the Pacific to Australia.

The plant life included a Bellflower (*Adenophora verticillata*), *Dianthus amourensis*, *Lilium pseudotigrinum*, an onion (*Allium strictum*), *Cacalia auriculata*, and the Grass of Parnassus. We spent a day botanizing in a fragment of a second-growth Ussuri forest, a largely deciduous stand of about 35 species.

On the flight home, I overheard American bear hunters who had paid \$10,000 each to shoot a total of eight Brown Bears.

Questions:

- The land was generally barren. There were once large herds of reindeer, but wolves, predators and people have killed them and other wildlife off. Lumsden found droppings or tracks of moose and wolves, and lots of bear scats. There were no bird songs and only one orchid species;

- The vegetation was taiga and subalpine;

- Siberian-spruce Grouse do not occur that far north, but he saw a dropping of the Stone Capeñcaillie.

- Magadan was built by Stalin because there is a good harbour and gold in the area. It was built on the bones of slave labourers, who had to deliver 240 wheelbarrows of ore per shift. No one knows how many died, but the estimates range into the millions;

- Mammoth and other fossilized bones are found in the local museum;

- The locals were a most kind and gentle people. We ate fish and a gruel made of oatmeal or buckwheat with a can of jellified bully-beef stirred in. The people grow potatoes,

cucumbers and tomatoes. Last winter, there was heat and electricity for four hours a day, but this winter there was only enough coal in storage to heat the houses until January.

Lumsden was thanked by Ken Abraham.

OBSERVATIONS:

- Fred Bodsworth noted that a printing house in Magadan had pirated his book, The Strange One;

- Bruce Falls observed Greater Scaup, Goldeneye and Scoters in Stoney Creek. Black squirrels are clipping many branches from the Austrian Pines in front of his home;

- Tasker commended the speaker on the naturalists' view of his travels. He has been to Siberia several times and was delighted to be reminded of the wonderful natural history and beauty of the place;

- McAndrews enthused over a satellite photograph of the Oak Ridges Moraine and the way that drumlin fields stand out. He is interested in the way that glacial melt water flowed over and under the ice to create poorly understood phenomena such as blind tunnels and wetland valleys that show up on the photos. He promised to give a talk on this subject at the May meeting.

The meeting adjourned at 9:47 pm.

THE NEXT MEETING:

The next meeting will be held on Mar. 16th at 8:00 pm in Room 432 of the Ramsay Wright Zoological Laboratories at the University of Toronto when Harold Harvey will talk on "Climate change and fish."